

Bastrop, TX City Council Meeting Agenda
Bastrop City Hall City Council Chambers
1311 Chestnut Street
Bastrop, TX 78602
(512) 332-8800



June 11, 2019 at 6:30 P.M.

City of Bastrop City Council meetings are available to all persons regardless of disability. If you require special assistance, please contact the City Secretary at (512) 332-8800 or write 1311 Chestnut Street, 78602, or by calling through a T.D.D. (Telecommunication Device for the Deaf) to Relay Texas at 1-800-735-2989 at least 48 hours in advance of the meeting.

As authorized by Section 551.071 of the Texas Government Code, this meeting may be convened into closed Executive Session for the purposes of seeking confidential legal advice from the City Attorney on any item on the agenda at any time during the meeting.

The City of Bastrop reserves the right to reconvene, recess, or realign the Regular Session or called Executive Session or order of business at any time prior to adjournment.

PLEASE NOTE: ANYONE WISHING TO ADDRESS THE COUNCIL MUST COMPLETE A CITIZEN COMMENT FORM AND GIVE THE COMPLETED FORM TO THE CITY SECRETARY PRIOR TO THE START OF THE CITY COUNCIL MEETING.

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE – YMCA Youth Leaders

TEXAS PLEDGE OF ALLEGIANCE

Honor the Texas Flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible.

3. INVOCATION – Lynda Sparks, Police Chaplain

4. PRESENTATIONS

4A. Mayor's Report

4B. Councilmembers' Report

4C. City Manager's Report

4D. Receive presentation from Bastrop County Interim Chief Appraiser, Richard Petree and Faun Cullens, Chief Appraiser effective August 1, 2019, regarding appraisal district values and activities.

- 4E. A joint proclamation of the City Council of the City of Bastrop, Texas and Bastrop County Commissioners Court recognizing and celebrating June 15, 2019, as Juneteenth Anniversary day.

5. WORK SESSION/BRIEFINGS

- 5A. Review Noise as a Nuisance - Part of Code of Ordinance Update.
- 5B. Provide an update on the Chicken Relocation Project in Downtown Bastrop, Texas.

6. STAFF AND BOARD REPORTS - NONE

7. CITIZEN COMMENTS

At this time, three (3) minute comments will be taken from the audience on any topic. To address the Council, please submit a fully completed request card to the City Secretary prior to the beginning of the Council meeting. In accordance with the Texas Open Meetings Act, if a citizen discusses any item not on the agenda, City Council cannot discuss issues raised or make any decision at this time. Instead, City Council is limited to making a statement of specific factual information or a recitation of existing policy in response to the inquiry. Issues may be referred to City Staff for research and possible future action.

To address the Council concerning any item on the agenda, please submit a fully completed request card to the City Secretary prior to the start of the meeting.

It is not the intention of the City of Bastrop to provide a public forum for the embarrassment or demeaning of any individual or group. Neither is it the intention of the Council to allow a member of the public to slur the performance, honesty and/or integrity of the Council, as a body, or any member or members of the Council individually or collectively, or members of the City's staff. Accordingly, profane, insulting or threatening language directed toward the Council and/or any person in the Council's presence will not be tolerated.

8. CONSENT AGENDA

The following may be acted upon in one motion. A Councilmember or a citizen may request items be removed from the Consent Agenda for individual consideration.

- 8A. Consider action to approve City Council minutes from the May 28, 2019, Regular meeting and May 29, 2019 Special meeting.
- 8B. Consider action to approve the second reading of Resolution No. R-2019-54 of the City Council of the City of Bastrop, Texas, approving the Executive Director or Interim Executive Director of the Bastrop Economic Development Corporation to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS for construction of a building to the lot at 921 Main Street; repealing all resolutions in conflict; providing severability; and providing an effective date.

9. ITEMS FOR INDIVIDUAL CONSIDERATION

- 9A. Consider action to approve Resolution No. R-2018-52 of the City Council of the City of Bastrop, Texas awarding a contract in the amount of Three Hundred Forty One Thousand Dollars and no cents (\$341,000.00) to ASD Consultants, Inc. to undertake the work identified for the remodel of City Hall, attached as Exhibit A; Authorizing the City Manager to execute all necessary documents; providing for a repealing clause; and establishing an effective date.
- 9B. Consider action to approve the first reading of Ordinance No. 2019-21 of the City Council of the City of Bastrop, Texas, amending the budget for the Fiscal Year 2019 in accordance with existing statutory requirements; appropriating the various amounts herein as attached in Exhibit A; repealing all prior ordinances and actions in conflict herewith; establishing an effective date and move to include on the June 25, 2019 City Council Consent Agenda for a second reading.
- 9C. Consider action to approve the first reading of Ordinance No. 2019-22 of the City Council of the City of Bastrop, Texas, amending the Bastrop City Code of Ordinances, Appendix A, Fee Schedule, Article A13.02 "Water and Wastewater Rates and Charges", Sections A13.02.002 Wastewater Service Charge and A13.02.004 Water Service Charge, adding new Subsections A13.02.002(c) and Subsection A13.02.004(b), as attached in Exhibit A; providing for: findings of fact, enactment, repealer, severability, effective date, codification, proper notice and meeting; and move to include on the June 25, 2019 Consent Agenda for a second reading.
- 9D. Consider action to approve Resolution No. R-2019-56 of the City Council of the City of Bastrop, Texas approving the award of a contract with Angel Brothers Enterprises, LTD. in the amount of One Million Twelve Thousand Seven Hundred Nineteen Dollars and Seventy Cents (\$1,012,719.70) for the reconstruction of Old Austin Highway; attached as Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.
- 9E. Consider action to approve Resolution No. R-2019-57 of the City Council of the City of Bastrop, Texas awarding a contract to Barclays Premier Utility Services, LLC in the amount of Three hundred Seventy-four Thousand Seven Hundred Sixty-five dollars and zero cents (\$374,765.00) for the construction of a Sewer Line related to the North Bastrop Community Rehabilitation Project; attached as Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.

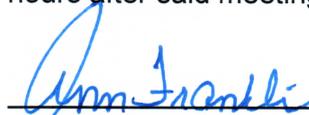
10. EXECUTIVE SESSION

- 10A. City Council shall convene into closed executive session pursuant to Section 551.072 of the Texas Government Code to deliberate the purchase, exchange, lease, or value of real property.

11. TAKE ANY NECESSARY OR APPROPRIATE ACTION ON MATTERS POSTED FOR CONSIDERATION IN CLOSED/EXECUTIVE SESSION

12. ADJOURNMENT

I, the undersigned authority, do hereby certify that this Notice of Meeting as posted in accordance with the regulations of the Texas Open Meetings Act on the bulletin board located at the entrance to the City of Bastrop City Hall, a place of convenient and readily accessible to the general public, as well as to the City's website, www.cityofbastrop.org and said Notice was posted on the following date and time: Friday, June 7, 2019 at 2:00 p.m. and remained posted for at least two hours after said meeting was convened.



Ann Franklin, City Secretary





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 4A

TITLE:

Mayor's Report

STAFF REPRESENTATIVE:

Lynda Humble, City Manager

POLICY EXPLANATION:

Texas Local Government Code, Section 551.045 – Governing Body of Municipality or County: Reports about Items of Community Interest Regarding Which No Action Will Be Taken:

(a) Notwithstanding Sections 551.041 and 551.042, a quorum of the governing body of a municipality or county may receive from staff of the political subdivision and a member of the governing body may make a report about items of community interest during a meeting of the governing body without having given notice of the subject of the report as required by this subchapter if no action is taken and, except as provided by Section 551.042, possible action is not discussed regarding the information provided in the report.

(b) For purposes of Subsection (a), "items of community interest" includes:

- (1) expressions of thanks, congratulations, or condolence;
- (2) information regarding holiday schedules;
- (3) an honorary or salutary recognition of a public official, public employee, or other citizen, except that a discussion regarding a change in the status of a person's public office or public employment is not an honorary or salutary recognition for purposes of this subdivision;
- (4) a reminder about an upcoming event organized or sponsored by the governing body;
- (5) information regarding a social, ceremonial, or community event organized or sponsored by an entity other than the governing body that was attended or is scheduled to be attended by a member of the governing body or an official or employee of the political subdivision; and
- (6) announcements involving an imminent threat to the public health and safety of people in the political subdivision that has arisen after the posting of the agenda.

ATTACHMENTS:

- Power Point Presentation

Mayor's Report
June 11, 2019





Mike Fisher
Building Dedication

Latest Activities

May 16 – May 30

Events in 2019: 138

“NIBBLES” Program



Memorial Day Service



TML Conference



Early Voting!



BAIPP Board



Lee Dildy
Operations
Complex



City Hall Essentials Training



THE Storm – May 30



Special Thanks to BP&L Team



Planned Events

May 31 – June 11

- May 31
 - BEST Breakfast
 - City Essentials Training
- June 1
 - Hazardous Waste Paint Only Event
 - Bastrop Political Parties Joint Pancake Breakfast
 - Healthy Kids Day
 - Library Summer Reading Kick Off
- June 3 – Library Board Meeting
- June 5 – Chamber Luncheon
- June 6 – TML Region 10 Meeting (Pflugerville)
- June 8
 - Run-off Election
 - Building Bastrop Pop-up Event
 - CASA Casino Night
- June 11
 - Quarterly Community Support Meeting
 - City Council Meeting



Upcoming Events & City Meetings

- June 12 – 14 – CNU Conference
- June 15 – Juneteenth Parade
- June 17 – BEDC Board Meeting
- June 18 - Special Council Meeting
- June 19 – Annual Joint Visit Bastrop and City Council Meeting
- June 20 – Leo’s Italian Grill Ribbon Cutting
- June 24 – TML Legislative Summary Seminar
- June 25 – Council Meeting





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 4B

TITLE:

Councilmembers' Report

STAFF REPRESENTATIVE:

Lynda Humble, City Manager

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STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 4C

TITLE:

City Manager's Report

STAFF REPRESENTATIVE:

Lynda Humble, City Manager

POLICY EXPLANATION:

Texas Local Government Code, Section 551.045 – Governing Body of Municipality or County: Reports about Items of Community Interest Regarding Which No Action Will Be Taken:

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- (6) announcements involving an imminent threat to the public health and safety of people in the political subdivision that has arisen after the posting of the agenda.



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 4D

TITLE:

Receive presentation from Bastrop County Interim Chief Appraiser, Richard Petree and Faun Cullens, Chief Appraiser effective August 1, 2019, regarding appraisal district values and activities.

STAFF REPRESENTATIVE:

Tracy Waldron, Chief Financial Officer

BACKGROUND/HISTORY:

POLICY EXPLANATION:

FUNDING SOURCE:

N/A

ATTACHMENTS:





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 4E

TITLE:

A joint proclamation of the City Council of the City of Bastrop, Texas and Bastrop County Commissioners Court recognizing and celebrating June 15, 2019, as Juneteenth Anniversary day.

STAFF REPRESENTATIVE:

Lynda Humble, City Manager

ATTACHMENTS:

Proclamation for Juneteenth Anniversary





PROCLAMATION



BASTROPTX
Heart of the Lost Pines / Est. 1832

WHEREAS, The Emancipation Proclamation was signed into law by President Abraham Lincoln on January 1, 1863; and

WHEREAS, Texans did not receive word of this proclamation until June 19, 1865, when Major General Gordon Granger sailed into Galveston Island and issued a general order declaring that "in accordance with a proclamation from the Executive of the United States, all slaves are free"; and

WHEREAS, This year marks the 156th anniversary of the law; and

WHEREAS, Juneteenth, also known as Freedom Day or Emancipation Day is an annual holiday originating in Texas but celebrated in over 35 states, the District of Columbia, and internationally; and

WHEREAS, In 1979 Texas State Representative Al Edwards sponsored HB 1016 in the Legislature, which was signed by Texas Governor Bill Clements, making Juneteenth an official state holiday in Texas; and

WHEREAS, The Bastrop Juneteenth Committee is celebrating its 32nd anniversary as an organization officially celebrating the event on the **15th day of June 2019** in the City of Bastrop, Texas; and

WHEREAS, On Saturday, June 15th, 2019 the celebration continues with a grand parade with Cedric Benson, former University of Texas star running back serving as Parade Marshal, The Blue Flame Cruisers Car and Motorcycle Show at Bastrop Convention & Exhibit Center parking lot, a variety of family and school reunions that will be held throughout the city, and the ever-popular "free" street dance in downtown Bastrop; and

WHEREAS, The Bastrop Juneteenth Committee, in partnership with the City of Bastrop, Kerr Community Center Board, the Blue Flame Cruisers, and numerous other sponsors, organizations and individuals who make this event an annual success.

NOW THEREFORE BE IT RESOLVED THAT, the Bastrop City Council joins the Bastrop County Commissioners Court in recognition and celebration of the 32nd Juneteenth Anniversary

IN WITNESS WHEREOF, we hereunto set our hand and caused the seal of the City and County of Bastrop to be affixed, this **11th day of June 2019**.

Connie Schroeder, Mayor City of Bastrop

Lyle Nelson, Mayor Pro-Tem Place 3

Willie "Bill" Peterson, Council Member Place 1

Drusilla Rogers, Council Member Place 2

Bill Ennis, Council Member Place 4

Debra Jones, Council Member Place 5



Paul Pape, Bastrop County Judge

Mel Hamner, Commissioner Pct 1

Clara Beckett, Commissioner Pct 2

Mark Meuth, Commissioner Pct 3

Donna Snowden, Commissioner Pct 4





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 5A

TITLE:

Review Noise as a Nuisance – Part of Code of Ordinance Update.

STAFF REPRESENTATIVE:

James K. Altgelt, Director of Public Safety/Chief of Police

BACKGROUND/HISTORY:

With the launching of Building Bastrop in August 2018, the City has been evaluating its Code of Ordinances and how they interact with each other. The area of nuisances has been identified for review.

A simple word search in our current ordinances revealed the word “nuisance” is contained in 55 different ordinances throughout the entire Code. On Wednesday, May 1st, Staff conducted a day long review of the Code and came to the following conclusions:

- Texas State Law, such as the Texas Penal Code, the Texas Transportation Code, and the Texas Health and Safety Code and other independent sets of codes, such as the International Building Code (IBC) Family are repeated throughout the Code of Ordinances. It is redundant to repeat these laws that are already codified in different publications and it gives the community the impression that the City of Bastrop is enacting all of these laws. Keeping our Code of Ordinances current becomes problematic because of the frequency that the legislature makes changes to the laws or when there are revisions to the IBC Family.
- All definitions used throughout the ordinances should be located in one location making it user friendly and manageable.
- Procedures for due process, abatement, and civil remedies should all be located in the same section of the Code.
- Every enforcement action required to enforce the Code of Ordinances should be located in the same section of the Code.
- **Nuisances should be categorized in the following categories:**
 - **Public Safety**
Items included in this section would include high weeds and grass; junked vehicles; swimming pools; animals; peddlers and vendors; litter; hazardous materials; taxi cabs; film making; discharge of firearms; sexually oriented businesses; animal carcass removal; phosphorous control; special events; vehicle towing; drilling and mining; panhandling; and public urination and defecation.
 - **Community Values**
Items included in this section would include animals; kennels; the sale of animals; monopoly of trash removal; loitering; camping in public; and curfews.

- **Light**
- **Sound**
Items included in this section would be animals; construction hours; motor vehicle speakers; motor vehicle exhaust systems; and the noon siren.
- **Odor**
Items included in this section would include animals; litter; animal carcasses; and the odor from processing and manufacturing.
- **Vibrations**
Items included in this section would include mechanical equipment; construction equipment; and drilling equipment.
- **Particulates**
Items included in this section would include smoke; dust; and litter.

On Thursday, May 2nd, Staff met with the City Attorney, who opined that referring to State law and the IBC Family as a reference rather than re-citing the law is appropriate as long as the City does not wish to impose more stringent regulations or rules. If more stringent regulations or rules are adopted, then only the portion of the law changed under the “home-rule” authority granted to City Council will be spelled out and the remaining portion of the law will be cited by reference. By making these changes, the Code of Ordinances should be significantly reduced in size and include only the regulations that are “authentically Bastrop” making it much easier to review and keep up to date.

The aforementioned information was provided to Council during the May 14th City Council Meeting.

The first (1st) of the seven (7) Nuisance Categories to be addressed is Sound. Staff is seeking direction and feedback from the City Council on how sound nuisances should be addressed in our Code of Ordinances. While it is common practice to write an ordinance that uses the term like “unreasonable”, it can become problematic during the adjudication of the offense. Using specific units of measure, i.e., decibels and feet, is a much more desirable attribute because it allows for a more consistent and objective means of enforcement / adjudication.

Our current Code of Ordinances meets this desirable attribute by identifying the decibel levels for permissible sounds in residential and nonresidential areas during daytime and nighttime. While this process requires the use of a decibel meter, it removes the subjectivity of what is and what is not a violation of the ordinance. The following requirements are currently identified in our Code of Ordinances:

	<i>Daytime</i>	<i>Nighttime</i>
<i>Residential</i>	85 dB(A)	80 dB(A)
<i>Nonresidential</i>	85 dB(A)	80 dB(A)

Our current Code of Ordinances is also specific when identifying the distances / location where the sound is to be measured in order to ascertain if a violation is taking place. The decibel measurement shall be taken from the property line of the complaining party.

Our Current Code of Ordinances does not require a decibel level when identifying the offense of unlawful amplified sound from a motor vehicle. The ordinance states that it is an offense when a vehicle emits a sound that can be heard by a person of average hearing at a distance of 35 feet or more.

Our current Code of Ordinances lists the following “Defenses” to the ordinance:

- *Purpose of alerting persons to the existence of an emergency, danger, or attempted crime or an authorized test or drill for emergency, danger, or attempted crime.*
- *Produced by an authorized emergency vehicle*
- *Produced by emergency or regularly scheduled work necessary to restore public utilities, to restore property to a safe condition, to protect persons or property from imminent danger, to collect garbage, or to clean city streets with a street sweeper.*
- *Lawfully scheduled stadium event*
- *During a permitted parade*
- *Lawfully scheduled amphitheater event*
- *Permitted historical battle reenactments*
- *Special Events*
- *Lawful activities which constitute protected expression pursuant to the First Amendment of the United States Constitution.*
- *Erection, excavation, construction, demolition, alteration, or repair work, or the permitting or causing thereof, of any building or other structure, or facility, or the operation or the permitting or causing the operation of any tools or equipment used in any such activity, conducted during daytime and which activity did not produce a sound exceeding 95 dB(A)*
- *The sound produced by aircraft in flight (or in operation at an airport) or railroad equipment in operation on railroad rights-of-way.*
- *The sound produced by operating or permitting the operation of any mechanically powered saw, drill, sander, router, grinder, lawn or garden tool, lawnmower, or any other similar device during daytime.*
- *The sound was generated as authorized under a permit issued for the use of outdoor sound amplification equipment (§ 8.06.009).*
- *The sound was produced by the operation of any air conditioning unit which did not produce a sound exceeding 80 dB(A) on residential property or 85 dB(A) on nonresidential property, when measured at or near fifteen (15) feet from the air conditioning unit producing the sound being measured.*
- *The sound was produced by church bells or church chimes when used as part of a religious observance or service during daytime hours and which did not exceed five (5) continuous minutes in duration in any one-hour period.*

Our current Code of Ordinances does not currently provide an allowance for the noon siren.

The sound from engine breaking is prohibited in our current Code of Ordinances and there are allowances for permitted uses of outdoor sound amplification equipment.

Staff would like to discuss the possibility of changing the current definition of daytime from: “the hours between 7:00 a.m. and 9:00 p.m. the same day” to the definition provided in various State laws of: “the period of time beginning one-half hour before sunrise and ending one-half hour after sunset.”

ATTACHMENT:

- PowerPoint Presentation

Sound Nuisances



Sound Nuisances

May 14th City Council Presentation - Sound

Animals; construction hours; motor vehicle speakers; motor vehicle exhaust systems; and the noon siren.



BUILDING BASTROP

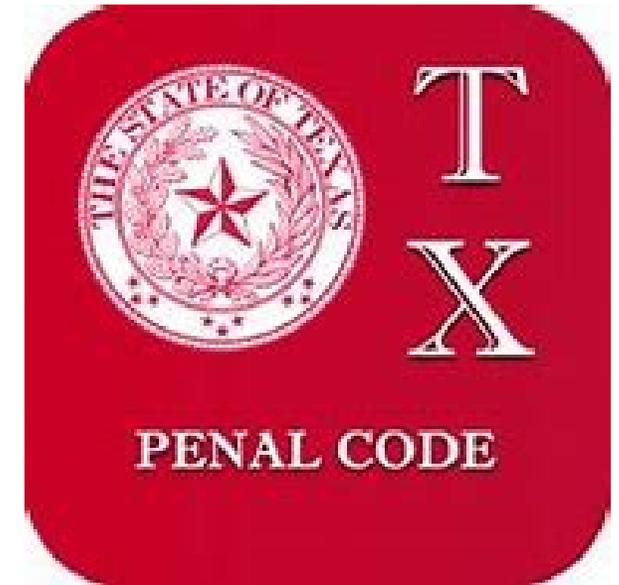
HONORING OUR AUTHENTIC PAST.
PLANNING FOR OUR SUSTAINABLE FUTURE.



Texas State Law – Sound Violations

Texas Penal Code – §42.01(a)(5)

"A person commits an offense if he intentionally or knowingly; makes an unreasonable noise in a public place (other than a sport shooting range) or in or near a private residence that he has no right to occupy."



Texas State Law – Sound Violations

Texas Penal Code – §42.01(a)(5)

*"A person commits an offense if he intentionally or knowingly; makes an **unreasonable** noise in a public place (other than a sport shooting range) or in or near a private residence that he has no right to occupy."*

unreasonable

Texas State Law – Sound Violations

Texas Transportation Code – §547.501(c)(d)



"A motor vehicle operator shall use a horn to provide audible warning only when necessary to insure safe operation."

"A warning device, including a horn, may not emit an unreasonably loud or harsh sound or whistle."

City of Bastrop Code of Ordinances

Article 8.06 - Noise



Daytime hours:

"The hours between 7:00 a.m. and 9:00 p.m. the same day."

State Law:

"Means the period of time beginning one-half hour before sunrise and ending one-half hour after sunset."



City of Bastrop Code of Ordinances

Article 8.06.005 – Noisy Vehicles

"The use of any automobile, motorcycle, or other vehicle so out of repair, so loaded, or in such a manner so as to create loud and unreasonable grating, grinding, rattling, or any other loud and unreasonable sound is hereby prohibited and declared to be unlawful."

City of Bastrop Code of Ordinances

Article 8.06.006 – Amplified Sound from Motor Vehicle



"It is unlawful for any person to operate a radio, tape or CD player, or other electronic or mechanical sound-making device from within a motor vehicle in the city in a manner that emits sounds that are audible on a public right-of-way, street, or highway, to the human ear of a person with average and normal hearing, at a distance of thirty-five (35) feet or more from the motor vehicle. It shall be presumed that the driver of any vehicle is the operator of the sound-making device(s)."

City of Bastrop Code of Ordinances

Article 8.06.006 – Amplified Sound from Motor Vehicle

Exceptions:

- *Law Enforcement Vehicle / Emergency Vehicle*
- *Motor vehicles used for business or political purposes*
- *Horn or warning device*



City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses

- *Purpose of alerting persons to the existence of an emergency, danger, or attempted crime or an authorized test or drill for emergency, danger, or attempted crime.*
- *Produced by an authorized emergency vehicle*

City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued



- *Produced by emergency or regularly scheduled work necessary to restore public utilities, to restore property to a safe condition, to protect persons or property from imminent danger, to collect garbage, or to clean city streets with a street sweeper.*

City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued

- *Lawfully scheduled stadium event*
- *During a permitted parade*
- *Lawfully scheduled amphitheater event*
- *Permitted historical battle reenactments*



City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued



- *Special Events*
- *Lawful activities which constitute protected expression pursuant to the First Amendment of the United States Constitution.*

City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued



- *Erection, excavation, construction, demolition, alteration, or repair work, or the permitting or causing thereof, of any building or other structure, or facility, or the operation or the permitting or causing the operation of any tools or equipment used in any such activity, conducted during daytime and which activity did not produce a sound exceeding 95 dB(A).*

City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued



- *The sound produced by aircraft in flight (or in operation at an airport) or railroad equipment in operation on railroad rights-of-way.*
- *The sound produced by operating or permitting the operation of any mechanically powered saw, drill, sander, router, grinder, lawn or garden tool, lawnmower, or any other similar device during daytime*



City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued

- *The sound was generated as authorized under a permit issued for the use of outdoor sound amplification equipment (§ 8.06.009).*

City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued

- *The sound was produced by the operation of any air conditioning unit which did not produce a sound exceeding 80 dB(A) on residential property or 85 dB(A) on nonresidential property, when measured at or near fifteen (15) feet from the air conditioning unit producing the sound being measured.*

City of Bastrop Code of Ordinances

Article 8.06.007 – Defenses Continued



- *The sound was produced by church bells or church chimes when used as part of a religious observance or service during daytime hours and which did not exceed five (5) continuous minutes in duration in any one-hour period.*
- *Noon Siren ?*

City of Bastrop Code of Ordinances

Article 8.06.008 – Method of Sound Measurement



- *Whenever portions of this article prohibit sound over a certain decibel limit, measurement of said sound shall be made with a calibrated sound level meter. Noise levels shall be measured in decibels. The unit of measurement shall be designated as dB(A).*

City of Bastrop Code of Ordinances

Article 8.06.009 – Permit for Use of Outdoor Sound Amplification Equipment

- *Exceeding previously identified limits will require a permit.*
- *Permit is valid for a fourteen-hour period between 8:00 a.m. and 10:00 p.m.*
 - *City parks has increased periods of time*



City of Bastrop Code of Ordinances

Article 8.06.009 – Permit for Use of Outdoor Sound Amplification Equipment Continued

- *Shall Not:*

- *Be issued for the same location more than twice during a thirty-day period; except for city parks (three permits may be issued in a thirty-day period)*

City of Bastrop Code of Ordinances

Article 8.06.009 – Permit for Use of Outdoor Sound Amplification Equipment Continued

- *Shall Not:*

- *Allow or authorize the production of sound exceeding 85 dB(A) when measured from the nearest receiving property*
- *No permitted equipment between 10:00 p.m. and 8:00 a.m.*

City of Bastrop Code of Ordinances

Article 8.06.010 – Engine Braking



- *The use of engine brakes or similar mechanical/vehicular devices in such a manner or resulting in noises of a volume that a person of ordinary sensibilities is annoyed and/or otherwise disturbed by them, while operating equipment and/or vehicles within the city's municipal boundaries, is hereby prohibited.*

Questions ?





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 5B

TITLE:

Provide an update on the Chicken Relocation Project in Downtown Bastrop, Texas.

STAFF REPRESENTATIVE:

James K. Altgelt, Director of Public Safety/Chief of Police



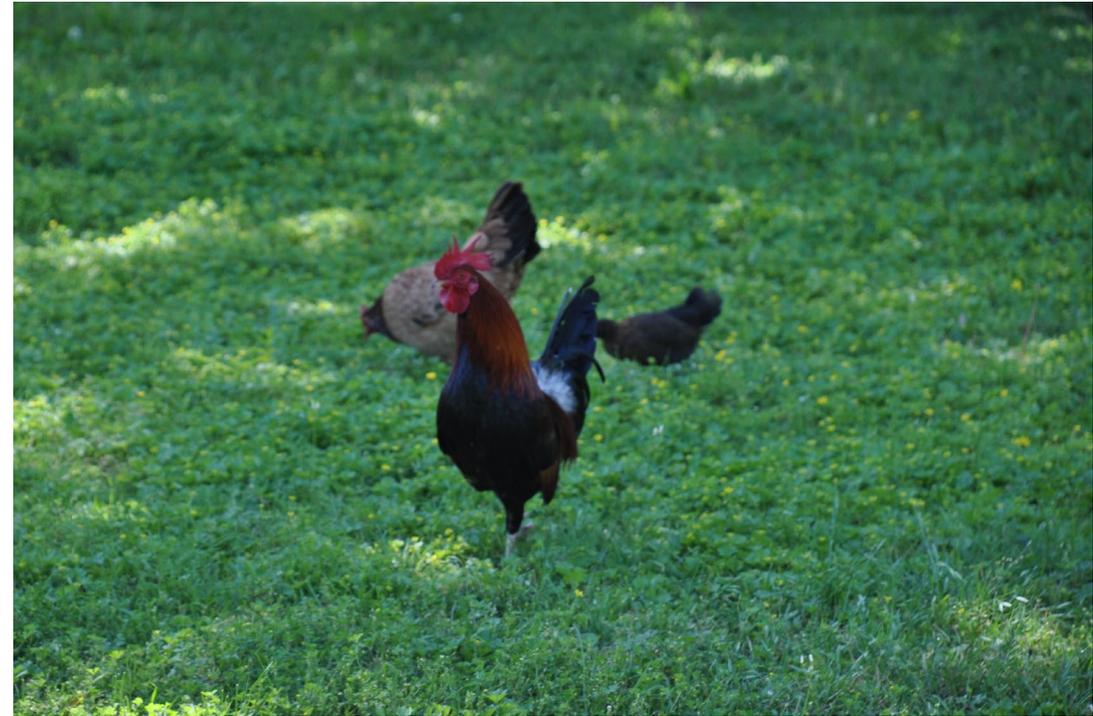
Chicken Relocation Project Update



Progress / Changes Since May 28, 2019

Newspaper Publication of Updated Ordinance Number 2019-15 Posted Thursday, May 30th.

Results of June 6th and June 7th Projects.



Progress to Date

From March 2018 through today at noon,
XXX chickens
have been captured, transported, and
relocated.

- XX hens
- XX chicks
- XX roosters
- XX eggs



Monthly Breakdown

Month	Hens	Chicks	Roosters	Eggs	Monthly Total	Grand Total
March – December 2018	46	26	27	00	99	99
January 2019	0	0	0	00	00	99
February 2019	3	0	0	00	3	102
March 2019	13	6	14	00	33	135
April 2019	19	32	26	00	77	212
May 2019	XX	XX	XX	XX	XX	XXX
June 2019	XX	XX	XX	XX	XX	XXX



QUESTIONS ?





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 7

TITLE:

CITIZEN COMMENTS

At this time, three (3) minute comments will be taken from the audience on any topic. To address the Council, please submit a fully completed request card to the City Secretary prior to the beginning of the Citizens' Comment portion of the Council meeting. In accordance with the Texas Open Meetings Act, if a citizen discusses any item not on the agenda, City Council cannot discuss issues raised or make any decision at this time. Instead, City Council is limited to making a statement of specific factual information or a recitation of existing policy in response to the inquiry. Issues may be referred to City Staff for research and possible future action.

To address the Council concerning any item on the agenda, please submit a fully completed request card to the City Secretary prior to the start of the meeting.

It is not the intention of the City of Bastrop to provide a public forum for the embarrassment or demeaning of any individual or group. Neither is it the intention of the Council to allow a member of the public to slur the performance, honesty and/or integrity of the Council, as a body, or any member or members of the Council individually or collectively, or members of the City's staff. Accordingly, profane, insulting or threatening language directed toward the Council and/or any person in the Council's presence will not be tolerated.



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 8A

TITLE:

Consider action to approve City Council minutes from the May 28, 2019, Regular meeting and May 29, 2019 Special meeting.

STAFF REPRESENTATIVE:

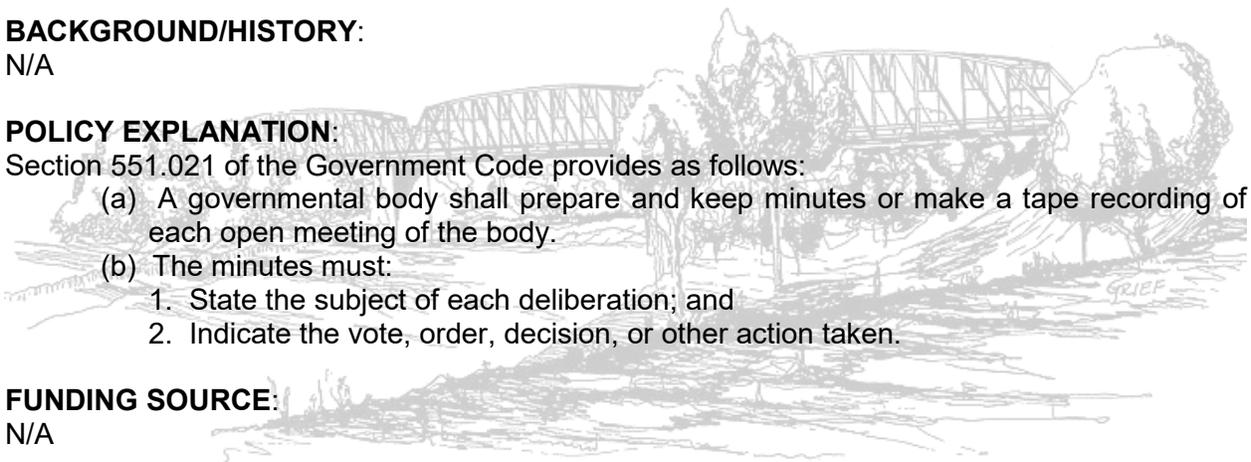
Lynda Humble, City Manager
Ann Franklin, City Secretary

BACKGROUND/HISTORY:

N/A

POLICY EXPLANATION:

Section 551.021 of the Government Code provides as follows:

- 
- (a) A governmental body shall prepare and keep minutes or make a tape recording of each open meeting of the body.
 - (b) The minutes must:
 1. State the subject of each deliberation; and
 2. Indicate the vote, order, decision, or other action taken.

FUNDING SOURCE:

N/A

RECOMMENDATION:

Consider action to approve City Council minutes from the May 28, 2019, Regular meeting and May 29, 2019 Special meeting.

ATTACHMENTS:

- May 28, 2019, DRAFT Regular Meeting Minutes.
- May 29, 2019, DRAFT Special Meeting Minutes.

BASTROP CITY COUNCIL
May 28 2019

The Bastrop City Council met in a Regular Meeting on Tuesday, May 28, 2019, at 6:30 p.m. at the Bastrop City Hall Council Chambers, located at 1311 Chestnut Street, Bastrop, Texas. Members present were Mayor Schroeder, Mayor Pro Tem Nelson and Council Members Jones, Ennis, Rogers and Peterson. Officers present were City Manager, Lynda Humble, City Secretary, Ann Franklin and City Attorney, Alan Bojorquez.

CALL TO ORDER

At 6:30 p.m. Mayor Schroeder called the meeting to order with a quorum being present.

PLEDGE OF ALLEGIANCE

Youth Advisory Council Members led the pledges.

INVOCATION

Mayor Schroeder gave the invocation.

INDIVIDUAL CONSIDERATION – PART 1 OF 2

(This item is being moved to the beginning of the agenda to provide an opportunity for the Mayor to administer the Oath of Office to the new members.)

- 9B. Consider action to approve Resolution No. R-2019-51 of the City Council of the City of Bastrop, Texas confirming the Youth Advisory Council appointments of the Mayor, as required in Section 3.08 of the City Charter; providing for a repealing clause; and establishing an effective date.

A motion was made by Council Member Ennis to approve Resolution No. R-2019-51, seconded by Council Member Jones, motion was approved on a 5-0 vote.

CONSENT AGENDA

- 8C. Consider action to approve the second reading of Ordinance No. 2019-19 of the City Council of the City of Bastrop, Texas amending Chapter 12, "Traffic and Vehicles," of the City of Bastrop City Code of Ordinances to add Article 12.13, "Use of Portable Electronic Devices While Operating a Motor Vehicle," sections 12.13.001, 12.13.002, 12.13.003, and 12.13.004; restricting the use of portable electronic devices while operating a motor vehicle in the City of Bastrop; providing for: findings of fact, enactment, repealer, severability, criminal fines not to exceed \$300 per offense; effective date, codification, and proper notice and meeting.

Presentation was made by Director of Public Safety/Chief of Police, James K. Altgelt.

A motion was made by Council Member Rogers to approve Resolution No. R-2019-19, seconded by Council Member Peterson, motion was approved on a 5-0 vote.

PRESENTATIONS

- 4A. Administer Oath of Office to Members of the Youth Advisory Council by Mayor Connie Schroeder.

Mayor Schroeder administered the oath of office to the members of the Youth Advisory Council.

- 4B. Mayor's Report
- 4C. Councilmembers' Report
- 4D. City Manager's Report
- 4E. Proclamation of the City Council of the City of Bastrop, Texas recognizing May 28, 2019 as Girl Scout Gold Award Recipient Abby Bowlin Day.
The proclamation was read into record by Mayor Schroeder and received by Abby Bowlin.

STAFF AND BOARD REPORTS

- 6C. Receive Monthly Report from Visit Bastrop.
Presentation was made by President and CEO, Susan Smith and Director of Sales, Ashton LaFuente of Visit Bastrop.

CITIZEN COMMENTS – NONE

9. ITEMS FOR INDIVIDUAL CONSIDERATION – PART 2 OF 2

- 9A. Consider action to approve Resolution No. R-2019-50 of the City Council of the City of Bastrop, Texas approving a Developer's Agreement for Piney Creek Bend Subdivision, Phase II, between the City of Bastrop and KB Homes; attached in Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.
This item was pulled from the agenda.
- 9B. **SEE ABOVE.**

Mayor Schroeder recessed the Council Meeting at 7:18 p.m.

Mayor Schroeder called the Council Meeting back to order at 7:20 p.m.

- 9C. Consider action to approve the first reading of Resolution No. R-2019-54 of the City Council of the City of Bastrop, Texas, approving the Executive Director or Interim Executive Director of the Bastrop Economic Development Corporation obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS for construction of a building to the lot at 921 Main Street; repealing all resolutions in conflict; providing severability; and providing an effective date.
Presentation was made by Kathryn Nash, Chair of Bastrop Economic Development Corporation Board.

SPEAKERS

Glenn Johnson
1109 Pecan Street
Bastrop, Texas 78602

Nancy Wood
906 Walnut Street
Bastrop, Texas 78602

Debbie Moore
1306 Church Street
Bastrop, Texas 78602
(225)802-4702

Deborah Johnson
1109 Pecan Street
Bastrop, Texas 78602

A motion was made by Council Member Jones to waive the rules and procedures to allow a citizen who arrived late to speak on this item, seconded by Council Member Peterson, motion was approved on a 5-0 vote.

SPEAKERS – CONTINUED

Gary Schiff
118 Lincoln
Bastrop, Texas 78602
(512)789-3874

EXECUTIVE SESSION

The City Council met at 7:56 p.m. in a closed/executive session pursuant to the Texas Government Code, Chapter 551, et seq, to confer with the City Attorney.

The Bastrop City Council reconvened at 9:05 p.m. into open (public) session.

9C. CONTINUED

- 9C. Consider action to approve the first reading of Resolution No. R-2019-54 of the City Council of the City of Bastrop, Texas, approving the Executive Director or Interim Executive Director of the Bastrop Economic Development Corporation obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS for construction of a building to the lot at 921 Main Street; repealing all resolutions in conflict; providing severability; and providing an effective date.

A motion was made by Council Member Ennis to approve the first reading of Resolution No. R-2019-54, seconded by Council Member Peterson, motion was approved on a 5-0 vote.

CONSENT AGENDA - CONTINUED

A motion was made by Council Member Peterson to approve Items 8A and 8B listed on the Consent Agenda after being read into the record by City Secretary, Ann Franklin. Seconded by Council Member Rogers, motion was approved on a 5-0 vote.

- 8A. Consider action to approve City Council minutes from the May 14, 2019, Regular meeting.

- 8B. Consider action to approve the second reading of Ordinance No. 2019-18 of the City Council of the City of Bastrop, Texas, granting a Conditional Use Permit to allow a brewery, distillery and winery use on 0.266 acres of Building Block 4, West of Water Street located at 919 Main Street, an area zoned Downtown Bastrop Form-Based Code - HMS, Historic Main Street within the city limits of Bastrop, Texas; as shown in Exhibit A; setting out conditions; providing a severability clause; and establishing an effective date.

WORK SESSION/BRIEFINGS

- 5A. Update and discussion of current Legislative Session and its impact on local municipalities.
Update was provided by Mayor Schroeder and discussion was held.
- 5B. Provide Mid-Year Update on FY 2019 Work Plan.
Update was provided by Director of Public Safety/Chief of Police, James K. Altgelt.
- 5C. Review and discuss existing land-use chart to determine limitations or exclusions.
Review was provided by Director of Planning and Development, Matt Jones.
- 5D. Update on Pop-Up Presentation scheduled for June 8, 2019.
Update was provided by Main Street Manager, Rebecca Gleason.
- 5E. Provide an update on the Chicken Relocation Project in Downtown Bastrop, Texas.
Update was provided by Director of Public Safety/Chief of Police, James K. Altgelt.

STAFF AND BOARD REPORTS - CONTINUED

- 6A. Receive Monthly Development Update.
Presentation was made by Director of Planning and Development, Matt Jones,
- 6B. Receive presentation on the unaudited Monthly Financial Report for the period ending April 30, 2019.
Presentation was made by Chief Financial Officer, Tracy Waldron.

EXECUTIVE SESSION

The City Council met at 10:20 p.m. in a closed/executive session pursuant to the Texas Government Code, Chapter 551, et seq, to discuss the following:

- 10A. City Council shall convene into closed session pursuant to Section 551.071 of the Texas Government Code for a legal briefing by the City Attorney on contractual issues regarding the Chapter 380 Agreement between the City and Bastrop Retail Partners, LP (executed September 4, 2007).

The Bastrop City Council reconvened at 10:44 p.m. into open (public) session.

TAKE ANY NECESSARY OR APPROPRIATE ACTION ON MATTERS POSTED FOR CONSIDERATION IN CLOSED/EXECUTIVE SESSION

There was no action taken.

ADJOURNMENT

Adjourned at 10:45 p.m. without objection.

APPROVED:

ATTEST:

Mayor Connie B. Schroeder

City Secretary Ann Franklin

The Minutes were approved on May 28, 2019, by Council Member _____'s motion, Council Member _____'s second. The motion was approved on a _____ vote.

DRAFT

**MINUTES OF JOINT WORKSHOP WITH BASTROP COUNCIL AND
PLANNING AND ZONING COMMISSION****May 29, 2019**

The Bastrop City Council and Planning and Zoning Commission met in a Joint Workshop Meeting on Wednesday, May 29, 2019, at 6:00 p.m. at the Bastrop City Hall Council Chambers, located at 1311 Chestnut Street, Bastrop, Texas. Members present for the Bastrop City Council were: Mayor Schroeder, Mayor Pro Tem Nelson and Council Members Ennis, Rogers and Peterson. Officers present were: City Manager, Lynda Humble, City Secretary, Ann Franklin and City Attorney, Alan Bojorquez. Members present for the Planning and Zoning Commission were: Debbie Moore, Cheryl Lee, Tom Dawson, Richard Gartman, Cynthia Meyer, Greg Sherry, and Pablo Serna. Staff Liaison, Planning and Zoning Director, Matt Jones.

CALL TO ORDER

- a. Mayor Schroeder called the meeting of the Bastrop City Council to order with a quorum being present at 6:00 p.m. Council Member Deborah Jones arrived at 6:03 p.m.
- b. Planning and Zoning–Chair, Debbie Moore called the meeting of the Planning and Zoning Commission to order with a quorum being present at 6:00 p.m. Board Member Matt Lassen arrived at 6:01 p.m. Board Member Patrick Connell was absent.

WORKSHOP SESSION

- 2A. Discussion on Bastrop Building Block Codes with Matt Lewis.
Presentation was made by Matt Lewis, CEO, Simplecity Design and Planning and Zoning Director, Matt Jones.
- 2B. Discuss Bastrop Building Block Code Schedule and Policy Review Process/Expectations from City Council to Planning & Zoning Commission.
Presentation was made by Matt Lewis, CEO, Simplecity Design and Planning and Zoning Director, Matt Jones.

ADJOURNMENT

Mayor Schroeder adjourned the Bastrop City Council meeting at 7:56 p.m. without objection.

Chair, Debbie Moore adjourned the Planning and Zoning Commission meeting at 7:56 p.m. without objection.

APPROVED:

ATTEST:

Mayor Connie B. Schroeder

City Secretary Ann Franklin



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 8B

TITLE:

Consider action to approve the second reading of Resolution No. R-2019-54 of the City Council of the City of Bastrop, Texas, approving the Executive Director or Interim Executive Director of the Bastrop Economic Development Corporation to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS for construction of a building to the lot at 921 Main Street; repealing all resolutions in conflict; providing severability; and providing an effective date.

STAFF REPRESENTATIVE:

Phallan Davis, Bastrop EDC Interim Executive Director

BACKGROUND/HISTORY:

The Bastrop EDC Board of Directors previously approved a Performance Agreement with 921 Bastrop, LLC, on September 17, 2018, to construct a building at the site located at 921 Main Street, Bastrop, Texas. However, the project has now substantially changed and 921 Bastrop, LLC, can no longer construct the facility under that agreement. This agreement has been voided by agreement of the parties and the project is now going to be constructed by the BEDC.

To begin this new project the BEDC will need to obtain a loan in the amount of one million eight hundred thousand (\$1,800,000.00) dollars from a federally insured lender to be chosen by the Board.

Pursuant to Section 505.158(b) of the Local Government Code, prior to the BEDC funding a project involving an expenditure of more than \$10,000, the City Council shall adopt a Resolution authorizing the project, which Resolution shall be read by the City Council on two separate occasions.

Through the investment of community resources in infrastructure improvements, the EDC is promoting new or expanded business development. The EDC is authorized in the LGC Section 505.158 to undertake projects related to business development in certain small municipalities:

Sec. 505.158. PROJECTS RELATED TO BUSINESS DEVELOPMENT IN CERTAIN SMALL MUNICIPALITIES. (a) For a Type B corporation authorized to be created by a municipality with a population of 20,000 or less, "project" also includes the land, buildings, equipment, facilities, expenditures, targeted infrastructure, and improvements found by the corporation's board of directors to promote new or expanded business development. (b) A Type B corporation may not undertake a project authorized by this section that requires an expenditure of more than \$10,000 until the governing body of the corporation's authorizing municipality adopts a resolution authorizing the project after giving the resolution at least two separate readings.

Added by Acts 2007, 80th Leg., R.S., Ch. 885 (H.B. 2278), Sec. 3.01, eff. April 1, 2009.

On May 28, 2019 the City of Bastrop City Council unanimously approved the first reading of this resolution.

RECOMMENDATION:

Consider action to approve the second reading of Resolution No. R-2019-54 of the City Council of the City of Bastrop, Texas, approving the Executive Director or Interim Executive Director of the Bastrop Economic Development Corporation to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS for construction of a building to the lot at 921 Main Street; repealing all resolutions in conflict; providing severability; and providing an effective date.

ATTACHMENTS:

- Draft Resolution
- Resolution from Bastrop EDC Board



RESOLUTION NO. R-2019-54

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS, APPROVING THE EXECUTIVE DIRECTOR OR INTERIM EXECUTIVE DIRECTOR OF THE BASTROP ECONOMIC DEVELOPMENT CORPORATION TO OBTAIN A LOAN IN THE AMOUNT OF ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS FOR CONSTRUCTION OF A BUILDING TO THE LOT AT 921 MAIN STREET; REPEALING ALL RESOLUTIONS IN CONFLICT; PROVIDING SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, in recognition of the positive economic benefits which will accrue, and pursuant to the terms of Texas Local Government Code Sections 501-505, and specifically 501.103, the Board of Directors of the Bastrop Economic Development Corporation ("BEDC") has authorized the Executive Director or Interim Executive Director to obtain a loan to facilitate the site-improvement and construction of a building at the lot located at 921 Main Street in Bastrop, Bastrop County, Texas; and

WHEREAS, the project was previously under a performance agreement with 921 Bastrop, LLC, for the same or similar improvements to be made by 921 Bastrop, LLC, who can no longer construct the facility under that agreement approved under Resolution No. R-2018-0007 on September 17, 2018; and

WHEREAS, that performance agreement with 921 Bastrop, LLC, is being voided by agreement of the parties and this project is now going to be constructed by the BEDC; and

WHEREAS, to begin this new project the BEDC will need to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS from a federally insured lender to be chosen by the Board; and

WHEREAS, after careful evaluation and consideration by the Board, it was determined that the BEDC Executive Director or Interim Executive Director is authorized to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS to facilitate the development of the property located at 921 Main Street, Bastrop, Texas, and owned by the BEDC; and

WHEREAS, the BEDC and City Council by separate resolutions shall authorize the 921 Main Street Project as a qualified infrastructure and site improvement project pursuant to the authority of Texas Local Government Code Section 501.103.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS:

SECTION 1. To the extent required by Texas Local Government Code Section 505.158(b) the following are authorized:

SECTION 2. Open Meeting. The City Council hereby finds and determines that the meeting at which this Resolution was passed was open to the public, and public notice of the time, place and purpose at which it was read was given in accordance with Chapter 551, Texas Government Code.

SECTION 3. Any prior resolution of the City Council in conflict with the provisions contained in this Resolution are hereby repealed and revoked.

SECTION 4. Should any part of this Resolution be held to be invalid for any reason, the remainder shall not be affected thereby, and such remaining portions are hereby declared to be severable.

SECTION 5. Two Readings Required. Pursuant to Texas Local Government Code Section 505.158(b), this Resolution shall take effect immediately from and after its passage upon a subsequent second reading and passage, and it is duly resolved.

This resolution shall be in full force and effect from and after its final adoption.

READ and ACKNOWLEDGED on First Reading on the 28th day of May 2019.

READ and APPROVED on the Second Reading on the 11th day of June 2019.

CITY OF BASTROP, TEXAS

APPROVED:

Connie B. Schroeder, Mayor

ATTEST:

Ann Franklin, City Secretary

APPROVED AS TO FORM:

Alan Bojorquez, City Attorney

RESOLUTION NO. R-2019-0006

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE BASTROP ECONOMIC DEVELOPMENT CORPORATION APPROVING MIKE KAMERLANDER, EXECUTIVE DIRECTOR, TO OBTAIN A LOAN IN THE AMOUNT OF \$1,800,000.

WHEREAS, the Bastrop Economic Development Corporation (“BEDC”) is a public instrumentality and non-profit industrial development corporation duly established and operating under Local Government Code, Chapters 501 and 505, et seq., as amended, known as the Development Corporation Act of 1979 (the “Act”), and is acting with the approval of the governing body of the City of Bastrop, Texas (the “City”); and

WHEREAS, the BEDC needs to improve the site it owns at 921 Main Street in Bastrop, Texas, and to construct a facility and building upon that site to fulfill its public purpose in attracting qualifying projects under Texas Local Government Code, Chapters 501 and 505, et seq., as amended; and

WHEREAS, the BEDC previously authorized a project to be conducted on that site that is now substantially changing and requires the BEDC to directly finance and construct the building and facility at 921 Main Street, Bastrop, Texas; and

WHEREAS, the project was previously under a performance agreement with 921 Bastrop, LLC, for the same or similar improvements to be made by 921 Bastrop, LLC, who can no longer construct the facility under that agreement approved under Resolution No. R-2018-0007 on September 17, 2018; and

WHEREAS, that performance agreement with 921 Bastrop, LLC, is being voided by agreement of the parties and this project is now going to be constructed by the BEDC; and

WHEREAS, to begin this new project the BEDC will need to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS from a federally insured lender to be chosen by the Board; and

WHEREAS, after careful evaluation and consideration by the Board, it was determined that BEDC Executive Director Mike Kamerlander is authorized to obtain a loan in the amount of ONE MILLION EIGHT HUNDRED THOUSAND (\$1,800,000.00) DOLLARS to facilitate the development of the property located at 921 Main Street, Bastrop, Texas, and owned by the BEDC; and

WHEREAS, the BEDC Board, having received proposed loans from various lending institutions provided by the Executive Director, determines the financial institution from which the funds will be obtained is Roscoe State Bank.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE BASTROP ECONOMIC DEVELOPMENT CORPORATION THAT:

SECTION 1. The findings set out above are hereby found to be true and correct and are incorporated herein for all purposes.

RESOLUTION NO. R-2019-0006

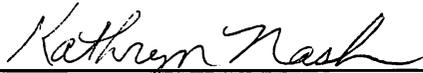
SECTION 2. The Board approves the Director obtain a loan in the amount of \$1,800,000.00 for the BEDC project to develop the property located at 921 Main Street, Bastrop, Texas, and to be owned by the BEDC; *for signature and authorization by Executive Director and BEDC Treasurer.*

SECTION 3. The Board has determined Roscoe State Bank is to be the lender on this project and the Executive Director, with the assistance of the BEDC's attorneys, is authorized and directed to prepare any instruments reasonably necessary to fulfill the intent expressed herein.

SECTION 4. This Resolution is effective upon passage.

DULY RESOLVED AND ADOPTED by the Board of Directors of the Bastrop Economic Development Corporation, this 20th day of May 2019.

BASTROP ECONOMIC
DEVELOPMENT CORPORATION



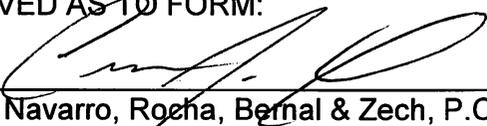
Kathryn Nash, Board Chair

ATTEST:



Sam Kier, Board Secretary

APPROVED AS TO FORM:



Denton, Navarro, Rocha, Bernal & Zech, P.C.



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 9A

TITLE:

Consider action to approve Resolution No. R-2018-52 of the City Council of the City of Bastrop, Texas awarding a contract in the amount of Three Hundred Forty One Thousand Dollars and no cents (\$341,000.00) to ASD Consultants, Inc. to undertake the work identified for the remodel of City Hall, attached as Exhibit A; Authorizing the City Manager to execute all necessary documents; providing for a repealing clause; and establishing an effective date.

STAFF REPRESENTATIVE:

Trey Job, Managing Director of Public Works & Leisure Services

BACKGROUND/HISTORY:

The current City of Bastrop City Hall building was built in 2010. An unfinished area that could be used for future expansion was included at the time of construction. As the City has grown over the past nine years in size and services, we slowly filled the offices with new staff members to provide the expanded services. The creation of the Downtown and Hospitality Department, a Council Liaison position, and new Planning and Development Staff, led to the determination that it is time to build out the unfinished space. The remodel will also include improvements to the Planning Department such as adding a much-needed meeting room that will provide efficiency as well as add additional office space for Planning Staff.

The Architectural firm Negrete & Kolar was selected during the City of Bastrop's request for qualified engineering and architectural services in 2018. They were awarded a contract to design and manage the City Hall Remodel Project in September 2018. The project has been designed and bid with a recommendation of award to ASD Consultants, Inc. who has been found as the lowest qualified bidder for Three Hundred Forty-One Thousand Dollars and no cents (\$341,000.00).

POLICY EXPLANATION:

As the chief administrative officer, the City Manager can execute the contract on behalf of the City of Bastrop.

FUNDING SOURCE:

The original budgeted amount for this project in the FY 2019 budget was \$300,000.00. The lowest qualified bid will require a budget amendment to complete this project.

RECOMMENDATION:

Consider action to approve Resolution No. R-2018-52 of the City Council of the City of Bastrop, Texas awarding a contract in the amount of Three Hundred Forty One Thousand Dollars and no cents (\$341,000.00) to ASD Consultants, Inc. to undertake the work identified for the remodel of City Hall, attached as Exhibit A; Authorizing the City Manager to execute all necessary documents; providing for a repealing clause; and establishing an effective date.

ATTACHMENTS:

- Resolution
- Bid Tabulation and recommendation letter from Negrete & Kolar
- Draft contract



RESOLUTION NO. R-2019-52

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BASTROP, TX AWARDED A CONTRACT IN THE AMOUNT OF THREE HUNDRED FORTY ONE THOUSAND DOLLARS AND NO CENTS (\$341,000.00) TO ASD CONSULTANTS, INC. TO UNDERTAKE THE WORK IDENTIFIED FOR THE REMODEL OF CITY HALL, ATTACHED AS EXHIBIT A; AUTHORIZING THE CITY MANAGER TO EXECUTE ALL NECESSARY DOCUMENTS; PROVIDING FOR A REPEALING CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, The City Council of the City of Bastrop, Texas has appointed the City Manager as the Chief Administrative Officer of the City; and

WHEREAS, The City Manager is responsible for the proper administration of all affairs of the City; and

WHEREAS, The City of Bastrop City Hall building was constructed in 2010, with an unfinished area that could be utilized for future growth; and

WHEREAS, The City of Bastrop City Staff has grown over the past nine years in size and services, necessitating building out and completing the unfinished area, but also improvements to the Planning Department including more office space and a meeting room; and

WHEREAS, The City of Bastrop has received all proposals, and found the lowest responsible bidder to be qualified.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS:

Section 1: That the City Manager is hereby authorized to execute a contract for the City Hall Remodel with ASD Consultants, Inc. in the amount of \$341,000.00, attached as Exhibit A.

Section 2: That the City Council of the City of Bastrop has found ASD Consultants, Inc. to be a subject matter expert in the field of building renovation.

Section 3: All orders, ordinances, and resolutions, or parts thereof, which are in conflict or inconsistent with any provision of this Resolution are hereby repealed to the extent of such conflict, and the provisions of this Resolution shall be and remain controlling as to the matters resolved herein.

Section 4: That this Resolution shall take effect immediately upon its passage, and it is so resolved.

DULY RESOLVED AND ADOPTED by the City Council of the City of Bastrop this 11th day of June 2019.

APPROVED:

Connie B. Schroeder, Mayor

ATTEST:

Ann Franklin, City Secretary

APPROVED AS TO FORM:

Alan Bojorquez, City Attorney

PROPOSAL TABULATION SHEET
 1311 Chestnut Street
 City of Bastrop City Hall Renovations

NEGRETE & KOLAR ARCHITECTS, LLP
 Project #1810
 23 April 2019 - 2:00 PM

PROPOSER	ASD Consultants, Inc	HCS Inc.	DKC Construction Group	HB Construction	Coast to Coast Construction
BOND	Markel Insurance Co.	The Main Street America Group	Merchants Bonding Co.	Argonaut Insurance Co.	Insurers Indemnity Co.
BID AMOUNT - \$	\$341,000.00	\$449,840.00	\$503,000.00	\$585,000.00	\$383,600.00
CONTRACT TIME - WEEKS	12	90 days (13 weeks)	18	140 days (20 weeks)	13 weeks
OH&P for GC's work	18%	20%	10%	10%	20%
OH&P for Subs work	16%	20%	10%	10%	20%
OH&P credit for deleted work	14%	15%	0%	5%	20%

NEGRETE & KOLAR ARCHITECTS,LLP

May 20, 2019

Trey Job
Managing Director
Public Works and Leisure Services
1311 Chestnut Street
P.O. Box 427
Bastrop Texas, 78602
tjob@cityofbastrop.org

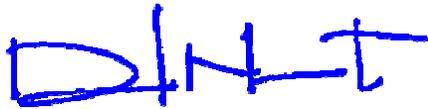
Re: Bastrop City Hall – Bids Received

Dear Trey

Based on the five bids received, we recommend that Bastrop consider Award of the Contract for Construction to ASD Consultants Inc.

ASD attended the mandatory pre-bid conference, has a reputable resume in interior finish-outs, has the lowest amount of time noted for executing the work, and has submitted the Lowest Monetary Qualified Bid to undertake the work identified for the Bastrop City Hall existing space finish out and renovation of identified areas.

Regards



David Negrete AIA
Negrete & Kolar Architects LLP

DRAFT AIA® Document A104™ - 2017

Standard Abbreviated Form of Agreement Between Owner and Contractor

AGREEMENT made as of the «11» day of «June» in the year «2019»
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

«City of Bastrop»«Owner»
«1311 Chestnut Street»
«Bastrop, Texas»
«78602»

and the Contractor:
(Name, legal status, address and other information)

«ASD Consultants, Inc.»« »
«8120 North IH 35, Suite 200»
«Austin, Texas»
«78753»

for the following Project:
(Name, location and detailed description)

«City of Bastrop City Hall Renovations»
«1311 Chestnut Street, Bastrop, Texas, 78602»
«Interior Modification of Existing Space and Finish-out of Existing Expansion Space »

The Architect:
(Name, legal status, address and other information)

«David Negrete»«Principal»
«Negrete & Kolar Architects, LLP»
«11720 North IH 35»
«Austin, Texas, 78753»

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

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EXHIBIT A DETERMINATION OF THE COST OF THE WORK

ARTICLE 1 THE WORK OF THIS CONTRACT

The Contractor shall execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 2.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

The date of this Agreement.

A date set forth in a notice to proceed issued by the Owner.

[] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 2.2 The Contract Time shall be measured from the date of commencement.

§ 2.3 Substantial Completion

§ 2.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check the appropriate box and complete the necessary information.)

[] Not later than () calendar days from the date of commencement of the Work.

[] By the following date:

§ 2.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
<input type="text"/>	<input type="text"/>

§ 2.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 2.3, liquidated damages, if any, shall be assessed as set forth in Section 3.5.

ARTICLE 3 CONTRACT SUM

§ 3.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

[] Stipulated Sum, in accordance with Section 3.2 below

[] Cost of the Work plus the Contractor's Fee, in accordance with Section 3.3 below

[] Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 3.4 below

(Based on the selection above, complete Section 3.2, 3.3 or 3.4 below.)

§ 3.2 The Stipulated Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 3.2.1 The Stipulated Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.2.2 Unit prices, if any:

(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 3.2.3 Allowances, if any, included in the stipulated sum:
(Identify each allowance.)

Item	Price
------	-------

§ 3.3 Cost of the Work Plus Contractor's Fee

§ 3.3.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.3.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

<< >>

§ 3.4 Cost of the Work Plus Contractor's Fee With a Guaranteed Maximum Price

§ 3.4.1 The Cost of the Work is as defined in Exhibit A, Determination of the Cost of the Work.

§ 3.4.2 The Contractor's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor's Fee and the method of adjustment to the Fee for changes in the Work.)

<< >>

§ 3.4.3 Guaranteed Maximum Price

§ 3.4.3.1 The sum of the Cost of the Work and the Contractor's Fee is guaranteed by the Contractor not to exceed « » (\$ « »), subject to additions and deductions by changes in the Work as provided in the Contract Documents. This maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.

(Insert specific provisions if the Contractor is to participate in any savings.)

<< >>

§ 3.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

<< >>

§ 3.4.3.3 Unit Prices, if any:

(Identify the item and state the unit price and the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 3.4.3.4 Allowances, if any, included in the Guaranteed Maximum Price:

(Identify each allowance.)

Item	Price
------	-------

§ 3.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:

<< >>

§ 3.4.3.6 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes or equipment, all of which, if required, shall be incorporated by Change Order.

§ 3.4.3.7 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in Section 3.4.3.5. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the agreed-upon assumptions contained in Section 3.4.3.5 and the revised Contract Documents.

§ 3.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

<< >>

ARTICLE 4 PAYMENT

§ 4.1 Progress Payments

§ 4.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 4.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

<< >>

§ 4.1.3 Provided that an Application for Payment is received by the Architect not later than the << >> day of a month, the Owner shall make payment of the certified amount to the Contractor not later than the << >> day of the << >> month. If an Application for Payment is received by the Architect after the date fixed above, payment shall be made by the Owner not later than << >> (<< >>) days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 4.1.4 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold retainage from the payment otherwise due as follows:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment and any terms for reduction of retainage during the course of the Work. The amount of retainage may be limited by governing law.)

<< >>

§ 4.1.5 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

<< >> % << >>

§ 4.2 Final Payment

§ 4.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 18.2, and to satisfy other requirements, if any, which extend beyond final payment;
- .2 the Contractor has submitted a final accounting for the Cost of the Work, where payment is on the basis of the Cost of the Work with or without a Guaranteed Maximum Price; and
- .3 a final Certificate for Payment has been issued by the Architect in accordance with Section 15.7.1.

§ 4.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

<< >>

ARTICLE 5 DISPUTE RESOLUTION

§ 5.1 Binding Dispute Resolution

For any claim subject to, but not resolved by, mediation pursuant to Section 21.5, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

Arbitration pursuant to Section 21.6 of this Agreement

Litigation in a court of competent jurisdiction

Other *(Specify)*

<< >>

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, claims will be resolved in a court of competent jurisdiction.

ARTICLE 6 ENUMERATION OF CONTRACT DOCUMENTS

§ 6.1 The Contract Documents are defined in Article 7 and, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 6.1.1 The Agreement is this executed AIA Document A104™-2017, Standard Abbreviated Form of Agreement Between Owner and Contractor.

§ 6.1.2 AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013 incorporated into this Agreement.)

<< >>

§ 6.1.3 The Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

§ 6.1.4 The Specifications:

(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

<< >>

Section	Title	Date	Pages

§ 6.1.5 The Drawings:

(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

<< >>

Number	Title	Date

§ 6.1.6 The Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are enumerated in this Article 6.

§ 6.1.7 Additional documents, if any, forming part of the Contract Documents:

.1 Other Exhibits:

(Check all boxes that apply.)

Exhibit A, Determination of the Cost of the Work.

AIA Document E204™-2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

<< >>

The Sustainability Plan:

Title	Date	Pages

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.2 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents.)

<< >>

ARTICLE 7 GENERAL PROVISIONS

§ 7.1 The Contract Documents

The Contract Documents are enumerated in Article 6 and consist of this Agreement (including, if applicable, Supplementary and other Conditions of the Contract), Drawings, Specifications, Addenda issued prior to the execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 7.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either

written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Contractor.

§ 7.3 The Work

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

§ 7.4 Instruments of Service

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

§ 7.5 Ownership and use of Drawings, Specifications and Other Instruments of Service

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

§ 7.5.2 The Contractor, Subcontractors, Sub-subcontractors and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to the protocols established pursuant to Sections 7.6 and 7.7, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 7.6 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 7.7 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party’s sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

§ 7.8 Severability

The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties’ intentions and purposes in executing the Contract.

§ 7.9 Notice

§ 7.9.1 Except as otherwise provided in Section 7.9.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering Notice in electronic format such as name, title and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

<< >>

§ 7.9.2 Notice of Claims shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 7.10 Relationship of the Parties

Where the Contract is based on the Cost of the Work plus the Contractor's Fee, with or without a Guaranteed Maximum Price, the Contractor accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Contractor's skill and judgment in furthering the interests of the Owner; to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish and approve, in a timely manner, information required by the Contractor and to make payments to the Contractor in accordance with the requirements of the Contract Documents.

ARTICLE 8 OWNER

§ 8.1 Information and Services Required of the Owner

§ 8.1.1 Prior to commencement of the Work, at the written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 8.1.1, the Contract Time shall be extended appropriately.

§ 8.1.2 The Owner shall furnish all necessary surveys and a legal description of the site.

§ 8.1.3 The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 8.1.4 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 9.6.1, the Owner shall secure and pay for other necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

§ 8.2 Owner's Right to Stop the Work

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

§ 8.3 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 15.4.3, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including the Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 21.

ARTICLE 9 CONTRACTOR

§ 9.1 Review of Contract Documents and Field Conditions by Contractor

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

§ 9.1.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 8.1.2, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies, or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional unless otherwise specifically provided in the Contract Documents.

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

§ 9.2 Supervision and Construction Procedures

§ 9.2.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters.

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

§ 9.3 Labor and Materials

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

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

§ 9.3.3 The Contractor may make a substitution only with the consent of the Owner, after evaluation by the Architect and in accordance with a Modification.

§ 9.4 Warranty

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation or normal wear and tear under normal usage. All other warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 15.6.3.

§ 9.5 Taxes

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

§ 9.6 Permits, Fees, Notices, and Compliance with Laws

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

§ 9.6.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 9.7 Allowances

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. The Owner shall select materials and equipment under allowances with reasonable promptness. Allowance amounts shall include the costs to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts. Contractor's costs for unloading and handling at the site, labor, installation, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowance.

§ 9.8 Contractor's Construction Schedules

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

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

§ 9.9 Submittals

§ 9.9.1 The Contractor shall review for compliance with the Contract Documents and submit to the Architect Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents in coordination with the Contractor's construction schedule and in such sequence as to allow the Architect reasonable time for review. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them; (2) determined and verified materials, field measurements, and field construction criteria related thereto, or will do so; and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. The Work shall be in accordance with approved submittals.

§ 9.9.2 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

§ 9.9.3 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents or unless the Contractor needs to provide such services in order to carry out the Contractor's own responsibilities. If professional design services or certifications by a design professional are specifically required, the Owner and the Architect will specify the performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. If no criteria are specified, the design shall comply with applicable codes and ordinances. Each Party shall be entitled to rely upon the information provided by the other Party. The Architect will review and approve or take other appropriate action on submittals for the limited purpose of checking for conformance with information provided and the design concept expressed in the Contract Documents. The Architect's review of Shop Drawings, Product Data, Samples, and similar submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. In performing such review, the Architect will approve, or take other appropriate action upon, the Contractor's Shop Drawings, Product Data, Samples, and similar submittals.

§ 9.10 Use of Site

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

§ 9.11 Cutting and Patching

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

§ 9.12 Cleaning Up

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

§ 9.13 Access to Work

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

§ 9.14 Royalties, Patents and Copyrights

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

§ 9.15 Indemnification

§ 9.15.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 9.15.1.

§ 9.15.2 In claims against any person or entity indemnified under this Section 9.15 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 9.15.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 10 ARCHITECT

§ 10.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction, until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

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

§ 10.3 The Architect will visit the site at intervals appropriate to the stage of the construction to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general, if the Work

observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 10.4 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

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

§ 10.6 The Architect has authority to reject Work that does not conform to the Contract Documents and to require inspection or testing of the Work.

§ 10.7 The Architect will review and approve or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 10.8 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect will make initial decisions on all claims, disputes, and other matters in question between the Owner and Contractor but will not be liable for results of any interpretations or decisions rendered in good faith.

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

ARTICLE 11 SUBCONTRACTORS

§ 11.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site.

§ 11.2 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the Subcontractors or suppliers proposed for each of the principal portions of the Work. The Contractor shall not contract with any Subcontractor or supplier to whom the Owner or Architect has made reasonable written objection within ten days after receipt of the Contractor's list of Subcontractors and suppliers. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 11.3 Contracts between the Contractor and Subcontractors shall (1) require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by the Contract Documents, assumes toward the Owner and Architect, and (2) allow the Subcontractor the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Contract Documents, has against the Owner.

ARTICLE 12 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 12.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the

Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

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

§ 12.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which are payable to a Separate Contractor because of delays, improperly timed activities, or defective construction of the Contractor. The Owner shall be responsible to the Contractor for costs incurred by the Contractor because of delays, improperly timed activities, damage to the Work, or defective construction of a Separate Contractor.

ARTICLE 13 CHANGES IN THE WORK

§ 13.1 By appropriate Modification, changes in the Work may be accomplished after execution of the Contract. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with the Contract Sum and Contract Time being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Owner, Contractor, and Architect, or by written Construction Change Directive signed by the Owner and Architect. Upon issuance of the Change Order or Construction Change Directive, the Contractor shall proceed promptly with such changes in the Work, unless otherwise provided in the Change Order or Construction Change Directive.

§ 13.2 Adjustments in the Contract Sum and Contract Time resulting from a change in the Work shall be determined by mutual agreement of the parties or, in the case of a Construction Change Directive signed only by the Owner and Architect, by the Contractor's cost of labor, material, equipment, and reasonable overhead and profit, unless the parties agree on another method for determining the cost or credit. Pending final determination of the total cost of a Construction Change Directive, the Contractor may request payment for Work completed pursuant to the Construction Change Directive. The Architect will make an interim determination of the amount of payment due for purposes of certifying the Contractor's monthly Application for Payment. When the Owner and Contractor agree on adjustments to the Contract Sum and Contract Time arising from a Construction Change Directive, the Architect will prepare a Change Order.

§ 13.3 The Architect will have authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work.

§ 13.4 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be equitably adjusted as mutually agreed between the Owner and Contractor; provided that the Contractor provides notice to the Owner and Architect promptly and before conditions are disturbed.

ARTICLE 14 TIME

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

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

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

§ 14.4 The date of Substantial Completion is the date certified by the Architect in accordance with Section 15.6.3.

§ 14.5 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) changes ordered in the Work; (2) by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not

reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control; or (3) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine, subject to the provisions of Article 21.

ARTICLE 15 PAYMENTS AND COMPLETION

§ 15.1 Schedule of Values

§ 15.1.1 Where the Contract is based on a Stipulated Sum or the Cost of the Work with a Guaranteed Maximum Price pursuant to Section 3.2 or 3.4, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Stipulated Sum or Guaranteed Maximum Price to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy required by the Architect. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 15.1.2 The allocation of the Stipulated Sum or Guaranteed Maximum Price under this Section 15.1 shall not constitute a separate stipulated sum or guaranteed maximum price for each individual line item in the schedule of values.

§ 15.2 Control Estimate

§ 15.2.1 Where the Contract Sum is the Cost of the Work, plus the Contractor's Fee without a Guaranteed Maximum Price pursuant to Section 3.3, the Contractor shall prepare and submit to the Owner a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the estimated Cost of the Work plus the Contractor's Fee.

§ 15.2.2 The Control Estimate shall include:

- .1 the documents enumerated in Article 6, including all Modifications thereto;
- .2 a list of the assumptions made by the Contractor in the preparation of the Control Estimate to supplement the information provided by the Owner and contained in the Contract Documents;
- .3 a statement of the estimated Cost of the Work organized by trade categories or systems and the Contractor's Fee;
- .4 a project schedule upon which the Control Estimate is based, indicating proposed Subcontractors, activity sequences and durations, milestone dates for receipt and approval of pertinent information, schedule of shop drawings and samples, procurement and delivery of materials or equipment the Owner's occupancy requirements, and the date of Substantial Completion; and
- .5 a list of any contingency amounts included in the Control Estimate for further development of design and construction.

§ 15.2.3 When the Control Estimate is acceptable to the Owner and Architect, the Owner shall acknowledge it in writing. The Owner's acceptance of the Control Estimate does not imply that the Control Estimate constitutes a Guaranteed Maximum Price.

§ 15.2.4 The Contractor shall develop and implement a detailed system of cost control that will provide the Owner and Architect with timely information as to the anticipated total Cost of the Work. The cost control system shall compare the Control Estimate with the actual cost for activities in progress and estimates for uncompleted tasks and proposed changes. This information shall be reported to the Owner, in writing, no later than the Contractor's first Application for Payment and shall be revised and submitted with each Application for Payment.

§ 15.2.5 The Owner shall authorize preparation of revisions to the Contract Documents that incorporate the agreed-upon assumptions contained in the Control Estimate. The Owner shall promptly furnish such revised Contract Documents to the Contractor. The Contractor shall notify the Owner and Architect of any inconsistencies between the Control Estimate and the revised Contract Documents.

§ 15.3 Applications for Payment

§ 15.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 15.1, for completed portions of the Work. The application shall be notarized, if required; be supported by all data substantiating the Contractor's right to payment that the Owner or Architect require; shall reflect retainage if provided for in the Contract Documents; and include any revised cost control information required by Section 15.2.4. Applications for Payment shall not include requests for payment for portions of the Work for which the

Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 15.3.2 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed progress payments already received by the Contractor plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Contractor's Fee.

§ 15.3.3 Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 15.3.4 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the Owner's interests.

§ 15.4 Certificates for Payment

§ 15.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner of the Architect's reasons for withholding certification in whole or in part as provided in Section 15.4.3.

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

§ 15.4.3 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 15.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 15.4.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 9.2.2, because of

- .1 defective Work not remedied;
- .2 third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;

- .6 reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 15.4.4 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 15.4.3, in whole or in part, that party may submit a Claim in accordance with Article 21.

§ 15.5 Progress Payments

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

§ 15.5.2 Neither the Owner nor Architect shall have an obligation to pay or see to the payment of money to a Subcontractor or supplier except as may otherwise be required by law.

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

§ 15.5.4 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 15.6 Substantial Completion

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

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

§ 15.6.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. When the Architect determines that the Work or designated portion thereof is substantially complete, the Architect will issue a Certificate of Substantial Completion which shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

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

§ 15.7 Final Completion and Final Payment

§ 15.7.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance

with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions stated in Section 15.7.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 15.7.2 Final payment shall not become due until the Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed, or a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including costs and reasonable attorneys' fees.

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

- .1 liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

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

ARTICLE 16 PROTECTION OF PERSONS AND PROPERTY

§ 16.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

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

The Contractor shall comply with, and give notices required by, applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons and property and their protection from damage, injury, or loss. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, a Subcontractor, a sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 16.1.2 and 16.1.3. The Contractor may make a claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 9.15.

§ 16.2 Hazardous Materials and Substances

§ 16.2.1 The Contractor is responsible for compliance with the requirements of the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 16.2.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area, if in fact, the material or substance presents the risk of bodily injury or

death as described in Section 16.2.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

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

ARTICLE 17 INSURANCE AND BONDS

§ 17.1 Contractor's Insurance

§ 17.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in this Section 17.1 or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the insurance required by this Agreement from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 18.4, unless a different duration is stated below:

<< >>

§ 17.1.2 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than << >> (\$ << >>) each occurrence, << >> (\$ << >>) general aggregate, and << >> (\$ << >>) aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 9.15.

§ 17.1.3 Automobile Liability covering vehicles owned by the Contractor and non-owned vehicles used by the Contractor, with policy limits of not less than << >> (\$ << >>) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

§ 17.1.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 17.1.2 and 17.1.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 17.1.5 Workers' Compensation at statutory limits.

§ 17.1.6 Employers' Liability with policy limits not less than << >> (\$ << >>) each accident, << >> (\$ << >>) each employee, and << >> (\$ << >>) policy limit.

§ 17.1.7 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than << >> (\$ << >>) per claim and << >> (\$ << >>) in the aggregate.

§ 17.1.8 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than << >> (\$ << >>) per claim and << >> (\$ << >>) in the aggregate.

§ 17.1.9 Coverage under Sections 17.1.7 and 17.1.8 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate.

§ 17.1.10 The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Section 17.1 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the period required by Section 17.1.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy.

§ 17.1.11 The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ 17.1.12 To the fullest extent permitted by law, the Contractor shall cause the commercial liability coverage required by this Section 17.1 to include (1) the Owner, the Architect, and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's Consultants, CG 20 32 07 04.

§ 17.1.13 Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.1, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 17.1.14 Other Insurance Provided by the Contractor

(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	Limits
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§ 17.2 Owner's Insurance

§ 17.2.1 Owner's Liability Insurance

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

§ 17.2.2 Property Insurance

§ 17.2.2.1 The Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed or materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section 17.2.2.2, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ 17.2.2.2 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section 17.2.2.1 or, if necessary, replace the insurance policy required under Section 17.2.2.1 with

property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 18.4.

§ 17.2.2.3 If the insurance required by this Section 17.2.2 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ 17.2.2.4 If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 18.4, “all-risks” property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

§ 17.2.2.5 Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Section 17.2.2 and, upon the Contractor’s request, provide a copy of the property insurance policy or policies required by this Section 17.2.2. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ 17.2.2.6 Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any insurance required by this Section 17.2.2, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 17.2.2.7 Waiver of Subrogation

§ 17.2.2.7.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect’s consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by this Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect’s consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 17.2.2.7 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 17.2.2.7.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 17.2.2.7.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

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

§ 17.2.3 Other Insurance Provided by the Owner

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

§ 17.3 Performance Bond and Payment Bond

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

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

ARTICLE 18 CORRECTION OF WORK

§ 18.1 The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed, or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense, unless compensable under Section A.1.7.3 in Exhibit A, Determination of the Cost of the Work.

§ 18.2 In addition to the Contractor's obligations under Section 9.4, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 15.6.3, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.

§ 18.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 8.3.

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

§ 18.5 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Article 18.

ARTICLE 19 MISCELLANEOUS PROVISIONS

§ 19.1 Assignment of Contract

Neither party to the Contract shall assign the Contract without written consent of the other, except that the Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 19.2 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 21.6.

§ 19.3 Tests and Inspections

Tests, inspections, and approvals of portions of the Work required by the Contract Documents or by applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities shall be made at an

appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 19.4 The Owner's representative:
(Name, address, email address and other information)

«Lynda Humble, City Manager»
«City of Bastrop»
«1311 Chestnut Street »
« Bastrop, Texas»
«78602»
«lhumble@cityofbastrop.org»

§ 19.5 The Contractor's representative:
(Name, address, email address and other information)

«Curtis Brown, President»
«ASD Consultants, Inc.»
«8120 North IH 35, Suite 200»
«Austin, Texas»
«78753»
«curtis2aia@gmail.com»

§ 19.6 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

ARTICLE 20 TERMINATION OF THE CONTRACT

§ 20.1 Termination by the Contractor

If the Architect fails to certify payment as provided in Section 15.4.1 for a period of 30 days through no fault of the Contractor, or if the Owner fails to make payment as provided in Section 4.1.3 for a period of 30 days, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 20.2 Termination by the Owner for Cause

§ 20.2.1 The Owner may terminate the Contract if the Contractor

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

§ 20.2.2 When any of the reasons described in Section 20.2.1 exists, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may, without prejudice to any other remedy the Owner may have and after giving the Contractor seven days' notice, terminate the Contract and take possession of the site and of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever reasonable method the Owner may deem expedient. Upon request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 20.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 20.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

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

§ 20.3 Termination by the Owner for Convenience

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Owner shall pay the Contractor for Work executed; and costs incurred by reason of such termination, including costs attributable to termination of Subcontracts; and a termination fee, if any, as follows:

(Insert the amount of or method for determining the fee payable to the Contractor by the Owner following a termination for the Owner's convenience, if any.)

<< >>

ARTICLE 21 CLAIMS AND DISPUTES

§ 21.1 Claims, disputes, and other matters in question arising out of or relating to this Contract, including those alleging an error or omission by the Architect but excluding those arising under Section 16.2, shall be referred initially to the Architect for decision. Such matters, except those waived as provided for in Section 21.11 and Sections 15.7.3 and 15.7.4, shall, after initial decision by the Architect or 30 days after submission of the matter to the Architect, be subject to mediation as a condition precedent to binding dispute resolution.

§ 21.2 Notice of Claims

§ 21.2.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the Architect within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 21.2.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 18.2, shall be initiated by notice to the other party.

§ 21.3 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action against the other and arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in this Agreement whether in contract, tort, breach of warranty, or otherwise, within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 21.3.

§ 21.4 If a claim, dispute or other matter in question relates to or is the subject of a mechanic's lien, the party asserting such matter may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

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

§ 21.6 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association, in accordance with the

Construction Industry Arbitration Rules in effect on the date of this Agreement. Demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

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

§ 21.8 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, any party to an arbitration may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a Claim not described in the written Consent.

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

§ 21.10 Continuing Contract Performance

Pending final resolution of a Claim, except as otherwise agreed in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 21.11 Waiver of Claims for Consequential Damages

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 20. Nothing contained in this Section 21.11 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

«Lynda Humble»«City Manager»
(Printed name and title)

CONTRACTOR (Signature)

«Curtis Brown»«President»
(Printed name and title)



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 9B

TITLE:

Consider action to approve the first reading of Ordinance No. 2019-21 of the City Council of the City of Bastrop, Texas, amending the budget for the Fiscal Year 2019 in accordance with existing statutory requirements; appropriating the various amounts herein as attached in Exhibit A; repealing all prior ordinances and actions in conflict herewith; establishing an effective date and move to include on the June 25, 2019 City Council Consent Agenda for a second reading.

STAFF REPRESENTATIVE:

Tracy Waldron, Chief Financial Officer

BACKGROUND/HISTORY:

The FY2019 budget was approved by City Council on September 24, 2018. Since that approval there have been some unforeseen amounts that need to be addressed through an amendment.

General Fund includes:

- Allocation of salary savings to reconcile salary adjustments and set aside balance for contingency.
- Recognized insurance proceeds and increase the offsetting expense for a neutral entry.

Innovation Fund:

- The Request for Proposals were received for the renovation of City Hall in April 2019. The available funds for construction in the Innovation fund is \$240,000. The lowest bid received was \$341,000. This amendment increases the loan from BP&L by \$165,000 to cover total construction and furniture costs.

Street Maintenance Fund:

- The bid for the Old Austin Highway project has been received and will require additional appropriation to cover the engineering and construction cost utilizing funds that were appropriated for other projects along with year two street maintenance funds.

Water/Wastewater Capital Fund:

- The North Main sewer project that is partially grant funded, was originally budgeted for FY2020. This project has been escalated and will need to be completed before the end of FY2019. This amendment moves this appropriation from FY2020 to FY2019.
- The Well J project was originally projected to be fully funded out of the 2014 Bond Fund. Due to a change order with the 16" river crossing water line project, the funds in the bond account were exhausted and the final payment for Well J needs to be funded out of the Water/Wastewater Capital Projects Fund.

BP& L Fund:

- This amendment is for carryover projects from FY2019. These funds were originally budgeted in FY2019 but will not complete until FY2020.

Hotel Occupancy Tax Fund:

- The Convention Center is offering catering packages as part of their new pricing. They have contracted with several sizable groups to offer this service. This amendment increases the revenue and expenses associated with this service. It is a net neutral amendment.

Impact Fee Fund:

- A portion of the Wastewater collection system will be funded out of available funds from the Impact Fee Fund. This amendment appropriates those available funds.

Hunter's Crossing Public Improvement District Fund:

- This amendment appropriates the unbudgeted revenue received from the assessments paid by the current developer. Also, this amendment increases the legal line item to cover the additional cost of the statutory audit currently being conducted.

Grant Fund:

- This is the grant portion of the North Main Sewer project. Appropriating the increase in revenue and expense for this project. This amendment is net neutral.

POLICY EXPLANATION:

The City Charter requires that when the budget is amended, that the amendment be made by Ordinance.

FUNDING SOURCE:

Most of the amendments are reducing fund balance.

RECOMMENDATION:

Consider action to approve the first reading of Ordinance No. 2019-21 of the City Council of the City of Bastrop, Texas, amending the budget for the Fiscal Year 2019 in accordance with existing statutory requirements; appropriating the various amounts herein as attached in Exhibit A; repealing all prior ordinances and actions in conflict herewith; establishing an effective date and move to include on the June 25, 2019 City Council Consent Agenda for a second reading.

ATTACHMENTS:

- Ordinance 2019-21
- Exhibit A
- All Funds Summary FY2019 – updated to reflect proposed amendments

ORDINANCE NO. 2019-21

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS, AMENDING THE BUDGET FOR THE FISCAL YEAR 2019 IN ACCORDANCE WITH EXISTING STATUTORY REQUIREMENTS; APPROPRIATING THE VARIOUS AMOUNTS HEREIN, AS ATTACHED IN EXHIBIT A; REPEALING ALL PRIOR ORDINANCES AND ACTIONS IN CONFLICT HEREWITH; AND ESTABLISHING FOR AN EFFECTIVE DATE.

WHEREAS, the City Manager of the City of Bastrop, Texas has submitted to the Mayor and City Council proposed amendment(s) to the budget of the revenues and/or expenditures/expenses of conducting the affairs of said city and providing a complete financial plan for Fiscal Year 2019; and

WHEREAS, the Mayor and City Council have now provided for and conducted a public hearing on the budget as provided by law.

NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS THAT:

Section 1: That the proposed budget amendment(s) for the Fiscal Year 2019, as submitted to the City Council by the City Manager and which budget amendment(s) are attached hereto as Exhibit A, are hereby adopted and approved as the amended budget of said city for Fiscal Year 2019.

Section 2: If any provision of this ordinance or application thereof to any person or circumstance shall be held invalid, such invalidity shall not affect the other provisions, or application thereof, of this ordinance, which can be given effect without the invalid provision or application, and to this end, the provisions of this ordinance are hereby declared to be severable.

Section 3: This ordinance shall take effect upon the date of final passage noted below, or when all applicable publication requirements, if any, are satisfied in accordance with the City's Charter, Code of Ordinances, and the laws of the State of Texas.

READ and APPROVED on First Reading on the 11th day of June 2019.

READ and ADOPTED on Second Reading on the 25th day of June 2019.

APPROVED:

Connie B. Schroeder, Mayor

ATTEST:

Ann Franklin, City Secretary

APPROVED AS TO FORM:

Alan Bojorquez, City Attorney

Exhibit "A"
FY 2019
BUDGET AMENDMENTS
GENERAL FUND

Audited Fund Balance as of 9-30-18	\$	2,566,858
FY2019 Budgeted Revenues	\$	11,507,934
FY2019 Budgeted Expenses	\$	(11,507,934)
10/2018 Budget Amendments (net)	\$	(10,000)
2/2019 Budget Amendments (net)	\$	-
5/2019 Budget Amendments (net)	\$	0
Ending Fund Balance	\$	<u>2,556,858</u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT #
New Revenue:				
Matching Revenues to Expenditures:				
	Neutral	\$918	Insurance Proceeds	101-00-00-4537
	<u>Total Revenues</u>		<u>\$918</u>	
Matching Expenditures to Revenues:				
Fire	Neutral	(\$918)	Vehicle Maintenance	101-11-00-5340
New Expenditures:				
City Manager	Decrease	(35,625)	Operating Salaries	101-03-00-5101
Finance	Decrease	(39,400)	Operating Salaries	101-05-00-5101
Human Resources	Increase	16,000	Operating Salaries	101-06-00-5101
IT	Decrease	(70,000)	Operating Salaries	101-07-00-5101
Police - Admin	Decrease	(13,000)	Operating Salaries	101-09-10-5101
Police-Code/Animal	Decrease	(9,500)	Operating Salaries	101-09-12-5101
Police-CID	Decrease	(5,000)	Operating Salaries	101-09-21-5101
Police - Patrol	Decrease	(45,000)	Operating Salaries	101-09-22-5101
Fire	Increase	26,700	Operating Salaries	101-11-00-5101
Planning & Zoning	Increase	22,500	Operating Salaries	101-15-00-5101
Building Maintenance	Decrease	(5,000)	Operating Salaries	101-18-20-5101
Library	Decrease	(70,000)	Operating Salaries	101-21-00-5101
City Secretary	Increase	20,000	Election Services	101-04-00-5681
Organizational	Increase	35,071	Contingency	101-02-00-5900
	Decrease	172,254	Salary Adjustment Plan (\$172,254)	101-02-00-5901
	<u>Total Expenditures</u>		<u>(\$918)</u>	
	Net Change		\$0	

**FY 2019
BUDGET AMENDMENTS
INNOVATION FUND**

Audited Fund Balance as of 9-30-18	\$ 1,468,984
FY 2019 Budgeted Revenues	\$ 763,825
FY 2019 Budgeted Appropriations	\$ (2,195,242)
10/2018 Budget Amendment	\$ (15,247)
5/2019 Budget Amendment	<u>\$ -</u>
Ending Fund Balance	<u>\$ 22,320</u>

BUDGET	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
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Matching Revenues to Expenditures:

Neutral	165,000	Other Financing Sources-BP&L Loan	105-00-00-4518
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Total Revenues	<u>0</u>
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Matching Expenditures to Revenues:

Neutral	(165,000)	Capital Outlay	105-00-00-6000
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New Expenditures:

Total Expense	<u>\$ -</u>
Net Change	\$ -

**FY 2019
BUDGET AMENDMENTS
STREET MAINTENANCE FUND**

Audited Fund Balance as of 9-30-18	\$ -
FY2019 Budgeted Revenues	\$ 1,106,000
FY2019 Budgeted Expenses	\$ (566,797)
5/2019 Budget Amendments (net)	<u>\$ (537,500)</u>
Ending Fund Balance	<u>\$ 1,703</u>

<u>DEPARTMENT</u>	<u>BUDGET</u>	<u>AMOUNT</u>	<u>DESCRIPTION</u>	<u>ACCOUNT #</u>
Matching Revenues to Expenditures:				
	Neutral	12,000	Interest Income	110-00-00-4400
Total Revenue		<u>12,000</u>		
Matching Expenditures to Revenues:				
	Neutral	(12,000)	Street Improvement - Old Austin Hwy	110-18-00-6132
New Expenditures:				
	Increase	(\$537,500)	Street Improvement - Old Austin Hwy	110-18-00-6132
Total Expense		<u>(\$549,500)</u>		
Net Change		<u>(\$537,500)</u>		

**FY 2019
BUDGET AMENDMENTS
WATER/WASTEWATER CAPITAL FUND**

Audited Fund Balance as of 9-30-18	\$ 2,725,000
FY 2019 Budgeted Revenues	\$ 155,000
FY 2019 Budgeted Expenses	\$ (875,730)
2/2019 Budget Amendments (net)	\$ (1,706,770)
5/2019 Budget Amendments (net)	<u>\$ (274,605)</u>
Ending Fund Balance	<u>\$ 22,895</u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT #
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Matching Revenues to Expenditures:

Total Revenues \$ -

Matching Expenditures to Revenues:

Increase

New Expenditures:

Increase	\$ (124,605)	Water Supply Infrast-Well J	250-50-00-6727
Increase	\$ (150,000)	Wastewater System Rehab-N. Main Sewer	250-51-00-6723

Total Expense \$ (274,605)
Net Change \$ (274,605)

**FY 2019
BUDGET AMENDMENTS
BP&L**

Audited Fund Balance as of 9/30/18	4,128,870
FY2019 Budgeted Revenues	7,721,040
FY2019 Budgeted Appropriations	(8,192,778)
5/2019 Budget Amendments (net)	<u>(\$152,000)</u>
Ending Fund Balance	<u><u>3,505,132</u></u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
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Matching Revenues to Expenditures:

Total Revenues 0

Matching Expenditures to Revenues:

Increase (152,000) System Study Improvements 404-60-00-6501

New Expenditures:

Total Expense (152,000)
Net Change (152,000)

**FY 2019
BUDGET AMENDMENTS
HOTEL/MOTEL TAX FUND**

Audited Fund Balance as of 9-30-18	3,425,181
FY 2019 Budgeted Revenues	3,571,246
FY 2019 Budgeted Appropriations	(3,909,689)
10/2018 Budget Amendments (net)	(19,357)
5/2019 Budget Amendments (net)	<u>0</u>
Ending Fund Balance	<u><u>3,067,381</u></u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT #
Matching Revenues to Expenditures:				
Convention Center	Neutral	43,000	Catering Services	501-00-00-4048
	Total Revenue	<u>43,000</u>		
Matching Expenditures to Revenues:				
Convention Center	Neutral	(43,000)	Client Contracted Exp	501-85-75-5561
New Expenditures:				
	Increase			
	Increase			
	Total Expense	<u>(43,000)</u>		
	Net Change	0		

**FY 2019
BUDGET AMENDMENTS
IMPACT FUND #306**

Audited Fund Balance as of 9/30/18	\$ 682,570
FY 2019 Budgeted Revenues	\$ 499,600
FY 2019 Budgeted Appropriations	\$ (495,545)
2/2019 Budget Amendment	\$ (18,500)
5/2019 Budget Amendment	<u>\$ (262,405)</u>
Ending Fund Balance	<u>\$ 405,720</u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
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New Expenditures:

Water/Wastewater	Increase	\$ (262,405)	Design-Westside Collection System	306-51-51-6176
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Total Expense \$ (262,405)

Net Change \$ (262,405)

**FY 2019
BUDGET AMENDMENTS
HUNTER'S CROSSING PUBLIC IMPROVEMENT DISTRICT**

Audited Fund Balance as of 9-30-18	(95,221)
FY 2019 Budgeted Revenues	440,666
FY 2019 Budgeted Appropriations	(112,720)
5/2019 Budget Amendments (net)	<u>102,682</u>
Ending Fund Balance	<u><u>335,407</u></u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT #
		New Revenue:		
		41,832	Commercial-Current-M&O	710-00-00-4001
		90,850	Commercial-Current-CIP	710-00-00-4011
		Total Revenue <u>132,682</u>		
		Matching Revenues to Expenditures:		
		Neutral		
		Total Revenue <u>132,682</u>		
		Matching Expenditures to Revenues:		
		Increase (30,000)	Legal Services	710-00-00-5525
		New Expenditures:		
		Total Expense <u>(30,000)</u>		
		Net Change 102,682		

**FY 2019
BUDGET AMENDMENTS
GRANT FUND**

Audited Fund Balance as of 9-30-18	0
FY 2019 Budgeted Revenues	1,416,576
FY 2019 Budgeted Appropriations	(1,416,576)
5/2019 Budget Amendments (net)	<u>0</u>
Ending Fund Balance	<u><u>0</u></u>

DEPARTMENT	BUDGET	AMOUNT	DESCRIPTION	ACCOUNT NUMBER
	Neutral	228,000	TxCDBG - N. Main Sewer	801-00-00-4462
		<u>228,000</u>	Total Revenues	
Matching Expenditures to Revenue:				
	Neutral	(228,000)	Capital Outlay - N. Main Sewer Line	801-00-00-6000
		<u>(228,000)</u>	Total Expense	
		0	Net Change	

City of Bastrop
All Funds Summary FY2019

	GENERAL FUND	STREET MAINTENANCE FUND	DEBT SERVICE FUNDS	HOTEL TAX FUND	SPECIAL REVENUE FUNDS	WATER/WASTEWATER FUNDS	BP&L FUND	CAPITAL IMPROVEMENT FUNDS	INTERNAL SERVICE FUND	TOTAL ALL FUNDS
BEGINNING FUND BALANCES	\$ 2,566,858	\$ -	\$ 306,992	\$ 3,425,181	\$ 2,440,787	\$ 5,824,328	\$ 4,072,418	\$ 8,260,931	\$ 1,866,409	\$ 28,763,904
REVENUES:										
AD VALOREM TAXES	3,533,514		1,863,009		-	-	-	-		5,396,523
SALES TAXES	4,864,390				-	-	-	-		4,864,390
FRANCHISE & OTHER TAXES	517,966			2,736,000	23,000	-	-	-		3,276,966
LICENSES & PERMITS	699,500			2,000	-	-	-	-		701,500
SERVICE FEES	543,936			283,350	1,166,548	5,667,190	7,648,040	-	311,563	15,620,627
FINES & FORFEITURES	334,000				14,500	-	-	-		348,500
INTEREST	50,000	18,000	10,850	44,500	35,850	88,386	56,000	85,500	15,500	404,586
INTERGOVERNMENTAL	72,878			62,312	1,644,576	-	-	-		1,779,766
OTHER	84,768		247,619	-	30,700	8,000	17,000	102,291	30,000	520,378
TOTAL REVENUES	10,700,952	18,000	2,121,478	3,128,162	2,915,174	5,763,576	7,721,040	187,791	357,063	32,913,236
OTHER SOURCES										
Other Financing Sources								465,000		465,000
Interfund Transfers	809,750	1,100,000	516,185	486,084	4,700	2,334,257	-	453,825	254,500	5,959,301
TOTAL REVENUE & OTHER SOURCES	11,510,702	1,118,000	2,637,663	3,614,246	2,919,874	8,097,833	7,721,040	1,106,616	611,563	39,337,537
TOTAL AVAILABLE RESOURCES	\$ 14,077,560	\$ 1,118,000	\$ 2,944,655	\$ 7,039,427	\$ 5,360,661	\$ 13,922,161	\$ 11,793,458	\$ 9,367,547	\$ 2,477,972	\$ 68,101,441
EXPENDITURES:										
GENERAL GOVERNMENT	4,318,584	1,116,297			1,416,576	-	-	807,807		7,659,264
PUBLIC SAFETY	4,288,702				466,950	-	133,800	228,000		5,117,452
DEVELOPMENT SERVICES	1,057,874				-	-	-	514,325		1,572,199
COMMUNITY SERVICES	1,589,458			346,994	322,175	-	160,493	533,854		2,952,974
UTILITIES					18,500	3,938,419	6,123,910	-		10,080,829
DEBT SERVICE			2,716,641		-	1,425,805	-	-		4,142,446
ECONOMIC DEVELOPMENT				3,108,866	-	-	-	-		3,108,866
CAPITAL OUTLAY					614,455	2,857,105	585,000	4,559,109	423,764	9,039,433
TOTAL EXPENDITURES	11,254,618	1,116,297	2,716,641	3,455,860	2,838,656	8,221,329	7,003,203	6,643,095	423,764	43,673,463
OTHER USES										
Interfund Transfers	266,084		-	516,186	575,392	1,883,565	1,341,575	1,376,500	-	5,959,301
TOTAL EXPENDITURE & OTHER USES	11,520,702	1,116,297	2,716,641	3,972,046	3,414,048	10,104,894	8,344,778	8,019,595	423,764	49,632,764
ENDING FUND BALANCES	\$ 2,556,858	\$ 1,703	\$ 228,014	\$ 3,067,381	\$ 1,946,613	\$ 3,817,267	\$ 3,448,680	\$ 1,347,952	\$ 2,054,208	\$ 18,468,677
<i>% of Expenditures</i>	25.5%	0.2%	8.4%	88.8%	57%	71.2%	53.7%	20.3%	484.8%	53.3%



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 9C

TITLE:

Consider action to approve the first reading of Ordinance No. 2019-22 of the City Council of the City of Bastrop, Texas, amending the Bastrop City Code of Ordinances, Appendix A, Fee Schedule, Article A13.02 "Water and Wastewater Rates and Charges", Sections A13.02.002 Wastewater Service Charge and A13.02.004 Water Service Charge, adding new Subsections A13.02.002(c) and Subsection A13.02.004(b), as attached in Exhibit A; providing for: findings of fact, enactment, repealer, severability, effective date, codification, proper notice and meeting; and move to include on the June 25, 2019 Consent Agenda for a second reading.

STAFF REPRESENTATIVE:

Tracy Waldron, Chief Financial Officer

BACKGROUND/HISTORY:

The City of Bastrop hired the consultants NewGen Strategies & Solutions to assist with the development of wholesale water and wastewater rates. These rates are critical to meet the goal of fiscal sustainability. These rates will allow the City to engage in agreements with developers to provide wholesale water and wastewater service which will reduce the financial burden of the wastewater facility infrastructure costs from our current customers. These proposed rates were presented to City Council at a Special Workshop on February 26, 2019. The wholesale water rates incorporate the pass-through costs that the City negotiated with Aqua Water Supply Corporation in November 2018. These rates will allow developers a one-stop-shop for development.

On April 23, 2019 the City Council approved a standard wholesale water and wastewater agreement to be used with potential developers. This ordinance takes the proposed rates presented in February and incorporates them into the City's Code of Ordinance Fee Schedule.

POLICY EXPLANATION:

The City Charter, Section 3.14 requires that the rates charged for its services by a public utility be adopted and approved by Ordinance.

FUNDING SOURCE:

N/A

RECOMMENDATION:

Consider action to approve the first reading of Ordinance No. 2019-22 of the City Council of the City of Bastrop, Texas, amending the Bastrop City Code of Ordinances, Appendix A, Fee Schedule, Article A13.02 "Water and Wastewater Rates and Charges", Sections A13.02.002 Wastewater Service Charge and A13.02.004 Water Service Charge, adding new Subsections A13.02.002(c) and Subsection A13.02.004(b), as attached in Exhibit A; providing for: findings of

fact, enactment, repealer, severability, effective date, codification, proper notice and meeting; and move to include on the June 25, 2019 Consent Agenda for a second reading.

ATTACHMENTS:

- Ordinance No. 2019-22



ORDINANCE NO. 2019-22

AN ORDINANCE OF THE CITY OF BASTROP AMENDING THE BASTROP CITY CODE OF ORDINANCES, APPENDIX A, FEE SCHEDULE, ARTICLE A13.02 “WATER AND WASTEWATER RATES AND CHARGES”, SECTIONS A13.02.002 WASTEWATER SERVICE CHARGE AND A13.02.004 WATER SERVICE CHARGE, ADDING NEW SUBSECTIONS A13.02.002(c) AND SUBSECTION A13.02.004(b), AS ATTACHED IN EXHIBIT A; PROVIDING FOR: FINDINGS OF FACT, ENACTMENT, REPEALER, SEVERABILITY, EFFECTIVE DATE, CODIFICATION, AND PROPER NOTICE AND MEETING

WHEREAS, pursuant to Texas Local Government Code Section 51.001, the City has general authority to adopt ordinances or regulations that are for the good government, peace, or order of the City and that are necessary or proper for carrying out a power granted by law to the City; and

WHEREAS, the City Council of the City of Bastrop, Texas conducted a special workshop on water and wastewater on March 24, 2018 to discuss the current state of both utilities; and

WHEREAS, after careful engineering and technical analysis, the City has determined that, due to increased demands resulting from population growth within the City, and age of our infrastructure, the City’s wastewater facilities and related infrastructure will not have the capacity to adequately handle the current or future demands for wastewater service placed upon such facilities and infrastructure; and

WHEREAS, after a study of the metal thickness of the current wastewater plant, the need to have a design for construction already in process was essential; and

WHEREAS, in order to address these critical needs, City Staff and professional consultants are developing a multi-year program to finance the needed wastewater facility and infrastructure improvements, with the objectives of providing for the health, safety and welfare of Bastrop’s citizens, and providing for the orderly and equitable funding of these utility improvements which are necessary for the ongoing and future provision of wastewater services to the citizens of Bastrop; and

WHEREAS, in November 2018 City Council of the City of Bastrop, Texas approved an agreement with Aqua Water Supply Corporation to provide an emergency connection and the ability to purchase water through a wholesale rate. This would allow developers a one-stop-shop for water and wastewater; and

WHEREAS, at a Special Workshop on February 26, 2019, City Council of the City of Bastrop, Texas received a presentation from their rate consultant regarding water and wastewater wholesale rates; and

WHEREAS, on April 23, 2019, the City Council of the City of Bastrop, Texas approved standard wholesale water and wastewater agreements to be used with potential developers; and

WHEREAS, the City Council of the City of Bastrop, Texas has determined that in order to properly provide water and wastewater service to wholesales customers, it is necessary to amend the City Code of Ordinances Appendix A: Fee Schedule Article A13.02 Water and Wastewater Rates and Charges, as noted below.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS, AS FOLLOWS:

SECTION 1: FINDINGS OF FACT The foregoing recitals are incorporated into this Ordinance by reference as findings of fact as if expressly set forth herein.

SECTION 2: ENACTMENT Appendix A, Article A13.02 Water and Wastewater Rates and Charges, Sections A13.02.002 Wastewater service charge and A13.02.004 Water service charge are hereby amended to read in accordance with Exhibit A which is attached hereto and incorporated into this Ordinance for all intents and purposes. Underlined language shall be added. Stricken language shall be deleted.

SECTION 3: REPEALER All ordinances, resolutions, or parts thereof, that are in conflict or inconsistent with any provision of this Ordinance are hereby repealed to the extent of such conflict, and the provisions of this Ordinance shall be and remain controlling as to the matters regulated, herein.

SECTION 4: SEVERABILITY Should any of the clauses, sentences, paragraphs, sections or parts of this Ordinance be deemed invalid, unconstitutional, or unenforceable by a court of law or administrative agency with jurisdiction over the matter, such action shall not be construed to affect any other valid portion of this Ordinance.

SECTION 5: EFFECTIVE DATE This Ordinance shall be effective immediately upon passage and publication.

SECTION 6: PROPER NOTICE & MEETING It is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public, and that public notice of the time, place and purpose of said meeting was given as required by the Open Meetings Act, Texas Government Code, Chapter 551. Notice was also provided as required by Chapter 52 of the Texas Local Government Code.

READ & APPROVED on First Reading on the 11th day of June 2019.

READ & ADOPTED on the Second Reading on the 25th day of June 2019.

APPROVED:

Connie B. Schroeder, Mayor

ATTEST:

Ann Franklin, City Secretary

APPROVED AS TO FORM:

Alan Bojorquez, City Attorney

Exhibit "A"

CHAPTER 13 UTILITIES
ARTICLE A13.02 WATER AND WASTEWATER RATES AND CHARGES

Sec. A13.02.002 –Wastewater service charge.

(a) These **Retail Wastewater:** The following rates are applicable to all residential, multifamily and commercial retail wastewater customers within the corporate limits of the city who have metered water connections and to whom city wastewater service has actually been connected, except for customers who have a city-approved, on-site sewer system, septic system or other on-site wastewater system, and have not connected to the city's wastewater system, or customers who have a water meter for irrigation use only, as long as the irrigation meter does not provide water to plumbing fixtures.

Minimum charge:	\$36.97
Plus the following charges for consumption per 1,000 gallons:	
0-5,000 gallons	\$2.45
5,001-10,000 gallons	\$2.77
10,001-20,000 gallons	\$2.95
20,001-50,000 gallons	\$3.18
Over 50,000 gallons	\$3.47

(Ord. No. 2014-21, 9-23-14; Ord. No. 2015-17, pt. 1, 9-22-15)

(b) In order to meet critical needs of the city's wastewater system, it is the city's intention to increase these rates, by separate ordinances, by not less than 3.5% each year, starting in December 2012, and each succeeding December until December 2020, consistent with the recommendations of the city's staff, K* Friese and Associates and Rimrock Consulting. The intended future rate increases are as follows:

December 2013 - Minimum and volume charges not less than 6.3% higher than those shown adopted in 2012;

December 2014 - Minimum and volume charges not less than 3.5% higher than those shown adopted in 2013;

December 2015 - Minimum and volume charges not less than 3.5% higher than those shown adopted in 2014;

December 2016 - Minimum and volume charges not less than 4.5% higher than those shown adopted in 2015;

December 2017 - Minimum and volume charges not less than 4.5% higher than those shown adopted in 2016;

December 2018 - Minimum and volume charges not less than 4.0% higher than those shown adopted in 2017; and

December 2019 - Minimum and volume charges not less than 3.5% higher than those shown adopted in 2018.

(Ord. No. 2012-25, 12-11-12)

(c) **Wholesale Wastewater:** The following rates are applicable to all wholesale wastewater customers within the corporate limits of the city and the city's extraterritorial jurisdiction who have metered wastewater connections and whom have executed a wholesale wastewater agreement with the city:

<u>Monthly Fixed Charge</u>	
<u>Customer Charge</u>	<u>\$2.23 per wholesale meter</u>
<u>Plus the following charges per 1,000 gallons of metered contributed flow</u>	
<u>Volumetric Charge per 1,000 gallons</u>	<u>\$3.83 per 1,000 gallons of metered flow contributed</u>

Sec. A13.02.004 - Water service charges.

(a) **Retail Water:** ~~These~~ The following rates will be applicable to ~~all~~ retail sales or service of water within the corporate limits of the city.

(1) Residential - In city limits.

Meter Size	Minimum Charge
¾" (or smaller)	\$27.72
1"	\$47.13
1½"	\$79.47
2"	\$118.28
3"	\$221.78
4"	\$255.07
6"	\$661.68

Plus the following charges for consumption per 1,000 gallons:

0—3,000 gallons	\$ 2.85
3,001—5,000 gallons	\$ 3.04
5,001—10,000 gallons	\$ 3.22
10,001—20,000 gallons	\$ 3.42
20,001—50,000 gallons	\$ 3.69
Over 50,000 gallons	\$ 3.87

Commercial - In city limits.

Meter Size	Minimum Charge
¾" (or smaller)	\$27.72
1"	\$47.13
1½"	\$79.47
2"	\$118.28
3"	\$221.78
4"	\$255.07
6"	\$661.68

Plus the following charges for consumption per 1,000 gallons:

0—3,000 gallons	\$2.85
3,001—5,000 gallons	\$3.04
5,001—10,000 gallons	\$3.22
10,001—20,000 gallons	\$3.42
20,001—50,000 gallons	\$3.69
Over 50,000 gallons	\$3.87

(Ord. No. 2015-17, pt. 1, 9-22-15)

(2) *Residential and Commercial - Outside city limits.*

Meter Size	Minimum Charge
¾" (or smaller)	\$41.59
1"	\$70.69
1½"	\$119.22
2"	\$177.43
3"	\$332.68
4"	\$507.34
6"	\$992.48

Plus the following charges for consumption per 1,000 gallons:

0—3,000 gallons	\$4.13
3,001—5,000 gallons	\$4.42
5,001—10,000 gallons	\$4.70
10,001—20,000 gallons	\$4.98
20,001—50,000 gallons	\$5.39
Over 50,000 gallons	\$5.66

(Ord. No. 2014-21, 9-23-14; Ord. No. 2015-17, pt. 1, 9-22-15)

(3) In order to meet critical needs of the city's water system, it is the city's intention to increase these rates, by separate ordinances, by not less than 3.5% each year, starting in December 2012, and each succeeding December until December 2020, consistent with the recommendations of the city's staff, K* Friese and Associates and Rimrock consulting. The intended future rate increases are as follows:

December 2013 - Minimum and volume charges not less than 6.3% higher than those shown adopted in 2012;
 December 2014 - Minimum and volume charges not less than 3.5% higher than those shown adopted in 2013;
 December 2015 - Minimum and volume charges not less than 3.5% higher than those shown adopted in 2014;
 December 2016 - Minimum and volume charges not less than 4.5% higher than those shown adopted in 2015;
 December 2017 - Minimum and volume charges not less than 4.5% higher than those shown adopted in 2016;
 December 2018 - Minimum and volume charges not less than 4.0% higher than those shown adopted in 2017; and
 December 2019 - Minimum and volume charges not less than 3.5% higher than those shown adopted in 2018.

(Ord. No. 2012-25, 12-11-12)

(b) **Wholesale Water:** The following rates are applicable to wholesale sales of water within the corporate limits of the city and the city’s extraterritorial jurisdiction who have metered water connections and whom have executed a wholesale water agreement with the city.

<u>Monthly Fixed Charge</u>	
<u>Source Cost</u>	<u>\$45,000.00 per MGD subscribed capacity</u>
<u>Transmission Cost</u>	<u>\$4,243.70 per MGD subscribed capacity</u>
<u>Customer Charge</u>	<u>\$2.23 per wholesale meter</u>
<u>Plus the following charges for consumption per 1,000 gallons</u>	
<u>Volumetric Charge per 1,000 gallons</u>	<u>\$1.97 per 1,000 gallons of actual consumption</u>



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 9D

TITLE:

Consider action to approve Resolution No. R-2019-56 of the City Council of the City of Bastrop, Texas approving the award of a contract with Angel Brothers Enterprises, LTD. in the amount of One Million Twelve Thousand Seven Hundred Nineteen Dollars and Seventy Cents (\$1,012,719.70) for the reconstruction of Old Austin Highway; attached as Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.

STAFF REPRESENTATIVE:

Trey Job, Managing Director of Public Works & Leisure Services

BACKGROUND/HISTORY:

The City of Bastrop selected Old Austin Highway as a project for year one in the City of Bastrop's five-year street maintenance program because of the dangerously low pavement condition index score and the large amount of traffic it receives daily. Old Austin Highway is one of the busiest streets in the City limits and it is the gateway to multiple housing options, a dozen or more businesses, and two of Bastrop Independent School District campuses.

When City Council decided to fund the first two years of the five-year street maintenance program, One Million One Hundred Thousand dollars (1,100,000.00) of the 2018 bond issuance was dedicated to the maintenance of streets. Five Hundred Sixty-six Thousand dollars (\$566,000.00) of that amount was appropriated in year one. Although we anticipated Old Austin Hwy would be take a substantial percentage of the funding issued from the 2018 bond, the total year one projected expenses were nine hundred two thousand two hundred eighty-two dollars and twenty-seven cents. (\$902,282.27) The remaining funds would be used in year two of the street maintenance program.

The Bid Opening for this project was held on Tuesday, June 4, 2019. The City received two (2) bids for the project ranging from \$1,012,719.70 to \$1,275,811.75. Angel Brothers Enterprises, LTD has met all bidding requirements and has been found to be the lowest responsible bidder and is recommended for award of the Old Austin Hwy Rehabilitation project in the amount of \$1,012,719.70.

Now that the bid for the reconstruction of Old Austin Hwy is higher than the anticipated cost for all of the roads in year one of the program, it is important to have a policy discussion with Council regarding which streets should receive maintenance at a later date.

For example, one option may be to complete Old Austin Hwy and move the remaining streets into year two and identify additional funding to the FY 2020 budget. A second option may be to **not** reconstruct Old Austin Hwy and use the funds to perform various types of maintenance on the

remaining streets in year one and year two. However, by postponing the repairs on Old Austin Hwy we do run the risk of increased cost as the road continues to deteriorate.

The streets that were to receive various levels of maintenance in year one and year two are shown below.

Street Name	Score
Bryant	70
Charles BLVD	62
Nicole Way	69
Kelly	67
Hasler Shores	63
Pony Pass	57
Trapper	58
Annika Way	78
Belinda	74
Blair	75
Carole	74
Jessica	84
Jordon	81
Lori	72
Patton	79
Rebecca	82
Schaefer	78
Bowstring	83
Browning	77
Buck Shot	75
Hunters Point	84
Javelina	83
Outfitter	80
Pheasant	76
Pronghorn	81
Remington	79
Thompson	85
Trophy	73
Wildcat	81
Barbara	87
Bills	100
Caylor	91
Elizabeth	86

Jennifer	96
Katy B	98
Marino	100
Antelope	92
Bear Hunter	99
Big Horn	87
Bird Dog	89
Bushmaster	98
Caliber	97
Carbine	100
Grutsch	91
Hunters Crossing	86
Magnum	97
Maverick	94
Mossberg	100
Pack Horse	87
Peccary	86
Steel Shot	99
Bob Bryant Park rd.	56
Lincoln-Roosevelt/Albright	79.5/59
Old Austin Hwy	68.5
Pecan Street	79
Persimmon	99
Schaefer	78

Year 2

Street Name	Score
Bryant	70
Charles BLVD	62
Nicole Way	69
Kelly	69
Hasler Shores	63
Pony Pass	57
Annika Way	78
Blair	75
Jessica	84
Patton	79
Browning	77
Hunters Point	84
Javelina	83

Thompson	85
Trophy	73
Katy B	98
Big Horn	87
Caliber	97
Pack Horse	87
Wolverine Pass	56
Main-Mesquite/RR	60
Main- Chestnut/Water	60
Main-RR/Chestnut	60
Main- Bridge/Mesquite	60
Cedar-Carter/Water	68
Cedar-Water/Pecan	68
Cedar-Pecan/RR	68
Cedar-RR/Hwy 95	68
Cedar-Hwy 95/Houston	68
Cedar-Garfield/Carter	68
Oak	68
Grady tuck	77
Roosevelt	83
Bush	87
Eskew-Hwy 71/Loop 150	89
Eskew-Hwy 71/Maynard	89
Hasler-Old Austin/Hwy 71	99
Hasler-Hwy 71/Dead End	99
Higgins-Eskew/Perkins	96
Bryant	70
Charles BLVD	62
Nicole Way	69
Kelly	67
Hasler Shores	63
Bush	87
Eskew-Hwy 71/Loop 150	89
Eskew-Hwy 71/Maynard	89
Hasler-Old Austin/Hwy 71	99
Hasler-Hwy 71/Dead End	99
Higgins-Eskew/Perkins	96
Cedar-Garfield/Carter	68
Roosevelt	83

Lincoln-Roosevelt/Albright	79
Gradytuck	77
Cedar-Carter/Water	68

POLICY EXPLANATION:

The City Council made a commitment to fiscal sustainability by “keeping the good streets good” and funding the first two years of the City of Bastrop’s Street maintenance program.

FUNDING SOURCE:

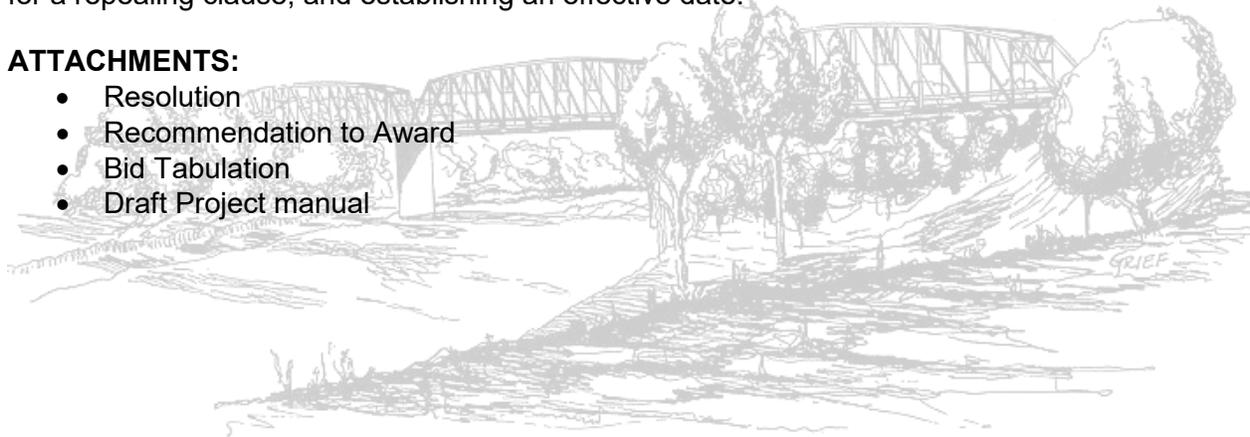
2018 Bond series

RECOMMENDATION:

Consider action to approve Resolution No. R-2019-56 of the City Council of the City of Bastrop, Texas approving the award of a contract with Angel Brothers Enterprises, LTD. in the amount of One Million Twelve Thousand Seven Hundred Nineteen Dollars and Seventy Cents (\$1,012,719.70) for the reconstruction of Old Austin Highway; attached as Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.

ATTACHMENTS:

- Resolution
- Recommendation to Award
- Bid Tabulation
- Draft Project manual



RESOLUTION NO. R-2019-56

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BASTROP, TX AWARDED A CONTRACT TO ANGEL BROTHERS ENTERPRISES, LTD IN THE AMOUNT OF ONE MILLION TWELVE THOUSAND SEVEN HUNDRED-NINETEEN DOLLARS AND SEVENTY CENTS (\$1,012,719.70) FOR THE RECONSTRUCTION OF OLD AUSTIN HIGHWAY; ATTACHED AS EXHIBIT A; AND AUTHORIZING THE CITY MANAGER TO EXECUTE ALL NECESSARY DOCUMENTS FOR THE AGREEMENT; PROVIDING FOR A REPEALING CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, The City of Bastrop has committed to fiscal sustainability and understands that proper maintenance of streets is vital to extending the life of the asset; and

WHEREAS, The City of Bastrop City Council understands the need and endeavors to provide the essential services such as properly maintained streets that provide access to homes and businesses of Bastrop; and

WHEREAS, The City Council has appointed the City Manager as the Chief Administrative Officer of the City; and

WHEREAS, The City Manager is responsible for the proper administration of all affairs of the City; and

WHEREAS, The City of Bastrop has received all proposals, and found the lowest responsible bidder to be qualified.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS:

Section 1: That the City Manager is hereby authorized to execute a contract for the rehabilitation of Old Austin Highway with Angel Brothers Enterprises, LTD in the amount of One Million Twelve Thousand Seven Hundred-Nineteen Dollars and Seventy Cents (\$1,012,719.70), attached as Exhibit A.

Section 2: That the City Council of the City of Bastrop has found Angel Brothers Enterprises, to be a subject matter expert in the field of reclamation and rehabilitation of roadways.

Section 3: All orders, ordinances, and resolutions, or parts thereof, which are in conflict or inconsistent with any provision of this Resolution are hereby repealed to the extent of such conflict, and the provisions of this Resolution shall be and remain controlling as to the matters resolved herein.

Section 4: That this Resolution shall take effect immediately upon its passage, and it is so resolved.

DULY RESOLVED AND ADOPTED by the City Council of the City of Bastrop this 11th day of June 2019.

APPROVED:

Connie B. Schroeder, Mayor

ATTEST:

Ann Franklin, City Secretary

APPROVED AS TO FORM:

Alan Bojorquez, City Attorney

CITY OF BASTROP
OLD AUSTIN HIGHWAY PAVEMENT
REHABILITATION
PROJECT MANUAL

MAY 2019

PROJECT NUMBER 4-01127



R. Alan Munger, P.E.

05/16/2019

PROJECT MANUAL
as part of
the
Bidding Documents



Walker Partners
engineers ★ surveyors

T.B.P.E. Registration No. 8053

DOCUMENT 00 01 10
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TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) STANDARD SPECIFICATIONS

The Texas Department of Transportation “Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges,” 2014 Edition, is incorporated herein by reference for all intents and purposes. If a standard specified in that document conflicts with a standard included withing a bid specifications document, the standard in the bid specifications document controls. If the standard is still unclear, the Engineer will determine which standard controls and his determination shall be final.

TxDOT Special Specifications

3003 – Emulsion Treatment (Road Mixed)

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6001-001 Special Provision to Special Specification 6001 Portable Changeable Message Sign

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INVITATION TO SUBMIT PROPOSALS

City of Bastrop (Owner) is requesting Competitive Sealed Proposals for the Old Austin Highway Pavement Rehabilitation project from, qualified contractors, to be received until 2:00 PM, on June 4, 2019 in its offices located at 1311 Chestnut Street, Bastrop, TX, 78602. Sealed competitive proposals will be publicly opened and read aloud at shortly thereafter at same location. Proposals are invited for furnishing all labor, equipment, and materials necessary for construction of the following:

RFP No. 19-003 – City of Bastrop Old Austin Highway Pavement Rehabilitation

Old Austin Highway Pavement Rehabilitation consists of full depth reclamation, emulsion treatment stabilization, hot mix asphaltic concrete, and pavement markings. Project will be awarded to proposal providing best value to Owner based on a number of factors including cost, experience of contractor, and prior work performance.

Proposals must be submitted on forms provided in Proposal Documents and accompanied by a Proposal Security in the penal sum of not less than five percent (5%) of base proposal amount, payable without recourse to Owner. Proposal Security may be in either form of a cashier's check or Offeror's Bond from a security company approved to conduct business in State of Texas as a guarantee that offeror will enter into a contract and execute a 100% payment bond within fifteen (15) days after issuance of a notice of award to that Offeror. Proposals not accompanied by such Security or received after designated proposal time will not be considered. Refer to other proposal requirements described in Document 00 21 13 -- Instructions to Offerors.

Copies of Proposal Documents (Project Manual and Drawings) are on file and may be examined at the office of Engineer. Proposal Documents are available for download electronically online at CivCast (www.civcastusa.com) or from Walker Partners by contacting Rachel Murphy at rmurphy@walkerpartners.com.

Owner reserves the right to reject any or all Proposals and to waive informalities and irregularities.

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO OFFERORS

COMPETITIVE SEALED PROPOSALS

1. Overview of Request for Proposal Process.
 - 1.1 Objective of Request for Proposal (RFP) process is to competitively procure services with a qualified contractor whose Proposal provides best value for the City of Bastrop Old Austin Highway Pavement Rehabilitation project. Proposals will be received, publicly opened, and names and monetary Proposals of each Offeror read aloud. Subsequently, Proposals will be ranked according to criteria described in this RFP Document. Both cost and non-cost factors will be evaluated and scored. One or more Offerors may be invited back for discussions or to present their Proposal to Owner before final rankings are made. Owner may enter into contract negotiations with highest ranked firm for completion of Work. If negotiations with highest ranked firm are unsuccessful, Owner will formally close negotiations with this firm and initiate contract negotiations with next highest ranked firm. Upon agreement between both parties, a Contractor-executed Contract may be recommended for approval by Owner's governing body. Upon approval, Contract will be executed by Owner.
2. Defined Terms.
 - 2.1. Definitions for the following terms used in these Instructions do not replace definitions for similar terms that may be contained within other sections of Contract Documents.
 - 2.2. Certain additional terms used in these Instructions to Offerors have meanings indicated below and are applicable to both singular and plural thereof.
 - 2.2.1. Addendum or Addenda- Additions, deletions, and/or changes to any part of RFP issued in writing by Owner prior to Proposal due date and time.
 - 2.2.2. Apparent Best Value Offeror-Offering Firm whose Proposal for completion of Work provides best value for Owner as defined by ranking criteria detailed in Article 11 of Instructions to Offerors.
 - 2.2.3. City Council – Governing body of Owner.
 - 2.2.4. Contract Negotiations- Discussions which take place between Owner and Apparent Best Value Offeror in an effort to reach agreement on contract scope of work, cost, and other contractual requirements.
 - 2.2.5. Contractor – Successful Offeror to this RFP who enters into a contractual relationship with Owner for completion of Work.
 - 2.2.6. Engineer - Walker Partners, LLC
 - 2.2.7. Issuing Office - Location from which RFP Documents are issued. For this project issuing office is Walker Partners, 804 Las Cimas Parkway, Suite 150, Austin, TX 78746.
 - 2.2.8. Offeror, Offering Firm- Firm which responds to an RFP by submitting a Proposal directly to Owner. Offeror and Offering Firm shall have same meaning in the Instructions to Offerors.
 - 2.2.9. Owner – City of Bastrop.
 - 2.2.10. Proposal- Offeror's submittal which conforms to requirements set forth in this RFP.
 - 2.2.11. Proposal Form- As detailed in requirements of this RFP, contains unit pricing for all parts of Work and their aggregate as detailed and affirmed on Proposal Form and may include additional forms supplied by Offeror and or Owner that relate to Offeror's proposed cost for completing Work.
 - 2.2.12. RFP Document- abbreviation of Request for Proposals Document, document used to request Competitive Sealed Proposals for procurement of goods and services as authorized under Government Code Chapter 2269, Subchapter D.
 - 2.2.13. Statement of Qualifications, (SOQ) - Offeror submitted documents which describe Offering Firm's qualifications for performing Work and contain no pricing or cost data. Requirements for the Statement of Qualifications (SOQ) are set forth in Article 8 and Article 10 of Instructions to Offerors (this RFP).

- 2.2.14. Subcontractor - Any contractor or Supplier hired by Contractor to furnish materials and services specified in this RFP.
 - 2.2.15. Successful Offeror - Firm who has completed negotiations with Owner and may enter into a Contract with Owner to complete Work.
 - 2.2.16. Supplier- Same as Contractor
3. Schedule.
- 3.1 Advertisements: May 16, 2019, May 23, 2019, and May 30, 2019
 Deadline for Questions and Inquiries: May 28, 2019 at 5:00 PM
 Last Addenda/Addendum Issued: May 30, 2019 at 5:00 PM
 Proposal Submission Deadline: June 4, 2019 at 2:00 PM
 Anticipated Construction Start: June 23, 2019
4. Request for Proposal Documents/Copies.
- 4.1. This Request for Competitive Sealed Proposals (RFP) consists of the following documents:
 - 4.1.1. Invitation to Submit Proposals (00 11 12);
 - 4.1.2. Instructions to Offerors (00 21 13);
 - 4.1.3. Statement of Qualifications (00 21 14);
 - 4.1.4. Proposal Form (00 41 00);
 - 4.1.5. All Contract Documents referenced in this RFP;
 - 4.1.6. Addenda to this RFP issued by Engineer;
 - 4.1.7. Any attached forms; and
 - 4.1.8. Proposal Security (00 43 13 - Offeror's Bond)
 - 4.2. Complete set of RFP Documents may be accessed at online at CivCast (www.civcastusa.com).
 - 4.3. Complete sets of RFP Documents must be used in preparing Proposals; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from use of incomplete sets of RFP Documents.
 - 4.4. Owner and Engineer, in making copies of RFP Documents available on above noted terms, do so only for purpose of obtaining Proposals for Work and do not confer a license or grant for any other use.
5. Competitive Sealed Proposal Process\Contract Documents.
- 5.1. All questions about Competitive Sealed Proposal Process or meaning or intent of Contract Documents are to be directed to Engineer.
 Contact: Alan Munger, PE
 Walker Partners
 2700 Earl Rudder Freeway, Suite 1600
 College Station, TX 77845
 (979) 599-9870
 - 5.2. Any questions submitted to Walker Partners.
 - 5.3. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda. Oral interpretations or clarifications are not binding.
6. Pre- Submittal Conference.
- 6.1. None
7. Estimated Budget.
- 7.1. Engineer's Opinion of Probable Construction Cost (project cost estimate) has been generated by Engineer. If an award is made, actual contract amount may vary.
 - 7.2. Engineer's Opinion of Probable Construction Cost for this project is \$721,500.00.
8. Basis for Ranking of Proposals.
- 8.1 Owner will consider qualifications (Statement of Qualifications) of each Offeror and their respective proposed Contract Price (Proposal Form) when evaluating Proposals to determine which Offeror, in sole opinion of Owner, will provide best value to Owner. All procurements shall

conform to Chapter 2269 of State of Texas Government Code. Proposals will be evaluated using the following criteria and weighting:

- 8.1.1. Proposed Project Cost: Offeror's Proposed Cost of Performing Work shall be indicated in Section 00 41 00 – Proposal Form.
- 8.1.2. Experience/Past Performance of Offeror: Provide general information about Organization and a Statement of Qualifications. Include information on similar Projects on which Offeror has had significant involvement in the last five (5) years, or that demonstrate experience with similar Projects. This list is to include name and a current telephone number of references for each of these Project assignments. Offerors are to include a list of current Project assignments for each of individuals proposed, anticipated completion date for this assignment and percentage of time they will have available to devote to this Project.
- 8.1.3. Ability to Meet Proposed Time for Construction: Provide information to demonstrate
- 8.1.4. Experience/Qualifications of Superintendent: Provide information on Superintendent's qualifications including information on similar Projects on which Superintendent has been in charge of in the last five (5) years, or that demonstrate experience with similar Projects. This list is to include name and a current telephone number of references for each of these assignments. Superintendent must be dedicated to this Project full time for duration of Project and may not be changed without written approval by Engineer. ability of Organization to complete Projects within budget and on time.
- 8.1.5. Other Factors: Owner will consider other factors in evaluating Proposals, including the following:
 - 8.1.5.1. Quality of Work: Demonstrated quality of Work on completed Projects as determined by site visits or discussions with references for Projects. Quality considerations may include appearance of completed Work, amount of warranty or rework required, durability and maintainability of completed Project, and quality of documentation provided.
 - 8.1.5.2. Safety: Demonstrated success in implementation of a site safety program.
 - 8.1.5.3. Claims Experience and Litigation History: Provide a list all claims or litigation involving construction Projects that have been filed by Offeror or Owner within last five (5) years, or that are currently outstanding.

8.2. Table of criteria and weighting for the ranking of Offeror's Proposals.

Category	Description	Weighting Points
1	Proposed Project Cost	45
2	Experience/Past Performance of Offeror with Similar Projects	25
3	Ability to Meet Proposed Budget and Time for Construction	25
4	Experience/Qualifications of Proposed Key Personnel	5
5	Financial Management (Stability)	Pass/Fail
Total		100

9. Proposal Form.

- 9.1. Proposal Form (00 41 00) is included with RFP Documents.
- 9.2. All blanks on Proposal Form must be completed in ink, by hand, or electronically printed.
- 9.3. Proposal price shall include such amount as Offeror deems proper for overhead and profit.

10. Offering Firm's Statement of Qualifications (SOQ).

- 10.1. Provide information required on form Section 00 21 14 - Statement of Qualifications.

11. Ranking of Offeror's Proposals.

- 11.1. Owner will consider qualifications (Statement of Qualifications) of Offerors and Offeror's subcontractors and consultants, in addition to proposed cost(s) (Proposal Form) when evaluating Proposals to determine which Proposal offers best value to Owner. Owner will rank each of Offeror's Proposals based on criteria and criteria weighting described in Article 8, Basis for Ranking of Proposals.
- 11.2. Evaluation and ranking of Proposals will be completed no later than 6th calendar day from date of Proposal opening. Offerors are requested not to withdraw their Proposals within 60 calendar days

from date on which Proposals are opened. Proposal Security of highest ranking firms will be held by Owner until contract negotiations are finalized.

- 11.3. In evaluating Proposals, Owner will consider selection criteria set forth in Article 8 of these Instructions to Offerors and whether or not Proposals comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested by Owner.
 - 11.4. Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of Work, as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in General Conditions. Owner may also consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in Work when such data is required to be submitted prior to recommendation of award.
 - 11.5. Owner may conduct such investigations as Owner deems necessary to assist in evaluation of any Proposal and to establish the responsibility, qualifications and financial ability of Offerors, proposed Subcontractors, Suppliers and other persons and organizations to perform and furnish Work in accordance with Contract Documents to Owner's satisfaction within prescribed time.
 - 11.6. Owner, at its discretion, may also choose to conduct interviews with top ranking Offerors to provide Offerors a better opportunity to demonstrate they can provide best value to Owner for this Project. Should Owner choose to conduct interviews with top ranking Offerors, they will be notified of:
 - 11.6.1. Time and place for interview.
 - 11.6.2. Interview format and agenda.
 - 11.6.3. Questions to prepare for interview.
 - 11.6.4. Individuals that are expected to participate in the interview. Failure to participate in interview may result in disqualification from consideration for project.
12. Award of Contract.
- 12.1. It is intent of Owner to award this contract to Offering Firm whose Proposal for completion of Work provides best value for Owner after consideration of relative importance of costs and other evaluation factors described in Basis for Ranking Offerors set forth in Article 8 of these Instructions to Offerors.
 - 12.2. Owner reserves right to adopt most advantageous interpretation of Proposals submitted in case of ambiguity or lack of clearness in stating Proposal Prices, to reject any or all Proposals, and/or waive informalities.
 - 12.3. Owner reserves right to reject any or all Proposals, including without limitation rights to reject any or all nonconforming, non-responsive, unbalanced, or conditional Proposals and to reject the Proposal of any Offeror if Owner believes that it would not be in best interest of Project to make an award to that Offeror, whether because Proposal is not responsive or Offeror is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner.
 - 12.4. Owner also reserves the right to waive all informalities not involving price, time or changes in Work and to negotiate contract terms with Apparent Best Value Offeror. Discrepancies between multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between indicated sum of any column of figures and correct sum thereof will be resolved in favor of correct sum. Discrepancies between words and figures will be resolved in favor of words.
 - 12.5. Qualifications of a firm shall not deprive Owner of right to accept a Proposal, which in its judgment offers best value to Owner. In addition, Owner reserves the right to reject any Proposal where circumstances and developments have, in opinion of Owner, changed qualifications or responsibility of firm.
 - 12.6. Material misstatements in material submitted for evaluation may be ground for rejection of Offeror's Proposal on this project. Any such misstatement, if discovered after award of contract to such firm, may be grounds for immediate termination of contract. Additionally, Offeror will be liable to Owner for any additional costs or damages to Owner resulting from such misstatements, including costs and attorney's fees for collecting such costs and damages.

- 12.7. If Contract is to be awarded, it will be awarded to Apparent Best Value Offeror following successful Contract Negotiations.
 - 12.8. If Contract Negotiations with Apparent Best Value Offeror are unsuccessful, Owner will formally close Contract Negotiations with this Firm and attempt to open Contract Negotiations with next highest-ranked firm according to selection criteria set forth in Article 8 of these Instructions to Offerors.
 - 12.9. If Contract is to be awarded, Owner will notify Successful Offeror of intent to submit contract for approval by Owner within sixty (60) days after day of Proposal opening. Following approval Owner shall execute contract.
 - 12.10. Offeror may submit exceptions or alternatives not in accordance with terms and conditions of Contract Documents, or for Work that is not in strict compliance with Contract Documents. Describe intent and substance of changes in Proposal in adequate detail so they are clearly understood. Alternates will not be considered in ranking and evaluation of Proposals. Upon selection of Proposal that offers the best value to Owner, Owner and Engineer may consider proposed alternates in negotiating a final Contract scope, schedule and price.
 - 12.11. Addenda may be issued to clarify, correct, or change Contract Documents, Addenda or related supplemental data as deemed advisable by Owner or Engineer.
13. Interpretation, Addenda, and Alternate Proposals.
- 13.1. All questions about meaning or intent of Request for Proposal and Contract Documents are to be directed to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by written Addenda.
 - 13.2. To properly qualify his Proposal, each Offeror shall, prior to submitting his Proposal, check receipt of all Addenda and acknowledge such receipt on Proposal Form and on the acknowledgement line of Addendum Cover page. Proposals submitted without such acknowledgment of all issued Addenda and letters of clarification may cause Proposal to be considered non-responsive. Such Addenda and letters of clarification shall become a part of the executed contract and modify contract documents accordingly.
 - 13.3. Questions received after deadline for Questions and Inquiries may not be answered.
 - 13.4. Only questions answered by formal written Addenda issued by Owner will be binding. Oral and other interpretations or clarifications will be without legal effect.
 - 13.5. Addenda may also be issued to modify RFP Documents as deemed advisable by Owner or Engineer.
 - 13.6. Owner or Engineer will not be held liable for any failure by Engineer for notification to reach Offeror. Offerors are encouraged to contact Engineer after legal limit for filing addenda (48 hours prior to Proposal due date and time) has passed to ensure receipt of all addenda.
14. Confidentiality of Proposal Information.
- 14.1 All materials submitted to Owner will become public property and are subject to Texas Public Information Act, Government Code Chapter 552. If an Offeror does not desire proprietary Information in SOQ to be disclosed, each page must be identified and marked proprietary at time of submittal. Owner will, to extent provided by law, endeavor to protect such information from disclosure. Final decision as to what information must be disclosed, however, lies with Texas Attorney General. Failure to identify proprietary information will result in all unmarked sections being deemed non-proprietary and available upon public request. Proposers shall not be permitted to mark entire Proposal as proprietary.
15. Examination of Contract Documents and Site.
- 15.1. It is the sole responsibility of each Offeror before submitting a Proposal:
 - 15.1.1. To examine thoroughly Contract Documents and other related data identified in RFP Documents (including "technical data" referred to below);
 - 15.1.2. To visit Site to become familiar with and satisfy Offeror as to general, local and Site conditions that may affect cost, progress, performance or furnishing of Work;
 - 15.1.3. To consider federal, state and local Laws and Regulations that may affect cost, progress, performance or furnishing of Work;

- 15.1.4. To study and carefully correlate Offeror's knowledge and observations with Contract Documents and such other related data; and
- 15.1.5. To promptly notify Engineer of all conflicts, errors, ambiguities or discrepancies which Offeror has discovered in or between Contract Documents and such other related documents.
- 15.2. Information and data shown or indicated in Contract Documents with respect to existing Underground Facilities at or contiguous to Site are based upon information and data furnished to Owner and Engineer by Owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for accuracy or completeness thereof or for Offeror's interpretation of such information and data. Contractor is advised to coordinate closely with Owner, Engineer and Utility Operator(s) prior to the commencement of any underground construction activities.
- 15.3. Provisions concerning responsibilities for adequacy of data furnished to prospective Offerors with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in Contract Documents due to differing or unanticipated conditions appear in Article 6 of Agreement and Article 4 of General Conditions.
- 15.4. Before submitting a Proposal, each Offeror will be responsible for obtaining such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and underground facilities) at or contiguous to site or otherwise, which may affect cost, progress, performance or furnishing of Work, or which relate to any aspect of means, methods, techniques, sequences or procedures of construction to be employed by Offeror and safety precautions and programs incident thereto or which Offeror deems necessary to determine its Proposal for performing and furnishing Work in accordance with time, price and other terms and conditions of Contract Documents.
- 15.5. On request, Owner will provide each Offeror access to site to conduct such examinations, investigations, explorations, tests and studies, as each Offeror deems necessary for submission of a Proposal. Offeror must fill any resultant holes and clean up and restore Site to its former condition upon completion of such explorations, investigations, tests, and studies.
- 15.6. Reference is made to Specification Section 01 10 00 - Summary of Work for the identification of general nature of Work that is to be performed at Site by Owner or others (such as utilities and other prime Contractors) that relates to Work for which a Proposal is to be submitted. On request, Owner may provide to each Offeror for examination access to or copies of Contract Documents (other than portions thereof related to price) for such Work.
- 15.7. Submission of a Proposal will constitute an incontrovertible representation by Offeror that Offeror has complied with every requirement of this Article 15, that without exception Proposal is premised upon performing and furnishing Work required by Contract Documents and applying specific means, methods, techniques, sequences or procedures of construction (if any) that may be shown or indicated or expressly required by Contract Documents, that Offeror has given Owner or Engineer written notice of all conflicts, errors, ambiguities and discrepancies that Offeror has discovered in Contract Documents and written resolutions thereof by Engineer is acceptable to Offeror, and that Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing Work.
- 15.8. Provisions of 15.1 through 15.8, inclusive, do not apply to Asbestos, Polychlorinated biphenyls (PCBs), Petroleum, Hazardous Waste or Radioactive Material covered by Article 4.06 of General Conditions.
- 15.9. Addenda may also be issued to modify RFP Documents as deemed advisable by Owner or Engineer.
- 16. Proposal Security.
 - 16.1. Each Proposal must be accompanied by Proposal Security made payable to Owner in the amount not less than five percent (5%) of total Proposal Amount, including any Cash Allowances and Alternates, and shall be in form of a cashier's check or Offeror's Bond.
 - 16.2. Offeror's Bond must be on the form provided within Contract Documents (RFP) and must bear impressed seal of Surety, and be signed by Offeror and an authorized individual of Surety. Bonds will only be accepted from Sureties authorized to execute a bond order and in accordance with state law.

- 16.3. Proposal Security of Successful Offeror will be retained until such Offeror has executed Agreement, furnished required contract securities and met other conditions contained in Specification Section 00 41 00 – Proposal Form, whereupon Proposal Security will be returned. If Offeror fails to execute and deliver Agreement and furnish required contract security within thirty (30) days after contract award notification, Owner may annul its award and Proposal Security of that Offeror will be forfeited. Proposal Security of other Offerors whom Owner believes to have a reasonable chance of receiving award may be retained by Owner until the earlier of seventh day after Effective Date of Agreement or ninety-first day after Proposal opening, whereupon Proposal Security furnished by such Offerors will be returned. Proposal Security submitted in form of a cashier's check with Proposals which are not competitive will be returned.
17. Contract Times.
- 17.1 Number of days (calendar days) within which, or dates by which, Work is to achieve Substantial and Final Completion are set forth in Section 00 52 00 – Agreement between Owner and Contractor.
18. Substitutes and "Or-Equal" Items.
- 18.1 Contract, if awarded, will be on basis of materials and equipment described in Drawings or specified in Specifications with consideration for possible substitute or "or equivalent" items. Whenever it is indicated in Drawings or specified in Specifications that a Substitute or "or-equal"/"or equivalent" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer and Owner, application for such acceptance may be prior to Contract award in accordance with Texas Government Code 2269.155.
19. Subcontractors, Suppliers and Others.
- 19.1. If Owner requests the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Apparent Best Value Offeror, and any other Offerors so requested, shall within five (5) days from request submit to Owner a list of all such Subcontractors, Suppliers or other persons or organizations proposed for those portions of Work for which such identification is requested. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person or organization if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, other person or organization, Owner may, before giving notice of its intent to recommend Award, request that Apparent Best Value Offeror submit an acceptable substitute without an increase in price. If Apparent Best Value Offeror declines to make any such substitution, Owner may formally close contract negotiations with Offeror and enter into contract negotiations with next most highly-ranked Offeror that proposes to use acceptable Subcontractors, Suppliers, and other persons and organizations. Declining to make requested substitutions will not constitute grounds for sacrificing Proposal Security of any Offeror. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to giving notice of its intent to recommend Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after Effective Date of Agreement as provided in Article 6.06 of General Conditions.
- 19.2. No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.
20. Preparation and of Proposals.
- 20.1. Prepare one (1) unbound original of complete Proposal Package, including completed Proposal Form 00 41 00.
- 20.2. Original Proposal is Proposal containing Original Signature of a person authorized to sign on behalf of Offering Firm.
- 20.3. Proposals shall be enclosed in an opaque sealed Envelope (or Package), marked with RFP name in addition to name and address of Offering Firm.
- 20.4. Each Original Proposal submitted by an Offeror shall contain the following:

- 20.4.1. Offerors Statement of Qualifications (Form Section 00 21 14 - Statement of Qualifications)
 - 20.4.2. Completed Proposal (Form Section 00 41 00 - Proposal)
 - 20.4.3. Proposal Security (Form Section 00 43 13 - Offeror's Bond)
 - 20.4.4. Any other Documentation required by terms of this Request for Proposal.
 - 20.5. Proposals submitted by corporations must be executed in corporate name by president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and corporate seal must be affixed and attested by the secretary or an assistant secretary. Corporate address and state of incorporation must be shown below signature.
 - 20.6. Submitted Proposals by partnerships must be executed in partnership name and signed by a partner, whose title must appear under signature and official address of partnership must be shown below signature.
 - 20.7. All names must be typed or printed in ink below signature.
 - 20.8. Proposal shall contain an acknowledgment of receipt of all Addenda (numbers of which must be filled in on Proposal Form).
 - 20.9. Address and telephone number for communications regarding Proposal must be shown.
 - 20.10. Evidence of authority to conduct business in the State of Texas shall be provided in accordance with 00 41 00 – Proposal Form.
21. Submission of Proposals.
- 21.1. Proposals shall be submitted at time and place indicated in Invitation to Submit Proposals (00 11 12) and shall be enclosed in an opaque sealed envelope with name and address of Offering Firm and accompanied by Proposal Security and other required documents.
 - 21.2. If Proposal is sent through mail or other delivery system sealed envelope shall be enclosed in a separate envelope with notation "SEALED PROPOSAL ENCLOSED" on face of it. Proposals not received by time or at location specified will be returned unopened to Offeror.
 - 21.3. Clock used by Owner at place used for receiving Proposals shall conclusively determine time that Proposals are received.
 - 21.4. Proposals sent by facsimile or electronic mail or delivered to any other location other than address provided in Invitation to Offerors will NOT be accepted.
22. Modification and Withdrawal of Proposals.
- 22.1. Proposals may be modified or withdrawn by a document duly executed (in same manner that a Proposal must be executed) and delivered to place where Proposals are to be submitted prior to date and time for opening of Proposals.
 - 22.2. If, within twenty-four (24) hours after Proposals are opened, any Offeror files a duly signed written notice with Owner and promptly thereafter demonstrates to reasonable satisfaction of Owner that there was a material or substantial mistake in preparation of its Proposal, that Offeror may withdraw its Proposal. Proposal Security may be retained by Owner if Offeror cannot clearly demonstrate to Owner evidence of a material or substantial mistake in its Proposal. Thereafter, that Offeror may be disqualified from responding to a reissued RFP for Work to be furnished under these Contract Documents.
23. Opening of Proposals.
- 23.1 Proposals will be opened and (unless obviously non-responsive) names and Monetary Proposals of Offering Firms read aloud at a public opening. An abstract of Proposals will be made available no later than seventh day after Contract is awarded.
24. Proposals to Remain Subject to Acceptance.
- 24.1 All Proposals will remain subject to acceptance for ninety days (90) after date of opening, but Owner may, in its sole discretion, release any Proposal and return Proposal Security prior to that date.
25. Prevailing Wage Rates.
- 25.1 Contractors for this Project must pay no less than prevailing wage rates for area.

26. Liquidated Damages.
 - 26.1 Provisions for liquidated damages are set forth in specification section 00 52 15 - Standard Form of Agreement between Owner and Contractor and specification section 00 72 15 - General Conditions of the Contract.

27. Contract Security and Insurance.
 - 27.1 Article 5 of General Conditions sets forth Owner's requirements as to insurance(s) and Performance and Payment Bonds. When Successful Offeror delivers executed Agreement to Owner, it must be accompanied by required insurances, Performance and Payment Bonds. Insurances shall include all required certificates and/or endorsements.

28. Conflict of Interest.
 - 28.1 Chapter 176 of Texas Local Government Code mandates public disclosure of certain information concerning persons doing business or seeking to do business with Owner, including affiliations and business and financial relationships such persons may have with Owner. An explanation of requirements of Chapter 176, applicable forms and a complete text of this law are available at: <http://www.ethics.state.tx.us/forms/CIQ.pdf>. BY DOING BUSINESS OR SEEKING TO DO BUSINESS WITH OWNER, YOU ACKNOWLEDGE THAT YOU HAVE BEEN NOTIFIED OF REQUIREMENTS OF CHAPTER 176 OF TEXAS LOCAL GOVERNMENT CODE AND THAT YOU ARE SOLELY RESPONSIBLE FOR COMPLYING WITH THEM.

29. Taxes.
 - 29.1 Owner is exempt from payment of sales and compensating use taxes of State of Texas and of cities and counties thereof on all materials to be incorporated into Work. Owner will furnish required certificates of tax exemption to Contractor for use in purchase of supplies and materials to be incorporated into Work.
 - 29.2 Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into Work.
 - 29.3 Sales and Use Tax: Owner is exempt from Texas state sales and use taxes on materials and equipment to be incorporated into Work. Said taxes shall not be included in Proposal.

30. Signing of Agreement.
 - 30.1 Owner will transmit to Successful Offeror required number of unsigned counterparts of Agreement with all other written Contract Documents attached. Contractor shall sign and deliver required number of counterparts of Agreement and written Contract Documents to Owner thirty (30) days.

END OF SECTION

SECTION 00 21 14

STATEMENT OF QUALIFICATIONS

TABLE 1 – GENERAL INFORMATION				
A. COMPANY DATA				
Organization Doing Business:				
Business Address:				
Telephone Number:				
Fax Number:				
Form of Business:	Corporation	Partnership	Individual	Joint Venture
IF A CORPORATION				
Date of Incorporation:				
State Incorporated:				
President's Name:				
Vice President's Name:				
IF A PARTNERSHIP				
Date of Organization:				
Type	General		Limited	
IF AN INDIVIDUAL				
Name:				
Business Address:				
IF A JOINT VENTURE				
Name of Manager:				
Name of Firm:				
Name of Individual Companies:				
B. BUSINESS INFORMATION				
Current Number of Full Time Employees:		Past Year's Revenues:		
Average Number of Projects Annually:		Average Construction Cost of Project:		
C. DIVISION OF WORK BETWEEN CONTRACTOR AND SUBCONTRACTORS				
1. List work that will be provided by Offeror (Prime Contractor) using its own resources.				
2. List work that will be provided by Subcontractors on this project.				

TABLE 2 – CONSTRUCTION EXPERIENCE			
1. Years of experience on asphalt full depth reclamation (FDR) projects:			
As a General Contractor:		Number of Total Projects:	
2. Number of asphalt FDR projects completed in State of Texas in the past five (5) years?			
3. Has this or a predecessor company ever defaulted on a project or failed to complete work award to it?			
4. Has this or a predecessor company ever been released from a bid or proposal in the past ten (10) years?			
5. Has this or a predecessor company ever been disqualified as a bidder or offeror on any project within the last five (5) years?			
6. Is offering company currently involved in any litigation or contemplating any litigation?			
7. Has this or a predecessor company ever refused to construct or refused to provide materials defined in Contract Documents on a project?			
8. Are there any liens currently filed against the offeror by either subcontractor or material suppliers on previous projects?			

TABLE 3 – PROPOSED KEY PERSONNEL	
PROJECT MANAGER	
Name of Project Manager	
Years of Experience as PM	
Number of Similar Projects as PM with this company	
Number of Similar Projects with other companies (PM)	
Current Assignments	
% of time dedicated to this project	
Reference Project	
Project Name:	Reference Name:
Title:	Organization:
Telephone Number:	Email:
PROJECT SUPERINTENDENT	
Name of Superintendent	
Years of Experience as Superintendent	
Number of Similar Projects as Super with this company	
Number of Similar Project with other companies (Super)	
Current Assignments	
% of time dedicated to this project	
Reference Project	
Project Name:	Reference Name:
Title:	Organization:
Telephone Number:	Email:

TABLE 4 – SIMILAR PROJECTS COMPLETED WITHIN LAST 5 YEARS				
REFERENCE PROJECT 1				
Project Description				
Owner	Project Name	Contract Amount	Date Completed	% Change Orders
Owner's Reference Information				
Name	Title	Organization	Telephone	E-Mail
Engineer's Reference Information				
Name	Title	Company	Telephone	E-Mail
REFERENCE PROJECT 2				
Project Description				
Owner	Project Name	Contract Amount	Date Completed	% Change Orders
Owner's Reference Information				
Name	Title	Organization	Telephone	E-Mail
Engineer's Reference Information				
Name	Title	Company	Telephone	E-Mail
REFERENCE PROJECT 3				
Project Description				
Owner	Project Name	Contract Amount	Date Completed	% Change Orders
Owner's Reference Information				
Name	Title	Organization	Telephone	E-Mail
Engineer's Reference Information				
Name	Title	Company	Telephone	E-Mail

TABLE 5 – SUBCONTRACTORS AND SUPPLIERS

PROJECT SPECIFIC SUBCONTRACTORS (greater than 10% of work)

Name	Work to be Provided	% of Contract

Provide a list of major equipment or material suppliers for use on project.

Supplier Name	Material or Equipment Supplied

AFFIDAVIT

State _____

County of _____

_____, being duly sworn deposes and attests that he/she is
(name)
_____ and is a duly authorized representative of the Offeror
(title)

submitting the foregoing Section 00 21 14 – Statement of Qualifications and related information, that he/she has read such documents, that he/she is authorized to submit such information on behalf of the Offeror, and that such documents are true and correct and contain no factual errors or material misrepresentations.

Signature

Signed and sworn to me before this _____ day of _____, 20_____ .

Notary Public

My Commission expires: _____

DOCUMENT 00 31 00

AVAILABLE PROJECT INFORMATION

1. SUMMARY

A. Document Includes:

1. Subsurface investigation report.
2. Planimetric survey.

B. Related Documents:

1. Document 00 21 13 - Instructions to Offerors: Examination of Site

2. SUBSURFACE INVESTIGATION REPORT

- A. A geotechnical report titled Old Austin Highway Pavement Rehabilitation was prepared for the design of the Owner.
- B. A complete copy of the report shall be furnished upon request by Offeror to Engineer. The report was not prepared for purposes of bid development and its information and accuracy may be limited for that purpose. *Engineer recommends that Offerors confer with the geotechnical engineer who prepared the report for interpretation of data contained therein and to conduct any additional studies required to obtain specific types of information required for bid development.*
- C. Report(s) to Offeror for informational purposes only and not for purposes of Offeror using or relying on this information in preparing its costs for performing Work. By submitted a Proposal, Offeror agrees and affirms that Offeror is solely responsible for determining all site conditions that may affect Work on Project.
- D. Offeror agrees and expressly understands that Report(s) may not represent all conditions that Offeror may encounter during performance of Work on Project and that Report(s) is/are indicative of only those locations where tests were performed or observations were made and conditions may vary greatly at other locations on the Project and Offeror is responsible for determining such actual conditions;
- E. Offerors are urged to conduct an independent examination of available soils investigation data and conduct further investigations, as needed, of Site prior to submitted a Proposal. Owner and Engineer disclaim any responsibility for accuracy, true location, and extent of soils investigation prepared by others. Owner and Engineer further disclaims any responsibility for interpretation of that data by Offerors, as in projecting soil bearing values; types of materials encountered; soil stability; and the presence, level and extent of any underground water.
- F. By submission of a proposal Offeror expressly also agrees that Report(s) shall not be utilized for purposes of asserting a claim for additional costs in performance of Work due to a changed condition on Project.
- G. Soil investigation data is not a part of Contract Documents.

END OF DOCUMENT

SECTION 00 41 00

PROPOSAL FORM

To: City of Bastrop
1311 Chestnut Street
Bastrop, TX 78602

Project: City of Bastrop – Old Austin Highway Pavement Rehabilitation

RFP No.: 19-003

Offerer: _____
(Print or type full name of proprietorship, partnership, corporation, or joint venture)

1.0 OFFER

- A. Total Proposal Price: Undersigned Offerer proposes and agrees, if this Proposal is accepted, to enter into an Agreement with Owner on form included in Contract Documents to perform all Work as specified or indicated in Contract Documents for Contract Price indicated in this Proposal or as modified by written Amendment.
- B. Proposal Security: Included with the Proposal is a Proposal Security in amount of 5% of Total Proposal Price subject to terms described in Document 00 21 13 – Instructions to Offerers.
- C. Period for Proposal Acceptance: Offerer accepts all of terms and conditions of Request for Proposals and Instructions to Offerers, including without limitation those dealing with disposition of required Bonds. This offer shall remain open to acceptance and is irrevocable for 90 days from Proposal Date (opening). That period may be extended by mutual written agreement of Owner and Offerer.
- D. Liquidated Damages: Offerer accepts the provisions of Agreement as to liquidated damages in the event of its failure to complete Work in accordance with schedule as set forth in Agreement.
- E. Addenda: Offerer hereby acknowledges it has received, examined and carefully studied all Addenda and modifications to Proposal Documents have been considered and all related costs are included in Total Proposal Price. Offerer hereby acknowledges receipt of the following Addenda:
- F. Proposal Supplements: The following documents shall be provided with proposal:
 - Offerer's Statement of Qualifications (SOQ).
 - Completed Certification of Proposal
 - Proposal Security
 - Non-Collusion Affidavit

2.0 CONTRACT TIME

- A. If offer is accepted, Contractor shall achieve Date of Substantial Completion and Date of Final Completion within Contract Times prescribed in Article 3 of Section 00 52 00 - Agreement Between Owner and Contractor, subject to adjustments of Contract Time as provided in Contract.

3.0 OFFERER REPRESENTATIONS

- A. Offerer is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and furnishing of Goods and Special Services.

- B. Offerer has visited Site and become familiar with and is satisfied as to general, local and Site conditions that may affect cost, progress, and performance of Work.
- C. Offerer has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to Site (except Underground Facilities) and (2) Hazardous Environmental Conditions identified in reports and drawings provided to Offerer or available for Offerer review. Offerer understands that neither Owner nor Engineer is responsible for the accuracy of these documents and that they are not part of Contract Documents.
- D. Offerer has obtained and carefully studied all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions including surface, subsurface and Underground Facilities at or contiguous to Site which may affect cost, progress, or performance of Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Offerer, including applying specific means, methods, techniques, sequences, and procedures of construction expressly required by Contract Documents to be employed by Offerer, and safety precautions and programs incident thereto and accepts all consequences for not doing so.
- E. Offerer does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Proposal for performance of Work at the Contract Price proposed, within Contract Times proposed and in accordance with terms and conditions of Contract Documents.
- F. Offerer is aware of general nature of work to be performed by Owner and others at Site that relates to Work as indicated in the Contract Documents.
- G. Offerer has correlated information known to Offerer, information and observations obtained from visits to Site, reports and drawings identified in Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with Contract Documents.
- H. Offerer has given Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Offerer has discovered in Contract Documents, and written resolution thereof by Owner or Engineer is acceptable to Offerer.
- I. Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of Work for which this Proposal is submitted.
- J. Laws to be Observed: In execution of Contract, Contractor must comply with all applicable Federal, State, and Local laws, including, but not limited to laws concerned with labor, safety, minimum wages, and environment. Contractor will make himself familiar with and shall at all times observe and comply with all Federal, State, and Local laws, ordinances and regulations which in any manner affect the conduct of the work, and shall indemnify and save harmless the Owner and its representatives against any claim arising from violation of any such law, ordinance or regulation by himself or by his subcontractor or by his employees.
- K. Review by Owner: Owner and authorized representatives and agents of owner shall at all times have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract.
- L. Offerer will submit written evidence of its authority to do business in State of Texas.
- M. Offerer further represents that this Proposal is genuine and not made in interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Offerer has not directly or indirectly induced or solicited any other Offerer to submit a false or sham Proposal; Offerer has not solicited or induced any individual or

entity to refrain from making an offer; and Offerer has not sought by collusion to obtain for itself any advantage over any other Offerer or over Owner.

4.0 DEFINED TERMS:

A. Defined terms used in this Proposal, if any, shall be for purposes of this Proposal and shall not change any meanings indicated in General Conditions. Significance of terms with initial capital letters is defined in General Conditions.

5.0 TOTAL PROPOSAL PRICE HAS BEEN CALCULATED BY OFFERER, USING THE FOLLOWING COMPONENT PRICES AND PROCESS (PRINT OR TYPE NUMERICAL AMOUNTS):

**CITY OF BASTROP
OLD AUSTIN HIGHWAY PAVEMENT REHABILITATION
PROPOSAL TABULATION**

Item	Specification	Description	Quantity	Unit	Unit Price	Total Amount
1.00 General Conditions						
1.01	WP-01 21 00	MOBILIZATION & PROJECT INCIDENTALS - Section 01 21 00	1	LS	\$	\$
1.02	Plans Note	TRAFFIC CONTROL PLAN - PROJECT NOTES	1	LS	\$	\$
1.03	Plans Note	TRAFFIC CONTROL PLAN - IMPLEMENTATION - PROJECT NOTES	1	LS	\$	\$
1.04	WP - 31 25 12	STORM WATER POLLUTION PREVENTION PLAN	1	LS	\$	\$
1.05	WP - 31 25 12	STORMWATER POLLUTION PREVENTION PLAN IMPLEMENTATION	1	LS	\$	\$
1.06	TxDOT 6001	PORTABLE CHANGEABLE MESSAGE SIGN - 45 DAYS (4 EA. DAY)	1	LS	\$	\$
1.07	WP - 01 20 00	CONTINGENCY ALLOWANCE	1	LS	\$ 25,000.00	\$ 25,000.00
Subtotal General Conditions						\$
2.00 Demolition						
2.01	TxDOT 105	REMOVING TREATED & UNTREATED BASE & ASPHALT PAVEMENT	35	SY	\$	\$
Subtotal Demolition						\$
3.00 Street Improvements						
3.01	TxDOT 315	FOG SEAL (CSS-1H)	3,572	GAL	\$	\$
3.02	TxDOT 340	DENSE GRADED HMA (SQ) TY-D (PG70-22)	2,089	TON	\$	\$
3.03	TxDOT 351	FLEXIBLE PAVEMENT STRUCTURE REPAIR (4")	15	SY	\$	\$
3.04	TxDOT 354	PLANE ASPHALT CONCRETE PAVEMENT (0" to 1-1/2")	8,170	SY	\$	\$
3.05	TxDOT 3003	EMULSION TREATMENT (MIX EXIST MATERIAL)(6 1/2")	23,815	SY	\$	\$
3.06	TXDOT 3003	EMULSION TREATMENT (CEMENT)(2%)	151	TON	\$	\$
3.07	TxDOT 3003	EMULSION TREATMENT (EMULSION)(4.8%)	84,139	GAL	\$	\$
3.08	WP - 32 13 13	8" REINFORCED CONCRETE FILLET	200	SF	\$	\$
3.09	WP - 32 13 13	8" REINFORCED CONCRETE VALLEY	140	SF	\$	\$
Subtotal Street Improvements						\$

4.00 Pavement Marking Improvements

4.01	TxDOT 666	REFL PAV MRK TY I (Y)4"(SLD)(100 MIL)	10,320	LF	\$	\$
4.02	TxDOT 666	REFL PAV MRK TY I (Y)4"(BRK)(100 MIL)(80 FT SPA)	9,480	LF	\$	\$
4.03	TxDOT 666	REFL PAV MRK TY I (W)4"(SLD)(100 MIL)	1,250	LF	\$	\$
4.04	TxDOT 666	REFL PAV MRK TY I (W)4"(BRK)(100 MIL)(40 FT SPA)	350	LF	\$	\$
4.05	TxDOT 666	REFL PAV MRK TY I (ARROW)(100 MIL)	26	EA	\$	\$
4.06	TxDOT 666	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	565	LF	\$	\$
4.07	TxDOT 666	REFL PAV MRK TY I (W)24"(SLD)(100 MIL) (CROSSWALK)	540	LF	\$	\$
4.08	TxDOT 666	REFL PAV MRK TY I (W)24"(SLD)(100 MIL) (STOP BAR)	240	LF	\$	\$
4.09	TxDOT 666	REFL PAV MRK TY I (W)8"(DOTD)(100 MIL)	130	LF	\$	\$
4.10	TxDOT 672	REFL PAV MRKR TY II-A-A	347	EA	\$	\$
4.11	TxDOT 672	REFL PAV MRKR TY I-C	87	EA	\$	\$
4.12	TxDOT 666	REFL PAV MRK TY I (W) 12" (SLD)(100 MIL)	105	LF	\$	\$

Subtotal Pavement Marking Improvements**\$****TOTAL PROPOSAL AMOUNT:****\$**

6.0 ADDENDA

Following Addenda have been received by Offerer. Modifications to Proposal Documents noted below have been considered and all costs are included in Proposal Price.

Addendum # Dated

7.0 PROPOSAL FORM SIGNATURES*

This Proposal is submitted by:

(Offerer - print the full name of firm submitting Proposal)**

was hereunto affixed in the presence of:

Name and Title (printed or typed): _____

By: _____
(Authorized signing officer signature)

(Seal)

Person with Offerer authorized to discuss contents of Proposal and Qualifications:

Phone Number: _____

- * If Proposal is a joint venture, add additional Proposal Form signature sheets for each member of joint venture.
- ** Offerer certifies that only person or parties interested in this offer as principals are those named above. Offerer has not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive Proposing.

Note: This document constitutes a government record, as defined by § 37.01 of Texas Penal Code. Submission of a false government record is punishable as provided in § 37.10 of Texas Penal Code.

END OF SECTION

SECTION 00 43 13

OFFERER'S BOND

THAT WE, _____, as Principal, (“Offerer”), and the other subscriber hereto, _____, as Surety, do hereby acknowledge ourselves to be held and firmly bound to City of Bastrop, (“Owner”) a political sub-division of the State of Texas, in the sum of _____ Dollars (\$ _____) an amount equal to five (5) percent of the Total Bid Price, including Cash Allowances and Alternates, if any, for payment of which sum, well and truly to be made to Owner and its successors, Offerer and Surety do bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally.

CONDITIONS OF THIS OBLIGATION ARE SUCH THAT: WHEREAS, Offerer has submitted on or about this day a proposal offering to perform the following:

RFP No. 19-003 City of Bastrop – Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which reference is hereby made.

NOW, THEREFORE, if Offerer's offer as stated in Document 00 41 00 – Proposal Form is accepted by Owner, and Offerer executes and returns to Owner executed Section 00 52 00 – Agreement on forms provided in Proposal Documents, for Work and also executes and returns same number of Performance, Payment, and Maintenance Bonds (such bonds to be executed by a Corporate Surety authorized by State Board of Insurance to conduct insurance business in the State of Texas, and having an underwriting limitation in at least the amount of bond) and other submittals as required, in connection with Work, within allotted Contract Time, then this obligation shall become null and void; otherwise it is to remain in full force and effect.

If Offerer is unable to or fails to perform its obligations undertaken herein, the undersigned Offerer and Surety shall be liable to Owner for full amount of this obligation which is hereby acknowledged as amount of damages which will be suffered by Owner on account of failure of such Offerer to perform such obligations, the actual amount of such damages being difficult to ascertain. Notices required or permitted hereunder shall be in writing and shall be deemed delivered when actually received or, if earlier, on third day following deposit in a United States Postal Service post office or receptacle, with proper postage affixed (certified mail, return receipt requested), addressed to respective other Party at address prescribed in Contract Documents, or at such other address as receiving Party may hereafter prescribe by written notice to sending Party.

IN WITNESS THEREOF, both Offerer and Surety have signed and sealed this instrument on the respective dates written below their signatures and have attached current Power of Attorney.

ATTEST, SEAL: (if a corporation)

OFFERER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____
Signature and Title

END OF SECTION

Notice of Award

Dated _____

Project: Old Austin Highway Pavement Reclamation	Owner: City of Bastrop	Owner's Contract No.:
Contract: City of Bastrop – Old Austin Highway Pavement Reclamation		Engineer's Project No.: 4-01127
Bidder:		
Bidder's Address: (send Certified Mail, Return Receipt Requested)		

You are notified that your Bid dated _____ for the above Contract has been considered. You are the Successful Bidder and are awarded a Contract for _____

(Indicate total Work, alternates or sections or Work awarded.)

The Contract Price of your Contract is _____ Dollars (\$_____).

_____ copies of each of the proposed Contract Documents (except Drawings) accompany this Notice of Award.

_____ sets of the Drawings will be delivered separately or otherwise made available to you immediately.

You must comply with the following conditions precedent within [15] days of the date you receive this Notice of Award.

1. Deliver to the Owner [_____] fully executed counterparts of the Contract Documents.
2. Deliver with the executed Contract Documents the Contract security [Bonds] as specified in the Instructions to Offerers (Article 27), [and] General Conditions (Paragraph 5.01).
3. Other conditions precedent:

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Contract Documents.

Owner

By: _____
Authorized Signature

Title

Copy to Engineer

Notice to Proceed

Dated _____

Project: Old Austin Highway Pavement Reclamation	Owner: City of Bastrop	Owner's Contract No.:
Contract: City of Bastrop -- Old Austin Highway Pavement Reclamation		Engineer's Project No.: 4-01127
Contractor:		
Contractor's Address: [send Certified Mail, Return Receipt Requested]		

You are notified that the Contract Times under the above contract will commence to run on _____. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Substantial Completion is _____, and the date of readiness for final payment is _____.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Also, before you may start any Work at the Site, you must:

- 1.0 The contractor shall call the Texas One-Call System @ 1-800-344-8377 at least 48 hours prior to digging.
- 2.0 Prepare and submit Traffic Control Plan.
- 3.0 Prepare a Stormwater Pollution Prevention Plan. Prepare and submit a Notice of Intent (NOI) to TCEQ as prescribed in the Technical Specifications.
- 4.0 Prepare an Emulsion Treatment Mix Design in accordance with TxDOT Item 3003.

Contractor	Owner
Received by:	Given by:
_____ Authorized Signature	_____ Authorized Signature
_____ Title	_____ Title
_____ Date	_____ Date

Copy to Engineer

SECTION 00 52 00

AGREEMENT

THIS AGREEMENT is dated as of by and between City of Bastrop (hereinafter called "OWNER") and _____ (hereinafter called "CONTRACTOR"). OWNER and CONTRACTOR, in consideration of covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK. CONTRACTOR shall complete all Work as specified or indicated in Contract Documents. Work is generally described as follows:

RFP No. 19-003 City of Bastrop – Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which reference is hereby made.

ARTICLE 2. ENGINEER AND OWNER'S REPRESENTATIVE. Project has been designed by Walker Partners, 804 Las Cimas Parkway, Suite 150, Austin, TX 78746 who is hereinafter called "ENGINEER" and who assumes all duties and responsibilities and has rights and authority assigned to ENGINEER in Contract Documents in connection with completion of Work in accordance with Contract Documents. Owner's Representative for Project shall be Walker Partners, LLC.

ARTICLE 3. CONTRACT TIMES. Work will be Substantially Completed within 40 calendar days after date when Contract Time Requirements commence to run as provided in Article 2.03 of General Conditions, and CONTRACTOR shall achieve Final Completion within 45 calendar days of date required for Substantial Completion. OWNER and CONTRACTOR recognize that time is of essence of this Agreement and that OWNER will suffer financial loss including, but not limited to, loss of revenue, additional professional fees, fines, labor costs, insurance premiums, etc. if the Work is not completed within times specified in above paragraph, plus any extensions thereof allowed in accordance with Article 12 of General Conditions. They also recognize delays, expense and difficulties involved in proving actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) and, as a reasonable estimate of such damages, CONTRACTOR shall pay OWNER One Thousand Dollars (\$1,000.00) for each and every day of delay in CONTRACTOR achieving Substantial Completion of Work and readiness for final payment beyond times specified in above paragraph. OWNER shall have option of deducting the amount of any liquidated damages from any monies that may be owed to CONTRACTOR or to recover such amount from CONTRACTOR or its sureties, at CONTRACTOR'S expense.

ARTICLE 4. CONTRACT AMOUNT. OWNER shall pay CONTRACTOR for completion of Work in accordance with Contract Documents an amount in current funds equal to sum of amounts determined pursuant to Proposal and any subsequent Change Orders and Change Directives thereto.

ARTICLE 5. PAYMENT PROCEDURES. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of General Conditions. Applications for Payment will be processed by ENGINEER and as provided in General Conditions and Supplemental Conditions. OWNER shall make progress payments on account of Contract Amount on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER and in conformance with the procedures described in General Conditions. All such payments will be measured by schedule of values established in Article 2.05 of General Conditions (and on number of units of each Unit Price item completed, if unit price contract). Upon final completion and acceptance of Work in accordance with Article 14 of General Conditions, OWNER shall pay the remainder of Contract Amount as recommended by Owner's Representative as provided in said Article 14. In accordance with Texas Water Code Section 49.276 – PAYMENT FOR CONSTRUCTION WORK, Subsection (d), in making progress payments, 5% of estimated amount shall be retained until final completion and acceptance of contract work.

ARTICLE 6. CONTRACTOR'S REPRESENTATIONS. In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

- CONTRACTOR has examined and carefully studied Contract Documents (including Addenda listed in Article 7) and other related data identified in Proposal Documents.
- CONTRACTOR has visited site and become familiar with and is satisfied as to general, local, and site conditions that may affect cost, progress, performance, or furnishing of Work.
- CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Legal Requirements that may affect cost, progress, performance, and furnishing of Work.
- CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to Site.
- CONTRACTOR acknowledges that such reports and drawings are not Contract Documents, are not warranted or represented in any manner by Owner to accurately show the conditions at Site, and may not be complete for CONTRACTOR'S purposes.
- CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for accuracy or completeness of information and data shown or indicated in Contract Documents with respect to subsurface conditions or Underground Facilities at or contiguous to Site or CONTRACTOR'S interpretation of such information and data.
- CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary research, examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto.
- CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies, or data are necessary for the performance and furnishing of Work at Contract Amount, within Contract Time Requirements and in accordance with other terms and conditions of Contract Documents.

- CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at Site that relates to Work as indicated in Contract Documents.
- CONTRACTOR has correlated information known to CONTRACTOR, information and observations obtained from visits to Site, reports, and Drawings identified in Contract Documents and all additional examinations, investigations, explorations, tests, studies, and data with Contract Documents.
- CONTRACTOR has provided ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of Work.

ARTICLE 7. CONTRACT DOCUMENTS. Contract Documents are comprised of the following:

1. This Agreement.
2. Exhibits to this Agreement:
 - a. Document Title Date Page(s) - N/A
3. Performance and Payment Bonds.
4. General Conditions of Contract.
5. Supplemental Conditions, if any.
6. Specifications, prepared by Walker Partners, dated May 2019.
7. Drawings.
8. Addenda: Addendum No. ___ through Addendum No. ____
9. CONTRACTOR'S Proposal pursuant to Request for Proposal.
10. Prevailing Wage Rates.
11. Following which may be delivered or issued after Effective Date of Agreement and are not attached thereto: All written Change Orders or Work Orders pursuant to Article 3.04 of General Conditions. There are no Contract Documents other than those listed in this Article. Contract Documents may only be amended, modified, or supplemented as provided in Article 3.04 of General Conditions.

ARTICLE 8. INDEMNITY PROVISIONS. GENERAL, SPECIAL, AND SUPPLEMENTAL CONDITIONS, IF ANY, INCORPORATED INTO THIS AGREEMENT CONTAIN PROVISIONS THAT MAY RELIEVE ONE PARTY FOR RESPONSIBILITY IT WOULD OTHERWISE HAVE UNDER LAW FOR DAMAGES OR OTHER LIABILITY ARISING OUT OF WORK. EACH OF THE PARTIES HERETO SPECIFICALLY AGREES THAT IT HAS A DUTY TO READ THIS AGREEMENT, GENERAL, SPECIAL, AND SUPPLEMENTAL CONDITIONS, IF ANY, AND ALL OTHER CONTRACT DOCUMENTS AND AGREES THAT IT IS CHARGED WITH NOTICE AND KNOWLEDGE OF TERMS OF THIS AGREEMENT AND ALL CONTRACT DOCUMENTS; THAT IT HAS IN FACT READ THIS AGREEMENT AND ALL CONTRACT DOCUMENTS AND IS FULLY INFORMED AND HAS FULL NOTICE AND KNOWLEDGE OF TERMS, CONDITIONS AND EFFECTS OF THIS AGREEMENT; THAT IT HAS HAD OPPORTUNITY TO BE REPRESENTED BY INDEPENDENT LEGAL COUNSEL OF ITS CHOICE PRECEDING ITS EXECUTION OF THIS AGREEMENT AND HAS RECEIVED OR VOLUNTARILY CHOSEN NOT TO RECEIVE ADVICE OF ITS ATTORNEY IN ENTERING INTO THIS AGREEMENT; AND THAT IT RECOGNIZES THAT CERTAIN TERMS OF THIS AGREEMENT AND CONTRACT DOCUMENTS RESULT IN ONE PARTY

ASSUMING THE LIABILITY INHERENT IN SOME ASPECTS OF TRANSACTION AND RELIEVING OTHER PARTY OF ITS RESPONSIBILITY FOR SUCH LIABILITY. EACH PARTY HERETO AGREES AND COVENANTS THAT IT WILL NOT CONTEST VALIDITY OR ENFORCEMENT OF ANY EXCULPATORY PROVISION OF THIS AGREEMENT ON BASIS THAT THE PARTY HAD NO NOTICE OR KNOWLEDGE OF SUCH PROVISION OR THAT THE PROVISION IS NOT "CONSPICUOUS".

ARTICLE 9. MISCELLANEOUS. Terms used in this Agreement which are defined in Article 1 of General Conditions will have the meanings indicated in General Conditions. CONTRACTOR certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing Contract. For purposes of this Article 9:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in proposal process or in Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made
 - (a) to influence proposal process or execution of Contract to detriment of OWNER,
 - (b) to establish Proposal or Contract prices at artificial noncompetitive levels, or
 - (c) to deprive OWNER of benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Proposers, with or without knowledge of OWNER, a purpose of which is to establish Proposal prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the proposal process or affect execution of Contract.

No assignment by a party hereto of any rights or interests in Contract will be binding on another party hereto without written consent of party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that effect of this restriction may be limited by law), and unless specifically stated to contrary in any written consent to an assignment no assignment will release or discharge assignor from any duty or responsibility under Contract.

OWNER and CONTRACTOR each binds itself, its officers, directors, shareholders, partners, members, successors, assigns, and legal representatives to other party hereto, its officers, directors, shareholders, partners, members, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in Contract Documents. Any provision or part thereof of Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions or parts thereof shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing intention of the stricken provision or part thereof.

IN WITNESS WHEREOF, OWNER, and CONTRACTOR have signed this Agreement in duplicate. One counterpart has been delivered to OWNER, one counterpart has been delivered to CONTRACTOR and one counterpart has been delivered to ENGINEER. All portions of Contract Documents have been signed, initialed, or otherwise clearly identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

This Agreement will be effective on _____, (which is effective date of Agreement).

OWNER: City of Bastrop

By: _____

Attest: _____

Address for giving notices:

CONTRACTOR: _____

By: _____

(CORPORATE SEAL)

Attest: _____

Address for giving notices:

END OF SECTION

SECTION 00 61 13

PAYMENT BOND

STATE OF TEXAS

COUNTY OF _____

KNOW ALL MEN BY THESE PRESENTS: That _____ (Contractor) of City of _____, County of _____, and State of Texas, as Principal, and _____ authorized under the Laws of the State of Texas to act as surety on bonds for principals, are held and firmly bound unto City of Bastrop (Owner), in the penal sum of _____ Dollars (\$ _____) for payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, Principal has entered into a certain written contract with Owner, dated the ____ day of _____, 20__, for construction of RFP No. 19-003 City of Bastrop – Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which Contract is hereby referred to and make a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION IS SUCH, that if said Principal shall pay all claimants supplying labor and material to him or a Sub-Contractor in prosecution of work provided for in said contract, then, this obligation shall be void; otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Chapter 2253 of Texas Government Code as amended and all liabilities on this bond shall be determined in accordance with the provisions of said Statute 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 contract, or to work performed thereunder, or Specifications, or Drawings, accompanying the same, shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to terms of contract, or work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on the _____ day of _____, 20__.

Contractor:
By: _____
Name: _____
Title: _____
Date: _____

Surety:
By: _____
Name: _____
Title: _____

ATTEST/SURETY WITNESS:

Full Name of Surety: _____

(SEAL)

Address of Surety for Notice

Telephone Number of Surety: _____

By: _____
Name: _____
Title: _____
Date: _____

By: _____
Name: _____
Title: Attorney-in-Fact
Date: _____

END OF SECTION

SECTION 00 61 14

PERFORMANCE BOND

STATE OF TEXAS

COUNTY OF _____

KNOW ALL MEN BY THESE PRESENTS: That _____ (Contractor) of City of _____, County of _____, and State of Texas, as Principal, and _____ authorized under Laws of State of Texas to act as surety on bonds for principals, are held and firmly bound unto City of Bastrop (Owner), in the penal sum of _____ Dollars (\$ _____) for the payment whereof, said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, Principal has entered into a certain written contract with Owner, dated ____ day of _____, 20____, for construction of RFP No. 19-003 City of Bastrop – Old Austin Highway Pavement Rehabilitation in accordance with Drawings, Specifications, and terms and conditions related thereto to which Contract is hereby referred to and make a part hereof as fully and to same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal shall faithfully perform said Contract and shall in all respects duly and faithfully observe and perform all and singular the covenants, conditions an agreements in and by said contract agreed and covenanted by Principal to be observed and performed, and according to the true intent and meaning of said Contract and Drawings and Specifications hereto annexed, then this obligation shall be void; otherwise to remain in full force and effect;

PROVIDED, HOWEVER, that this bond is executed pursuant to provisions of Chapter 2253 of Texas Government Code as amended and all liabilities on this bond shall be determined in accordance with the provisions of said Statute to 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 contract, or to work performed thereunder, or drawings, Specifications, or Drawings, accompanying same, shall in anyway affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to terms of contract, or work to be performed thereunder.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument on _____ day of _____, 20__.

Contractor:

Surety:

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date:

ATTEST/SURETY WITNESS:

Full Name of Surety: _____

(SEAL)

Address of Surety for Notice

Telephone Number of Surety: _____

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: Attorney-in-Fact

Date _____

Date: _____

END OF SECTION

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain

administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *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 in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times

but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. *Intent of Certain Terms or Adjectives*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's - recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement

or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or

responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work

(unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. 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 Engineer or Engineer's consultants, including electronic media editions; or
2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's

sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice*: If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will

promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to

entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified

in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection

from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any

deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or

received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract

Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. 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 Owner or Engineer 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 Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement 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.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 Taxes

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. Cleaning: Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. Loading Structures: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 Record Documents

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents

with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 Continuing the Work

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or

disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 Contractor's General Warranty and Guarantee

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal

shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and

properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep

Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show

partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall

promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and

Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to Engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have

resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongfully supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall

be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. Cash Allowances

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an

allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted

by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to

be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress

payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent

inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 Substantial Completion

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals

that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations

under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance

with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or
2. agrees with the other party to submit the Claim to another dispute resolution process, or
3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. 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

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (No. C-700) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect:

SC-4.02 Delete Paragraphs 4.02.A and 4.02.B in their entirety and insert the following:

A. A Geotechnical Report entitled Old Austin Highway Pavement Rehabilitation was prepared by Terracon (May 14, 2019), a bound copy of which is available from the Owner upon request.

SC-4.06 Delete Paragraphs 4.06.A and 4.06.B in their entirety and insert the following:

A. No reports or drawings related to Hazardous Environmental Conditions are known to Owner or Engineer.

B. Left Blank Intentionally.

SC-5.04 Add the following new paragraph immediately after Paragraph 5.04.B:

CONTRACTOR'S Insurance. Before commencing the work, and as a condition of payment, the CONTRACTOR shall purchase and maintain insurance that will protect it from the claims arising out of its operations under this Agreement, whether the operations are by the CONTRACTOR, or any of its consultants or subcontractors or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

C. Minimum Limits of Liability. The CONTRACTOR shall maintain insurance with limits of liability equal to the limits of liability as set forth below.

1. Workers Compensation

A. Statutory Workers Compensation Benefits

B. Employer Liability:

Bodily Injury by Accident - \$1,000,000 Each Accident

Bodily Injury by Disease - \$1,000,000 Policy Limit

Bodily Injury by Disease - \$1,000,000 Each Employee

2. Commercial General Liability

\$1,000,000 Combined Single Limit of Bodily Injury

Liability and Property Damage Liability Per Occurrence

\$2,000,000 General Aggregate Limit

\$2,000,000 Products & Completed Operations Aggregate Limit

\$1,000,000 Personal and Advertising Injury Limit

Products and Completed Operations Coverage must be maintained for not less than two full years after final payment.

3. Business Auto Liability
 - A. \$1,000,000 Combined Single Limit of Bodily Injury Liability and Property Damage Liability
4. Excess Liability
 - A. \$2,000,000 Each Occurrence Limit
\$2,000,000 Aggregate Limit

D. Number of Policies. Commercial General Liability Insurance and other liability insurance may be arranged under a single policy for the full limits required or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

E. Additional Insured. The CONTRACTOR shall endorse all policies identified in Subparagraph 5.04(C) (with the exception of Workers Compensation) to name Owner as an Additional Insured. On the Commercial General Liability Policy, the Owner shall be given Additional Insured status for BOTH the ongoing operations of the CONTRACTOR and the completed operations of the CONTRACTOR. Also, the coverage provided to the Owner as an Additional Insured shall be written on a Primary Basis.

F. Waiver of Subrogation Endorsements. The CONTRACTOR shall endorse all policies identified in Subparagraph 5.04(C) with a Waiver of Subrogation in favor of the Owner. The CONTRACTOR shall also require similar waivers from its subcontractors in favor of the CONTRACTOR and Owner.

G. Acceptable Insurance Companies. The CONTRACTOR shall maintain in effect all insurance coverages under this Agreement at the CONTRACTOR'S sole expense and with insurance companies acceptable to the Owner and which have an A. M. Best Company rating of A- VII or better.

H. Notice of Cancellation or Non-Renewal. The CONTRACTOR'S insurance policies identified in Subparagraph 5.04(C) shall contain a provision that coverage will not be cancelled or non-renewed until at least thirty (30) days' prior written notice has been given to the Owner.

I. Certificates of Insurance. Certificates of insurance showing required coverage to be in force pursuant to Subparagraph 5.04(C) shall be filed with the Owner prior to commencement of the CONTRACTOR'S work. In the event the CONTRACTOR fails to obtain or maintain any insurance coverage required under this Agreement, the Owner may purchase such coverage as desired for Owner's benefit and charge the expense to the CONTRACTOR, or terminate this Agreement.

J. Continuation of Coverage. The CONTRACTOR shall continue to carry Completed Operations Liability Insurance for at least two years after either ninety (90) days following substantial completion of the work or final payment to the CONTRACTOR, whichever

is earlier. The CONTRACTOR shall furnish the Owner evidence of such insurance at final payment and one year from final payment.

SC-5.06.A. Delete Paragraph 5.06.A in its entirety and insert the following in its place:

A. Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof.

1. This insurance shall:

a. include the interests of Owner, Contractor, Subcontractors, Engineer and any other individuals or entities identified herein, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

b. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

c. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

d. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

e. allow for partial utilization of the Work by Owner;

f. include testing and startup; and

g. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

2. Contractor shall be responsible for any deductible or self-insured retention.

3. The policies of insurance required to be purchased and maintained by Contractor in accordance with this Paragraph SC-5.06.A shall comply with the requirements of paragraph 5.06.C of the General Conditions.

SC-5.06.E. Delete Paragraph GC-5.06.E in its entirety.

SC-6.10 Add a new paragraph immediately after Paragraph 6.10.A:

B. Owner is exempt from payment of sales and compensating use taxes of the State of Texas and of cities and counties thereof on all materials to be incorporated into the public streets, drainage, and sanitary sewer portions of the Work.

1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.

2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

SC-7.04 Claims Between Contractors

A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the construction coordinator, Contractor shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law.

B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the construction coordinator and the officers, directors, partners, employees, agents and other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, Engineer's Consultants, or the construction coordinator to the extent said claim is based on or arises out of Contractor's performance of the Work. Should another contractor cause damage to the Work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim, Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the construction coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the construction coordinator on account of any such damage or Claim.

C. If Contractor is delayed at any time in performing or furnishing Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 12. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, and construction coordinator for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or construction coordinator for activities that are their respective responsibilities.

ADDENDUM NO.

OWNER

PROJECT NAME

PROJECT NO.:

DATE OF ADDENDUM:

BID OPENING DATE:

This Addendum forms a part of Contract and clarifies, corrects or modifies original Bid Documents, dated _____ . Acknowledge receipt of this addendum in space provided on Bid Form. Failure to do so may subject bidder to disqualification.

- 1)
- 2)
- 3)

Approved by:

Engineer

NON-COLLUSION AFFIDAVIT

STATE OF TEXAS §
 §
COUNTY OF §

By the signature below, the signatory for the bidder certifies that neither he nor the firm, corporation, partnership or institution represented by the signatory or anyone acting for the firm bidding this project has violated the antitrust laws of this State, codified at Section 15.01, *et seq.*, Texas Business and Commerce Code, or the Federal antitrust laws, nor communicated directly or indirectly the bid made to any competitor or any other person engaged in the same line of business, nor has the signatory or anyone acting for the firm, corporation or institution submitting a bid committed any other act of collusion related to the development and submission of this bid proposal.

Signature:

Printed Name: _____

Title: _____

Company: _____

Date: _____

SUBSCRIBED and sworn to before me the undersigned authority by _____ the _____ of, _____ on behalf of said bidder.

Notary Public in and for the
State of Texas

My commission expires: _____

WAGE RATES

Structures).....	\$ 12.56
ELECTRICIAN.....	\$ 26.35
FORM BUILDER/FORM SETTER	
Paving & Curb.....	\$ 12.94
Structures.....	\$ 12.87
LABORER	
Asphalt Raker.....	\$ 12.12
Flagger.....	\$ 9.45
Laborer, Common.....	\$ 10.50
Laborer, Utility.....	\$ 12.27
Pipelayer.....	\$ 12.79
Work Zone Barricade	
Servicer.....	\$ 11.85
PAINTER (Structures).....	\$ 18.34
POWER EQUIPMENT OPERATOR:	
Agricultural Tractor.....	\$ 12.69
Asphalt Distributor.....	\$ 15.55
Asphalt Paving Machine.....	\$ 14.36
Boom Truck.....	\$ 18.36
Broom or Sweeper.....	\$ 11.04
Concrete Pavement	
Finishing Machine.....	\$ 15.48
Crane, Hydraulic 80 tons	
or less.....	\$ 18.36
Crane, Lattice Boom 80	
tons or less.....	\$ 15.87
Crane, Lattice Boom over	
80 tons.....	\$ 19.38
Crawler Tractor.....	\$ 15.67
Directional Drilling	
Locator.....	\$ 11.67
Directional Drilling	
Operator.....	\$ 17.24
Excavator 50,000 lbs or	
Less.....	\$ 12.88
Excavator over 50,000 lbs...	\$ 17.71
Foundation Drill, Truck	
Mounted.....	\$ 16.93
Front End Loader, 3 CY or	
Less.....	\$ 13.04
Front End Loader, Over 3 CY.	\$ 13.21
Loader/Backhoe.....	\$ 14.12
Mechanic.....	\$ 17.10
Milling Machine.....	\$ 14.18
Motor Grader, Fine Grade....	\$ 18.51
Motor Grader, Rough.....	\$ 14.63
Pavement Marking Machine....	\$ 19.17
Reclaimer/Pulverizer.....	\$ 12.88
Roller, Asphalt.....	\$ 12.78
Roller, Other.....	\$ 10.50
Scraper.....	\$ 12.27
Spreader Box.....	\$ 14.04
Trenching Machine, Heavy....	\$ 18.48

Servicer.....\$ 14.51

Steel Worker

Reinforcing.....\$ 14.00
Structural.....\$ 19.29

TRAFFIC SIGNAL INSTALLER

Traffic Signal/Light Pole
Worker.....\$ 16.00

TRUCK DRIVER

Lowboy-Float.....\$ 15.66
Off Road Hauler.....\$ 11.88
Single Axle.....\$ 11.79
Single or Tandem Axle Dump
Truck.....\$ 11.68
Tandem Axle Tractor w/Semi
Trailer.....\$ 12.81

WELDER.....\$ 15.97

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage

determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SAMPLE FORMS

Work Change Directive

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

You are directed to proceed promptly with the following change(s):

Item No.	Description

Attachments (list documents supporting change):

Purpose for Work Change Directive:

- Authorization for Work described herein to proceed on the basis of Cost of the Work due to:
 - Nonagreement on pricing of proposed change.
 - Necessity to expedite Work described herein prior to agreeing to changes on Contract Price and Contract Time.

Estimated change in Contract Price and Contract Times:

Contract Price \$ _____ (increase/decrease) Contract Time _____ days (increase/decrease)

If the change involves an increase, the estimated amounts are not to be exceeded without further authorization.

Recommended for Approval by Engineer:	Date
Authorized for Owner by:	Date
Accepted for Contractor by:	Date
Approved by Funding Agency (if applicable):	Date:

Change Order

No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description: _____

Attachments: (List documents supporting change): _____

CHANGE IN CONTRACT PRICE:

CHANGE IN CONTRACT TIMES:

Original Contract Price: \$ _____
Original Contract Times: Working days Calendar days
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____: \$ _____
[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:
Substantial completion (days): _____
Ready for final payment (days): _____

Contract Price prior to this Change Order: \$ _____
Contract Times prior to this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order: \$ _____
[Increase] [Decrease] of this Change Order:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

Contract Price incorporating this Change Order: \$ _____
Contract Times with all approved Change Orders:
Substantial completion (days or date): _____
Ready for final payment (days or date): _____

RECOMMENDED: ACCEPTED: ACCEPTED:
By: _____ By: _____ By: _____
Engineer (Authorized Signature) Owner (Authorized Signature) Contractor (Authorized Signature)

Date: _____ Date: _____ Date: _____

Approved by Funding Agency (if applicable): _____ Date: _____

Change Order

Instructions

A. GENERAL INFORMATION

This document was developed to provide a uniform format for handling contract changes that affect Contract Price or Contract Times. Changes that have been initiated by a Work Change Directive must be incorporated into a subsequent Change Order if they affect Price or Times.

Changes that affect Contract Price or Contract Times should be promptly covered by a Change Order. The practice of accumulating Change Orders to reduce the administrative burden may lead to unnecessary disputes.

If Milestones have been listed in the Agreement, any effect of a Change Order thereon should be addressed.

For supplemental instructions and minor changes not involving a change in the Contract Price or Contract Times, a Field Order should be used.

B. COMPLETING THE CHANGE ORDER FORM

Engineer normally initiates the form, including a description of the changes involved and attachments based upon documents and proposals submitted by Contractor, or requests from Owner, or both.

Once Engineer has completed and signed the form, all copies should be sent to Owner or Contractor for approval, depending on whether the Change Order is a true order to the Contractor or the formalization of a negotiated agreement for a previously performed change. After approval by one contracting party, all copies should be sent to the other party for approval. Engineer should make distribution of executed copies after approval by both parties.

If a change only applies to price or to times, cross out the part of the tabulation that does not apply.

Contractor's Application For Payment No. _____

	Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer)
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

APPLICATION FOR PAYMENT

Change Order Summary

Approved Change Orders				
Number	Additions	Deductions		
TOTALS				
NET CHANGE BY CHANGE ORDERS				

1. ORIGINAL CONTRACT PRICE	\$	
2. Net change by Change Orders	\$	
3. CURRENT CONTRACT PRICE (Line 1 ± 2)	\$	
4. TOTAL COMPLETED AND STORED TO DATE (Column F on Progress Estimate)	\$	
5. RETAINAGE:		
a. ____ % x \$ _____ Work Completed.....	\$	
b. ____ % x \$ _____ Stored Material	\$	
c. Total Retainage (Line 5a + Line 5b)	\$	
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5c).....	\$	
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)	\$	
8. AMOUNT DUE THIS APPLICATION	\$	
9. BALANCE TO FINISH, PLUS RETAINAGE (Column G on Progress Estimate + Line 5 above)	\$	

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to Owner indemnifying Owner against any such Liens, security interest or encumbrances); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

By: _____	Date: _____
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Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is recommended by:	_____	_____ (Date)
	(Engineer)	
Payment of:	\$ _____	(Line 8 or other - attach explanation of other amount)
is approved by:	_____	_____ (Date)
	(Owner)	
Approved by:	_____	_____ (Date)
	Funding Agency (if applicable)	

Certificate of Substantial Completion

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

This [tentative] [definitive] Certificate of Substantial Completion applies to:

- All Work under the Contract Documents:
 The following specified portions:

Date of Substantial Completion

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Project or portion thereof designated above is hereby declared and is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below.

A [tentative] [revised tentative] [definitive] list of items to be completed or corrected, is attached hereto. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

The responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as provided in the Contract Documents except as amended as follows:

- Amended Responsibilities
 Not Amended

Owner's Amended Responsibilities:

Contractor's Amended Responsibilities:

The following documents are attached to and made part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Executed by Engineer	Date
Accepted by Contractor	Date
Accepted by Owner	Date

TECHNICAL SPECIFICATIONS

SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Contract description.
 - 2. Work by Owner or other Work at the Site.
 - 3. Owner-furnished products.
 - 4. Contractor's use of Site and premises.
 - 5. Future work.
 - 6. Work sequence.
 - 7. Owner occupancy.
 - 8. Permits.
 - 9. Specification conventions.
 - 10. Reference specifications and standards.

1.2 CONTRACT DESCRIPTION

- A. Work of the Project includes construction of Old Austin Highway Pavement Rehabilitation
- B. Construct the Work in accordance with the Bid Items listed on the Bid Form and as generally described below:
 - 1. Mobilization/Demobilization.
 - 2. Milling.
 - 3. Emulsion Treatment Stabilization.
 - 4. Hot Mix Asphalt Concrete.
 - 5. All other Work.
 - a. Install all other project Work as presented in the Project Manual and as shown in the Drawings, including but not limited to miscellaneous concrete work, pavement markings, complete and in place.

1.3 WORK BY OWNER OR OTHERS

- A. Work under this Contract includes:
 - 1. Work as indicated on Drawings.

1.4 OWNER-FURNISHED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples to Contractor.
 - 2. Submit claims for transportation damage and replace damaged, defective, or deficient items.
- B. Contractor's Responsibilities:
 - 1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.

2. Receive and unload products at Site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install, and finish products.
4. Repair or replace items damaged after receipt.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of Site and premises to allow:
 1. Owner occupancy.
 2. Use of Site by the public.
- B. Construction Operations: Limited to areas indicated on Drawings.
 1. Noisy and Disruptive Operations (such as Use of Jack Hammers and Other Noisy Equipment): Not allowed in close proximity to existing building during regular hours of operation. Coordinate and schedule such operations with Owner to minimize disruptions.
- C. Time Restrictions for Performing Work: Generally Sunday through Thursday 7:00 pm to 5:00 am. Other times may be approved in writing by Engineer.
- D. Construction Plan: Before start of construction, submit a construction plan regarding access to Work and use of Site for acceptance by Owner. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.6 WORK SEQUENCE

- A. Construct Work in phases during construction period. Coordinate construction schedule and operations with Engineer:
- B. Sequencing of Construction Plan: Before start of construction, submit one copy of construction plan regarding phasing of construction and new Work for acceptance by Owner. After acceptance of plan, construction sequencing shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.7 PERMITS

- A. Furnish all necessary permits for construction of Work including the following:
 1. TxDOT.
 2. Stormwater permit.

1.8 SPECIFICATION CONVENTIONS

- A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

1.9 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Materials which are specified by reference to Federal Specifications; ASTM, ASME, ANSI, TxDOT or AWWA specifications; Federal Standards; or other standard specifications must

comply with latest editions, revisions, amendments or supplements in effect on date bids are received. Requirements in reference specifications and standards are considered minimum acceptable quality for all equipment, material and work. In instances where capacities, size or other feature of equipment, devices or materials exceed these minimums, meet listed or shown capacities.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contingency allowances.
- B. Testing and inspection allowances.
- C. Schedule of Values.
- D. Application for Payment.
- E. Change procedures.
- F. Defect assessment.
- G. Unit prices.
- H. Alternates.

1.2 CONTINGENCY ALLOWANCES

- A. Include in Contract a stipulated sum/price of \$25,000.00 for use upon Owner's instruction as a contingency allowance.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead, and profit will be included in Change Orders authorizing expenditure of funds from this contingency allowance.
- C. Funds will be drawn from contingency allowance only by Change Order.
- D. At closeout of Contract, funds remaining in contingency allowance will be credited to Owner by Change Order.

1.3 TESTING AND INSPECTION ALLOWANCES

- A. Costs Included in Testing and Inspecting Allowances:
 - 1. Cost of engaging testing and inspecting agency.
 - 2. Execution of tests and inspecting.
 - 3. Reporting results.
- B. Costs Not Included in Testing and Inspecting Allowance but Included in Contract Sum/Price:
 - 1. Costs of incidental labor and facilities required to assist testing or inspecting agency.
 - 2. Costs of testing services used by Contractor separate from Contract Document requirements.
 - 3. Costs of retesting upon failure of previous tests as determined by Architect/Engineer.

- C. Payment Procedures:
 - 1. Submit one copy of inspecting or testing firm's invoice with next Application for Payment.
 - 2. Pay invoice upon approval by Architect/Engineer.
- D. Differences in cost will be adjusted by Change Order.

1.4 SCHEDULE OF VALUES

- A. Submit printed schedule on either EJCDC Form C-620 or on a Contractor's standard form as approved by the Engineer.
- B. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.
- C. Format: Use Table of Contents of this Project Manual. Identify each line item with number and title of major Specification Section.
- D. Include within each line item, direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders with each Application for Payment.

1.5 APPLICATION FOR PAYMENT

- A. Submit three copies of each Application for Payment on EJCDC C-620 - Contractor's Application for Payment or a Contractor's electronic media driven form as approved by the Engineer.
- B. Content and Format: Use Schedule of Values for listing items in Application for Payment.
- C. Submit updated construction schedule with each Application for Payment.
- D. Payment Period: Submit at intervals stipulated in the Agreement.
- E. Submit submittals with transmittal letter as specified in Section 01 33 00 - Submittal Procedures.
- F. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Partial release of liens from major Subcontractors and vendors.
 - 2. Record Documents as specified in Section 01 70 00 - Execution and Closeout Requirements, for review by Owner, which will be returned to Contractor.
 - 3. Affidavits attesting to off-Site stored products.

1.6 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect/Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on EJCDC C-942.
- D. Engineer may issue Proposal Request including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change and with the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 10 calendar days.
- E. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on the Work by separate or other Contractors. Document requested substitutions according to Section 01 60 00 – Product Requirements.
- F. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as recommended by Engineer and approved by Owner.
- G. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- H. Work Directive Change: Engineer may issue directive, on EJCDC C-940 - Work Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- I. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- J. Change Order Forms: EJCDC C-941 - Change Order or as approved by Engineer.
- K. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- L. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
 - 3. Promptly enter changes in Record Documents.

1.7 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of Engineer and Owner.
- D. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- E. Authority of Engineer and Owner to assess defects and identify payment adjustments is final.
- F. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.

1.8 UNIT PRICES

- A. Authority: Measurement methods are delineated in individual Specification Sections.
- B. Measurement methods delineated in individual Specification Sections complement criteria of this Section. In event of conflict, requirements of individual Specification Section govern.
- C. Take measurements and compute quantities. Engineer will verify measurements and quantities.
- D. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only. Actual quantities provided shall determine payment.
 - 1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.
 - 2. When actual Work requires 25 percent or greater change in quantity than those quantities indicated, Owner or Contractor may claim a Contract Price adjustment.
- E. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.
- F. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect/Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.
- G. Measurement of Quantities:

1. Measurement by Volume: Measured by cubic dimension using mean length, width, and height or thickness.
2. Measurement by Area: Measured horizontally by square dimension using mean length and width or radius.
3. Linear Measurement: Measured horizontally by linear dimension, at item centerline or mean chord.
4. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.

1.9 ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.

1.10 MOBILIZATION, TRAFFIC HANDLING, AND INCIDENTALS

- A. As specified in Section 01 21 00.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 21 00 – MOBILIZATION, TRAFFIC HANDLING, AND INCIDENTALS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Project Mobilization and Demobilization.
 - 2. Traffic Handling.
 - 3. All project costs (incidentals) not included in the contract bid items.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

- A. Basis of Measurement: By the Lump Sum as the work progresses.
- B. Basis of Payment: This item will be paid for at the contract unit price bid for “Mobilization, Traffic Handling, and Project Incidentals,” which price shall be full compensation for mobilization and demobilization of all contractor personnel, facilities, equipment, and supplies, for all equipment, labor, and material associated with traffic handling, and all other project costs not specifically covered in the contract bid items.
- C. Partial payments for this item will be administered as follows. The adjusted contract amount for construction items as used below is defined as the total contract amount less the lump sum bid for mobilization.
 - 1. When 1% of the adjusted contract amount for construction items is earned, 50% of the mobilization lump sum bid will be paid.
 - 2. When 5% of the adjusted contract amount for construction items is earned, 75% of the mobilization lump sum bid will be paid.
 - 3. When 10% of the adjusted contract amount for construction items is earned, 90% of the mobilization lump sum bid will be paid.
 - 4. Upon completion of all work items, payment for the remainder of the mobilization lump sum bid will be made.
- D. The lump sum bid for mobilization shall not exceed 10% of the total contract.

1.3 REFERENCES – Not used.

1.4 QUALITY ASSURANCE – Not used.

PART 2 PRODUCTS – Not used.

PART 3 EXECUTION – Not used.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and Project conditions.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Preinstallation meetings.
- F. Closeout meeting.
- G. Alteration procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. Coordinate interruptions of all utilities and services. All work shall be in accordance with the requirements of the applicable utility company or agency involved.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of Work of separate Sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
- G. After Owner's occupancy of premises, coordinate access to Site for correction of defective Work and Work not complying with Contract Documents, to minimize disruption of Owner's activities.

1.3 PRECONSTRUCTION MEETING

- A. Engineer will schedule and preside over meeting after the Agreement has been executed and all bonds and insurance are in affect for the project.
- B. Attendance Required: Engineer, Owner, Inspector, and Contractor.
- C. Minimum Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
 - 5. Security and housekeeping procedures.
 - 6. Application for payment procedures.
 - 7. Designation of personnel representing parties in Contract and Engineer.
 - 8. Procedures and processing of requests for interpretations, field decisions, submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
 - 9. Scheduling.
 - 10. Scheduling activities of Contractor. Procedures of testing.
 - 11. Procedures for maintaining record documents.
 - 12. Requirements for start-up of equipment.
 - 13. Inspection and acceptance of equipment put into service during construction period.

1.4 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at monthly intervals.
- B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, and Engineer, as appropriate to agenda topics for each meeting.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems impeding planned progress.
 - 5. Review of submittal schedule and status of submittals.
 - 6. Review of off-Site fabrication and delivery schedules.
 - 7. Maintenance of Progress Schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on Progress Schedule and coordination.
 - 13. Other business relating to Work.

1.5 PREINSTALLATION MEETINGS

- A. When required in individual Specification Sections, convene preinstallation meetings at Project Site before starting Work of specific Section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific Section.
- C. Notify Engineer four days in advance of meeting date.
- D. Prepare agenda and preside over meeting:
 - 1. Review conditions of installation, preparation, and installation procedures.
 - 2. Review coordination with related Work.

1.6 CLOSEOUT MEETING

- A. Schedule Project closeout meeting with sufficient time to prepare for requesting Substantial Completion. Preside over meeting and be responsible for minutes.
- B. Attendance Required: Contractor, Engineer, Owner, and others appropriate to agenda.
- C. Notify Engineer ten days in advance of meeting date.
- D. Minimum Agenda:
 - 1. Start-up of facilities and systems.
 - 2. Operations and maintenance manuals.
 - 3. Testing, adjusting, and balancing.
 - 4. System demonstration and observation.
 - 5. Operation and maintenance instructions for Owner's personnel.
 - 6. Contractor's inspection of Work.
 - 7. Contractor's preparation of an initial "punch list."
 - 8. Procedure to request Engineer inspection to determine date of Substantial Completion.
 - 9. Completion time for correcting deficiencies.
 - 10. Inspections by authorities having jurisdiction.
 - 11. Certificate of Occupancy and transfer of insurance responsibilities.
 - 12. Partial release of retainage.
 - 13. Final cleaning.
 - 14. Preparation for final inspection.
 - 15. Closeout Submittals:
 - a. Project record documents.
 - b. Operating and maintenance documents.
 - c. Operating and maintenance materials.
 - d. Affidavits.
 - 16. Final Application for Payment.
 - 17. Contractor's demobilization of Site.
 - 18. Maintenance.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 ALTERATION PROCEDURES

- A. Entire facility will be occupied for normal operations during progress of construction. Cooperate with Owner in scheduling operations to minimize conflict and to permit continuous usage.
 - 1. Perform Work not to interfere with operations of occupied areas.
 - 2. Keep utility and service outages to a minimum and perform only after written approval of Owner.
 - 3. Clean Owner-occupied areas daily. Clean spillage, overspray, and heavy collection of dust in Owner-occupied areas immediately.
- B. Materials: As specified in product Sections; match existing products with new products for patching and extending Work.
- C. Employ original and/or skilled and experienced installer to perform alteration and renovation Work.
- D. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion. Comply with Section 01 70 00 - Execution and Closeout Requirements
- E. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- F. Remove debris and abandoned items from area and from concealed spaces.
- G. Prepare surface and remove surface finishes to permit installation of new Work and finishes.
- H. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.
- I. Remove, cut, and patch Work to minimize damage and to permit restoring products and finishes to original or specified condition.
- J. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- K. Where new Work abuts or aligns with existing Work, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- L. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Engineer for review.
- M. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition to Engineer for review.

- N. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing other imperfections.
- O. Finish surfaces as specified in individual product Sections.

END OF SECTION

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Proposed product list.
- C. Product data.
- D. Use of electronic CAD files of Project Drawings.
- E. Shop Drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.
- L. Erection Drawings.
- M. Contractor review.
- N. Engineer review.

1.2 SUBMITTAL PROCEDURES

- A. Submittals shall be directly from the Contractor. Submittals from others (i.e., suppliers or subcontractors) shall not be accepted.
- B. Transmit each submittal on an Engineer accepted form.
- C. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- D. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite Project, and deliver to Engineer at business address. Coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.
- H. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- I. Allow space on submittals for Contractor and Engineer review stamps.
- J. When revised for resubmission, identify changes made since previous submission.

- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.
- M. Incomplete Submittals: Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Engineer.

1.3 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.4 PRODUCT DATA

- A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.5 ELECTRONIC CAD FILES OF PROJECT DRAWINGS

- A. Electronic CAD Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed.
- B. Electronic CAD Files of Project Drawings: Distributed only under the following conditions:
 - 1. Use of files is solely at receiver's risk. Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
 - 2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.
 - 3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with

information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.

4. Receiver shall not hold Engineer responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation, or use of this electronic information.
5. Receiver shall understand that even though Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
6. Receiver shall not hold Engineer responsible for such viruses or their consequences, and shall hold Engineer harmless against costs, losses, or damage caused by presence of computer virus in files or media.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
 1. Include signed and sealed calculations to support design.
 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.
- E. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SAMPLES

- A. Samples: Action Submittal: Submit to Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 1. Submit to Engineer for aesthetic, color, and finish selection.
 2. Submit Samples of finishes, textures, and patterns for Engineer selection.
- C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.
- D. Include identification on each Sample, with full Project information.

- E. Submit number of Samples specified in individual Specification Sections; Engineer will retain one Sample.
- F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.
- G. Samples will not be used for testing purposes unless specifically stated in Specification Section.
- H. After review, produce copies and distribute according to "Submittal Procedures" Article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 TEST REPORTS

- A. Submit test reports to the Engineer for assessing conformance and compliance to the Contract Documents.

1.9 DESIGN DATA

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

- A. Informational Submittal: When specified in Technical Specifications, submit certification by manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. Informational Submittal: When specified in Technical Specifications, submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.

- B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

- A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.
- B. Submit report in duplicate within three days of observation to Engineer for information.
- C. Submit reports for information for limited purposes of assessing conformance with information given and design concept expressed in Contract Documents.

1.14 ERECTION DRAWINGS

- A. Informational Submittal: Submit Drawings for Engineer's benefit as Contract administrator or for Owner.
- B. Submit Drawings for information assessing conformance with information given and design concept expressed in Contract Documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

1.15 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer.
- B. Contractor: Responsible for:
 - 1. Determination and verification of materials including manufacturer's catalog numbers.
 - 2. Determination and verification of field measurements and field construction criteria.
 - 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
 - 4. Determination of accuracy and completeness of dimensions and quantities.
 - 5. Confirmation and coordination of dimensions and field conditions at Site.
 - 6. Construction means, techniques, sequences, and procedures.
 - 7. Safety precautions.
 - 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Engineer.

1.16 ENGINEER REVIEW

- A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 15 or more submittals or items in one week. If "mass submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner.
- B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.
- C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.
- D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order, Field Order, or Work Change Directive.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Testing and inspection services.
- F. Manufacturers' field services.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Products, materials, and equipment may be subject to inspection by Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- E. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current as of date for receiving Bids except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.
- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Engineer shall be altered from Contract Documents by mention or inference in reference documents.

1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
 - 1. Model number.
 - 2. Serial number.
 - 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 TESTING AND INSPECTION SERVICES

- A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection.
- B. Contractor shall employ and pay for services of an independent testing agency or laboratory acceptable to Owner to perform specified testing in accordance with the drawings.
 - 1. Before starting Work, submit testing laboratory name, address, and telephone number, and names of full-time Professional Engineer and responsible officer.
 - 2. Submit copy of report of laboratory facilities' inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.
- C. Independent testing firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Engineer. In the event of a conflict in the Contract Documents concerning sampling and testing frequency, the more stringent standard shall be enforced, unless otherwise approved by the Engineer.

1. Laboratory: Authorized to operate in State of Texas.
 2. Laboratory Staff: Maintain full-time Professional Engineer on staff to review services.
 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- D. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Engineer or Owner.
- E. Cooperate with independent testing firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
1. Notify Engineer and independent testing firm 48 hours before expected time for operations requiring services.
 2. Make arrangements with independent testing firm and pay for additional Samples and tests required for Contractor's use.
- F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.
- G. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent testing firm on instructions from Engineer. Payment for retesting or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.
- H. Independent Testing Firm Responsibilities:
1. Test Samples of mixes submitted by Contractor.
 2. Provide qualified personnel at Site. Cooperate with Engineer and Contractor in performance of services.
 3. Perform indicated sampling and testing of products according to specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify Engineer and Contractor of observed irregularities or nonconformance of Work or products.
 6. Perform additional tests required by Engineer.
 7. Attend preconstruction meetings and progress meetings.
- I. Material Testing Reports: After each test, Independent Testing Firm shall promptly submit two copies of testing reports to Engineer, Contractor, and other entities as directed, indicating observations and results of tests and compliance or noncompliance with Contract Documents. At a minimum, include the following information in testing reports:
1. Date issued.
 2. Project title and number.
 3. Name of inspector/testing technician.
 4. Date and time of sampling or inspection.
 5. Identification of product and Specification Section.
 6. Location in Project.
 7. Type of inspection or test.
 8. Date of test.
 9. Results of tests.
 10. Compliance or noncompliance with Contract Documents.

11. Special observations, if any.

Submit final report indicating correction of Work previously reported as noncompliant. Log all test results in an electronic spreadsheet for each test procedure and provide updated versions to Engineer at agreed upon time interval.

J. Limits on Independent Testing Firm:

1. Independent Testing Firm may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Independent Testing Firm may not approve or accept any portion of the Work.
3. Independent Testing Firm may not assume duties of Contractor.
4. Independent Testing Firm has no authority to stop the Work.

1.7 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Engineer 30 days in advance of required observations. Observer is subject to approval of Engineer.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 01 33 00 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Equipment electrical characteristics and components.
- F. Product substitutions and procedures.

1.2 PRODUCTS

- A. Specified products define standard of quality, type, function, dimension, appearance, and performance required.
- B. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.
- C. Domestic Products: Except where specified otherwise, domestic products are required and interpreted to mean products mined, manufactured, fabricated, or produced in United States or its territories.
- D. Do not use materials and equipment removed from existing premises except as specifically permitted by Contract Documents.
- E. Furnish interchangeable components from same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products according to manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products according to manufacturer's instructions.

- B. Store products with seals and labels intact and legible.
- C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports aboveground.
- E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- F. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- G. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Products complying with specified reference standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of one of manufacturers named and complying with Specifications; no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 01 25 00 - Substitution Procedures.

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. Cord and Plug: Furnish minimum 6-foot long cord and plug including grounding connector for connection to electric wiring system. Cord of longer length may be specified in individual Specification Sections.

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Field engineering.
- B. Closeout procedures.
- C. Project record documents.
- D. Examination
- E. Execution.
- F. Cutting and patching.
- G. Protecting installed construction.
- H. Final cleaning.

1.2 FIELD ENGINEERING

- A. Contractor shall protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.
- B. Contractor shall verify setbacks and easements; confirm Drawing dimensions and elevations.
- C. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.
- D. Promptly report to Engineer loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- E. Contractor shall retain Engineer to replace dislocated survey control points based on original survey control.

1.3 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
 - 1. Submit maintenance manuals, Project record documents, digital images of construction photographs, and other similar final record data in compliance with this Section.
 - 2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified in compliance with this Section.
 - 3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or

corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.

4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
 5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
 6. Make final change-over of locks and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
 7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
 8. Perform final cleaning according to this Section.
- B. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.
1. When Contractor considers Work to be complete, submit written certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been examined for compliance with Contract Documents.
 - c. Work has been completed according to Contract Documents.
 - d. Work is completed and ready for final inspection.
 2. Submittals: Submit following:
 - a. Final punch list indicating all items have been completed or corrected.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's affidavit of payment of debts and claims on Contractor's Affidavit of Payment of Debts and Claims.
 - f. Contractor affidavit of release of liens on Contractor's Affidavit of Release of Liens.
 - g. Consent of surety to final payment on Consent of Surety to Final Payment Form.
 3. Perform final cleaning for Contractor-soiled areas according to this Section.

1.4 PROJECT RECORD DOCUMENTS

- A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, product data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.

- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates used.
 - 3. Changes made by Addenda and modifications.

- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
 - 1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
 - 2. Include locations of concealed elements of the Work.
 - 3. Identify and locate existing buried or concealed items encountered during Project.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Drawings.

- G. Submit marked-up paper copy documents to Engineer with claim for final Application for Payment.

- H. Submit PDF electronic files of marked-up documents to Engineer with claim for final Application for Payment.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual Specification Sections.
- D. Verify that utility services are available with correct characteristics and in correct locations.

3.2 EXECUTION

- A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.
- B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.

3.3 CUTTING AND PATCHING

- A. Employ skilled and experienced installers to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight-exposed elements.
 - 5. Work of Owner or separate contractor.
- C. Execute cutting, fitting, and patching including excavation and fill to complete Work and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and nonconforming Work.
 - 4. Remove samples of installed Work for testing.
- D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products according to requirements of Contract Documents.
- G. Identify hazardous substances or conditions exposed during the Work to Engineer for decision or remedy.

3.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual Specification Sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.
- C. Prohibit traffic from landscaped areas.

3.5 FINAL CLEANING

- A. Execute final cleaning prior to final Project assessment.
- B. Clean interior and exterior glass and sur
- C. Clean debris from drainage systems.

- D. Clean Site; sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste and surplus materials, rubbish, and construction facilities from Site.

END OF SECTION

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Formwork for cast-in place concrete.
 - 2. Shoring, bracing, and anchorage.
 - 3. Form liners.
 - 4. Form accessories.
 - 5. Form stripping.
- B. Related Sections:
 - 1. Section 03 20 00 - Concrete Reinforcing.
 - 2. Section 03 30 00 - Cast-In-Place Concrete.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
 - 2. ACI 301 - Specifications for Structural Concrete.
 - 3. ACI 302 – Guide to Concrete Floor and Slab Construction
 - 4. ACI 318 - Building Code Requirements for Structural Concrete.
 - 5. ACI 347 - Guide to Formwork for Concrete.
- B. American Forest and Paper Association:
 - 1. AF&PA - National Design Specifications for Wood Construction.
- C. The Engineered Wood Association:
 - 1. APA/EWA PS 1 - Voluntary Product Standard for Construction and Industrial Plywood.
- D. American Society of Mechanical Engineers:
 - 1. ASME A17.1 - Safety Code for Elevators and Escalators.
- E. ASTM International:
 - 1. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
 - 2. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
- F. West Coast Lumber Inspection Bureau:
 - 1. WCLIB - Standard Grading Rules for West Coast Lumber.

1.3 DESIGN REQUIREMENTS

- A. Design, engineer, and construct formwork, shoring and bracing in accordance with ACI 301 and ACI 318 and as recommended in ACI 347 to conform to design and applicable code

requirements to achieve concrete shape, line and dimension as indicated on Drawings including any special requirements due to the use of plasticizer and/or retarder set concrete.

1.4 PERFORMANCE REQUIREMENTS

A. Plastic Vapor Retarder

1. Performance-Based Specification: Vapor retarder membrane shall be manufactured from virgin polyolefin resins and shall meet or exceed all requirements of ASTM E1745, Class A.
2. Maximum Water Vapor Permeance (ASTM E154 Sections 7, 8, 11, 12, 13, by ASTM E96, Method B or ASTM F1249)
 - a. As received: 0.0183 perms.
 - b. After Wetting and Drying: 0.0219 perms.
 - c. Resistance to Plastic Flow and Temperature: 0.0197 perms.
 - d. Effect Low Temperature and Flexibility: 0.0212 perms
 - e. Resistance to Deterioration from Organisms and Substances in Contacting Soil: 0.0198 perms.
 - f. Puncture Resistance (ASTM D1709): 4,394 grams.
 - g. Tensile Strength ASTM E154, Section 9: 52 Lb. Force/Inch

1.5 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings: All forms and shoring shall be designed by a professional engineer in the State of Texas.

1. Submit formwork, shoring, and re-shoring shop drawings.
2. Indicate the following:
 - a. Pertinent dimensions, openings, methods of construction, types of connections, materials, joint arrangement and details, ties and shores, location of framing, studding and bracing, and temporary supports.
 - b. Layout of panels joints and tie hole pattern
 - c. Means of sealing form tie holes.
 - d. Sequence and timing of erection and stripping assumed compressive strength at time of stripping, height of lift and height of drop during placement.
 - e. Vertical, horizontal and special loads in accordance with ACI 347, Section 2.2 and camber diagrams, when applicable.
 - f. Notes to formwork erector showing size and location of conduits and piping embedded in concrete in accordance with ACI 318, Section 6.3.
 - g. Procedure and schedule for removal of shores and installation and removal of re-shores.

C. Product Data: Submit data on void form materials and installation requirements.

D. Design Data:

1. Indicate design data for formwork and shoring.
2. Indicate loads transferred to structure during process of concreting, shoring and re-shoring.
3. Include structural calculations to support design.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 347.
- B. For wood products furnished for work of this Section, comply with AF&PA.
- C. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

- A. Design formwork under direct supervision of Professional Engineer experienced in design of this Work and licensed in State of Texas.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Products storage and handling requirements.
- B. Deliver void forms and installation instructions in manufacturer's packaging.
- C. Store off ground in ventilated and protected manner to prevent deterioration from moisture.

1.9 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate this Section with other sections of work, requiring attachment of components to formwork.

PART 2 PRODUCTS

2.1 GENERAL

- A. Forms used for cast-in-place concrete shall be made of wood, metal, or other approved material and shall be like new to new condition.

2.2 WOOD FORM MATERIALS

- A. Plywood: Douglas Fir, solid one side grade, sound undamaged sheets with clean, true edges free from knotholes or loose knots.
- B. Lumber Forms:
 - 1. Application: Use for edge forms and unexposed finish concrete.
 - 2. Boards: 6 inches or 8 inches in width, ship-lapped or tongue and groove, "Standard" Grade Douglas Fir, conforming to WCLIB Standard Grading Rules for West Coast Lumber. Surface boards on four sides.
- C. Plywood Forms:
 - 1. Application: Use for exposed finish concrete.

2. Forms: Conform to PS 1; full size 4 x 8 feet panels; each panel labeled with grade trademark of APA/EWA.
3. Plywood for Surfaces to Receive Membrane Waterproofing: Minimum of 5/8 inch thick; APA/EWA "B-B Plyform Structural I Exterior" grade.
4. Plywood "Smooth Finish" is required on both the interior and exterior exposed faces: APA/EWA "HD Overlay Plyform Structural I Exterior" grade, minimum of 3/4 inch thick.

2.3 PREFABRICATED FORMS

- A. Manufacturers:
 1. Meva
 2. Peri
 3. Substitutions: Not Permitted.
- B. Preformed Forms: Plastic facing, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.
- C. Circular Structures: For circular structures straight panels may be substituted for circular panels if the each panel is not more than 2 feet in width nor deflect more than 3.5 degrees per joint.
- D. Tubular Column Type: Fabricated steel or fiber reinforced plastic in bolted sections.
- E. Steel Forms: Sheet steel, suitably reinforced, and designed for particular use indicated on Drawings.
- F. Form Liners: Smooth, durable, grainless and non-staining.

2.4 ACCESSORIES

- A. Form Ties: removable type, steel, conical or spherical type, with waterproofing washer, free of defects capable of leaving holes larger than 1-1/4 inch in concrete surface.
- B. Spreader Inserts: Conical or spherical type, designed to maintain positive contact with forming material leaving no metal closer than 1.5" to surface when removed. Wire ties, wood spreaders or through bolts are not permitted.
- C. Form Anchors and Hangers:
 1. Do not use anchors and hangers exposed concrete leaving exposed metal at concrete surface.
 2. Symmetrically arrange hangers supporting forms from structural steel members to minimize twisting or rotation of member.
 3. Penetration of structural steel members is not permitted.
- D. Form Release Agent: Ready to use water based material formulated to reduce or eliminate surface imperfections, containing no mineral oil or organic solvents. Form release agents used in potable water containment structures shall be suitable for contact with potable water.
 1. Manufacturers:
 - a. BASF, Rheofinish 211

- b. Cresset Chemical, Crete-Lease 20-VOC
 - c. Unitex Chemical, Farm Fresh
 - d. Atlas Construction Supply, Bio-Guard
 - e. Substitutions: Not Permitted.
- E. Corners: Chamfer, rigid plastic type; 0.75" x 0.75" size; maximum possible lengths.
- 1. Manufacturers:
 - a. Greenstreak Plastic Products; Style Number 622
 - b. Substitutions: Section 01 60 00 - Product Requirements.
- F. Pre-molded Joint Filler:
- 1. Bituminous Type: ASTM A994 or ASTM D1751.
 - 2. Sponge Rubber:
 - a. Neoprene, closed cell, expanded; ASTM D1056, Type 2C5, with compression deflection, 25% deflection limit. Use in both potable and non-potable water containing structures.
 - b. Manufacturer: Rubatex Corp; R-451-N
- G. Pre-molded Control Joint: One piece flexible, polyvinyl chloride joint former.
- 1. Manufacturers:
 - a. Vinylex Corp, Kold-Seal Zip-Per Strip KSF-150-50-50
- H. Vapor Retarder: Where indicated on Drawings, 10 mil thick polyethylene sheet, as specified in Part 1 above.
- I. Pourable Joint Filler:
- 1. Type 1 for Potable Water Containment Structures
 - a. NSF 61 approved
 - b. Multi-component sealant, self-leveling or nonsag as required for level, sloping, or vertical joints.
 - c. Color: White
 - d. Manufacturers
 - Sika Chemical; Sikaflex-2C or Sikaflex-1A
 - Product Research Chemical; Permapol RC-270SL Reservoir Sealant or RC-270 Gun Grade Reservoir Sealant with PRC Primer No. 57
 - 2. Type 2 for Other Water Containment Structures
- J. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Size, strength and character to maintain formwork in place while placing concrete.
- K. PVC Water Stops: Use PVC water stops throughout, unless approved by Engineer. Polyvinyl chloride, minimum 1,750 psi tensile strength, minimum 50 degrees F plus 175 degrees F working temperature range, 3/8 inch wide, maximum possible lengths, center bulb type, ribbed profile, preformed corner sections, heat welded jointing.
- 1. Manufacturers:
 - a. Vinylex Corp, RB6-38H or RB9-38H
 - b. Greenstreak Plastic Products, 03150/GRD Style 732 or Style 735
 - c. Four Seasons Industries Durajoint, CSP-162 Type 9 or Type 10.
 - d. Substitutions: Not Permitted.

- L. Hydrophilic Water Stop: Use hydrophilic water stops only for construction joints where new concrete is placed against existing concrete and only where space requirements do not allow for the use of PVC water stops. Material shall be non-bentonite rubber compound.
 - 1. Manufacturers:
 - a. Greenstreak Plastic Products, Hydrotite CJ-1020-2K with Leakmaster LV-1 adhesive and sealant.
 - b. Adeka Ultra Seal, MC-2010M with 3M-2141 adhesive and P-201 sealant.
 - c. Substitutions: Not Permitted.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify lines, levels, and centers before proceeding with formwork. Verify dimensions agree with Drawings.
- C. When formwork is placed after reinforcement resulting in insufficient concrete cover over reinforcement before proceeding, request instructions from Engineer.

3.2 INSTALLATION

- A. Earth Forms:
 - 1. Trench earth forms are allowed only for below ground grade beams for concrete foundations.
 - 2. Trench earth forms neatly, accurately, and at least 2 inches wider than footing widths indicated on Drawings.
 - 3. Trim sides and bottom of earth forms.
 - 4. Construct wood edge strips at top of each side of trench to secure reinforcing and prevent trench from sloughing.
 - 5. Form sides of footings where earth sloughs.
 - 6. Tamp earth forms firm and clean forms of debris and loose material before depositing concrete.
- B. Formwork - General:
 - 1. Provide top form for sloped surfaces steeper than 1.5 horizontal to 1 vertical to hold shape of concrete during placement, unless it can be demonstrated that top forms can be omitted.
 - 2. Construct forms to correct shape and dimensions, mortar-tight, braced, and of sufficient strength to maintain shape and position under imposed loads from construction operations.
 - 3. Camber forms where necessary to produce level finished soffits unless otherwise shown on Drawings.
 - 4. Carefully verify horizontal and vertical positions of forms. Correct misaligned or misplaced forms before placing concrete.
 - 5. Complete wedging and bracing before placing concrete.

- C. Forms for Smooth Finish Concrete:
 - 1. Use steel, plywood or lined board forms.
 - 2. Use clean and smooth plywood and form liners, uniform in size, and free from surface and edge damage capable of affecting resulting concrete finish.
 - 3. Install form lining with close-fitting square joints between separate sheets without springing into place.
 - 4. Use full size sheets of form lines and plywood wherever possible.
 - 5. Tape joints to prevent protrusions in concrete.
 - 6. Use care in forming and stripping wood forms to protect corners and edges.
 - 7. Level and continue horizontal joints.
 - 8. Keep wood forms wet until stripped.
 - D. Forms for Surfaces to Receive Membrane Waterproofing: Use plywood or steel forms. After erection of forms, tape form joints to prevent protrusions in concrete.
 - E. Framing, Studding and Bracing:
 - 1. Space studs at 16 inches on center maximum for boards and 12 inches on center maximum for plywood.
 - 2. Size framing, bracing, centering, and supporting members with sufficient strength to maintain shape and position under imposed loads from construction operations.
 - 3. Construct beam soffits of material minimum of 2 inches thick.
 - 4. Distribute bracing loads over base area on which bracing is erected.
 - 5. When placed on ground, protect against undermining, settlement or accidental impact.
 - F. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 318.
 - G. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
 - H. Obtain Engineer's approval before framing openings in structural members not indicated on Drawings.
 - I. Install fillet and chamfer strips on external corners of all exposed surfaces of beams, walls, foundations, pump and housekeeping pads, and columns.
 - J. Install void forms in accordance with manufacturer's recommendations.
 - K. Do not reuse wood forms for concrete surfaces to be exposed to view unless in a like "new" condition and approved by the Engineer. Do not patch formwork.
- 3.3 APPLICATION - FORM RELEASE AGENT
- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
 - B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.

- C. Do not apply form release agent where concrete surfaces are indicated to receive special finishes or applied coverings that are affected by agent. Soak inside surfaces of untreated forms with clean water. Keep surfaces coated prior to placement of concrete.
- D. Reuse and Coating of Forms: Thoroughly clean forms and reapply form coating before each reuse. For exposed work, do not reuse forms with damaged faces or edges. Apply form coating to forms in accordance with manufacturer's specifications. Do not coat forms for concrete indicated to receive "scored finish". Apply form coatings before placing reinforcing steel.

3.4 INSTALLATION - INSERTS, EMBEDDED PARTS, AND OPENINGS

- A. Install formed openings for items to be embedded in or passing through concrete work.
- B. Locate and set in place items required to be cast directly into concrete.
- C. Coordinate with Work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.
- D. Install accessories straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Install water stops continuous without displacing reinforcement. Heat seal joints watertight.
- F. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- G. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.
- H. Form Ties:
 - 1. Use sufficient strength and sufficient quantity to prevent spreading of forms.
 - 2. Place ties at least 1 inch away from finished surface of concrete.
 - 3. Leave inner rods in concrete when forms are stripped.
 - 4. Space form ties equidistant, symmetrical and aligned vertically and horizontally unless otherwise shown on Drawings.
- I. Arrangement: Arrange formwork to allow proper erection sequence and to permit form removal without damage to concrete.
- J. Construction Joints:
 - 1. Install surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints.
 - 2. Just prior to subsequent concrete placement, remove strip and tighten forms to conceal shrinkage.
 - 3. Show no overlapping of construction joints. Construct joints to present same appearance as butted plywood joints.
 - 4. Arrange joints in continuous line straight, true and sharp.

K. Embedded Items:

1. Make provisions for pipes, sleeves, anchors, inserts, reglets, anchor slots, nailers, water stops, and other features.
2. Do not embed wood or uncoated aluminum in concrete.
3. Obtain installation and setting information for embedded items furnished under other Specification sections.
4. Securely anchor embedded items in correct location and alignment prior to placing concrete.
5. Verify conduits and pipes, including those made of coated aluminum, meet requirements of ACI 318 for size and location limitations.

L. Openings for Items Passing Through Concrete:

1. Frame openings in concrete where indicated on Drawings. Establish exact locations, sizes, and other conditions required for openings and attachment of work specified under other sections.
2. Coordinate work to avoid cutting and patching of concrete after placement.
3. Perform cutting and repairing of concrete required as result of failure to provide required openings.

M. Screeds:

1. Set screeds and establish levels for tops of concrete slabs and levels for finish on slabs.
2. Slope slabs to drain where required or as shown on Drawings.
3. Before depositing concrete, remove debris from space to be occupied by concrete and thoroughly wet forms. Remove freestanding water.

N. Screed Supports:

1. For concrete over waterproof membranes and vapor retarder membranes, use cradle, pad or base type screed supports which will not puncture membrane.
2. Staking through membrane is not permitted.

O. Cleanouts and Access Panels:

1. Provide removable cleanout sections or access panels at bottoms of forms to permit inspection and effective cleaning of loose dirt, debris and waste material.
2. Clean forms and surfaces against which concrete is to be placed. Remove chips, saw dust and other debris. Thoroughly blow out forms with compressed air just before concrete is placed.

3.5 FORM CLEANING

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Flush with water or use compressed air to remove remaining foreign matter. Ensure that water and debris drain to exterior through clean-out ports.

3.6 FORM REMOVAL

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads and removal has been approved by Engineer.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.
- C. Store removed forms in manner that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.
- D. Leave forms in place for minimum number of days as specified in ACI 347.

3.7 ERECTION TOLERANCES

- A. Tolerances: Construct formwork to produce completed concrete surfaces within construction tolerances specified in ACI 117 and ACI 347.
- B. Camber slabs and beams $\frac{1}{4}$ inch per 10 feet in accordance with ACI 318.

3.8 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- C. Notify Architect/Engineer after placement of reinforcing steel in forms, but prior to placing concrete.
- D. Schedule concrete placement to permit formwork inspection before placing concrete.

END OF SECTION

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Reinforcing bars.
 - 2. Welded wire fabric.
 - 3. Reinforcement accessories.
- B. Related Sections:
 - 1. Section 03 10 00 - Concrete Forming and Accessories.
 - 2. Section 03 30 00 - Cast-In-Place Concrete.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 301 - Specifications for Structural Concrete
 - 2. ACI 315 - Details and Detailing of Concrete Reinforcement
 - 3. ACI 318 - Building Code Requirements for Structural Concrete.
 - 4. ACI 530.1 - Specifications for Masonry Structures.
 - 5. ACI SP-66 - Detailing Manual.
- B. ASTM International:
 - 1. ASTM A82/A82M - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
 - 2. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
 - 3. A185/A185M-07 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
 - 4. ASTM A496/A496M - Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement.
 - 5. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
 - 6. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - 7. ASTM A704/A704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
 - 8. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
- C. American Welding Society:
 - 1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.
- D. Concrete Reinforcing Steel Institute:
 - 1. CRSI - Manual of Standard Practice.
 - 2. CRSI - Placing Reinforcing Bars.

1.3 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures
- B. Shop Drawings:
 - 1. Prepare in accordance with ACI SP-66 Detailing Manual.
 - 2. Indicate bar sizes, spacing, locations, and quantities of reinforcing steel and welded wire fabric, bending and cutting schedules, and supporting and spacing devices.
- C. Certificates: Submit AWS qualification certificate for welders employed on the Work per AWS S1.4/D1.4M.
- D. Test Results:
 - 1. Submit certified copies of mill test report of reinforcement materials analysis.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI - Manual of Standard Practice and ACI 301.
- B. Prepare shop drawings in accordance with ACI SP-66.
- C. Maintain one copy of each document on site.

1.5 QUALIFICATIONS

- A. Welders: AWS qualified within previous 12 months.

1.6 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate with placement of formwork, formed openings and other Work.

PART 2 PRODUCTS

2.1 REINFORCEMENT

- A. Materials shall be new, of domestic manufacture, and shall comply with the following material specifications.
- B. Reinforcing Steel: All reinforcing bars to be deformed billet-steel, uncoated as follows:
 - 1. Where welding is not required, ASTM A615/A615M, Grade 60, deformed billet bars, uncoated finish.
 - 2. Where reinforcing to be welded, ASGM A706/A706M, Grade 60.
- C. Welded Plain Wire Fabric: ASTM A185/A185M; in flat sheets, not rolls or coils; unfinished.
- D. Mechanical Splices and Connections:

1. Metal Sleeve Splice: Furnish with cast iron filler metal capable of developing 125% of tensile bar strength. Manufacturer shall be Erico Products, Cadweld T-Series.
2. Mechanical Threaded Connections: Furnish with metal coupling sleeve with internal threads engaging threaded ends of bars developing 125% of yield strength of bar. Manufacturer shall be Erico Products, Lenton Reinforcing Steel Couplers or Richmond Screw Anchor, Richmond DB-SAE Dowel Bar Splicers.

2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage black annealed type wire
- B. Chairs, Bolsters, Bar Supports, Spacers: CRSI Bar Support Specifications, Class 2 – Moderate Protection, stainless steel. Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor retarder puncture.
- C. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather or Water Exposed Concrete Surfaces: CRSI Bar Support Specifications, Class 1 – Maximum Protection plastic tipped; size and shape to meet Project conditions.
- D. Epoxy Coating Patching Material: Type as recommended by coating manufacturer.

2.3 CONCRETE DOWELING

- A. Meet requirements of ASTM C881/C881M.
- B. Use two component, insensitive to moisture, designed to be installed in adverse freeze/thaw environments.
- C. Manufacturers:
 1. Hilti, HIT Doweling Anchor System, HIT RE 500 SD.
 2. ITW Ramset/Red Head, Epcon Ceramic 6 Epoxy or A7 Adhesive Anchor System
 3. Simpson Strong-Tie, Epoxy Adhesive ET22.
 4. Covert Operations, CIA-Gel 7000 Epoxy Anchors
 5. Unitex, Pro-Poxy 300 Fast Epoxy Adhesive Anchors.

2.4 FABRICATION

- A. Fabricate concrete reinforcement in accordance with CRSI Manual of Practice.
- B. Form standard hooks for 180 degree bends, 90 degree bend, stirrup and tie hooks, and seismic hooks as indicated on Drawings.
- C. Form reinforcement bends with minimum diameters in accordance with ACI 318
- D. Fabricate column reinforcement with offset bends at reinforcement splices.
- E. Form spiral column reinforcement from minimum 3/8 inch diameter continuous deformed bar or wire.

- F. Form ties and stirrups from the following:
 - 1. For bars No. 10 and Smaller: No. 3 deformed bars.
 - 2. For bars No. 11 and Larger: No. 4 deformed bars.
- G. Weld reinforcement in accordance with AWS D1.4.
- H. Reinforcement: Clean surfaces, weld and re-protect welded joint in accordance with CRSI
- I. Locate reinforcement splices not indicated on Drawings, at point of minimum stress. Review location of splices with Engineer.

PART 3 EXECUTION

3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position beyond specified tolerance.
 - 1. Do not weld crossing reinforcement bars for assembly except as permitted by Engineer.
- B. Do not displace or damage vapor retarder.
- C. Accommodate placement of formed openings.
- D. Install dowel embeds per manufacturer's requirements using an electric or pneumatic rotary drill with medium or light impact. Drills shall have an air flushing system.
- E. Do not field bend reinforcement unless approved by Engineer. Do not heat bars.
- F. Provide additional reinforcement around openings equivalent to one-half the cross-sectional area of the reinforcing steel interrupted by the opening.
- G. Lap splices shall be Class B tension lap splices per ACI 350.
- H. Use stainless steel chairs with stainless steel tips where exposed to weather or liquid. Use plastic tipped metal chairs in all other locations.
- I. Space reinforcement bars with minimum clear spacing in accordance with ACI 318 of one bar diameter, but not less than 1 inch.
 - 1. Where bars are indicated in multiple layers, place upper bars directly above lower bars.
- J. Maintain concrete cover around reinforcement in accordance with ACI 318 as follows:

Reinforcement Location		Minimum Concrete Cover
Footings and Concrete Formed Against Earth		3 inches
Concrete exposed to earth or weather	No. 6 bars and larger	2 inches
	No. 5 bars and smaller	1-1/2 inches
Supported Slabs, Walls, and Joists	No. 14 bars and larger	1-1/2 inches
	No. 11 bars and smaller	3/4 inches
Beams and Columns		1-1/2 inches
Shell and Folded Plate Members	No. 6 bars and larger	3/4 inches
	No. 5 bars and smaller	1/2 inches

- K. Splice reinforcing where indicated on Drawings in accordance with splicing device manufacturer’s instructions.
- L. Bond and ground reinforcement in accordance with requirements of Section 26 05 26.

3.2 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Install reinforcement within the following tolerances for flexural members, walls, and compression members:

Reinforcement Depth	Depth Tolerance	Concrete Cover Tolerance
Greater than 8 inches	plus or minus 3/8 inch	minus 3/8 inch
Less than 8 inches	plus or minus 1/2 inch	minus 1/2 inch

- C. Install reinforcement within the tolerances specified in ACI 530.1 for foundation walls.

3.3 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Perform field inspection and testing in accordance with ACI 318.
- C. Provide free access to Work and cooperate with appointed firm.
- D. Reinforcement Inspection:
 1. Placement Acceptance: Specified and ACI 318 material requirements and specified placement tolerances.
 2. Welding: Inspect welds in accordance with AWS D1.1.
 3. Periodic Placement Inspection: Inspect for correct materials, fabrication, sizes, locations, spacing, concrete cover, and splicing.
 4. Weldability Inspection: Inspect for reinforcement weldability when formed from steel other than ASTM A706/A706M.

5. Continuous Weld Inspection: Inspect reinforcement as required by ACI 318.
6. Periodic Weld Inspection: Other welded connections.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes the requirements for all cast-in-place concrete.
- B. Related Sections:
 - 1. Section 03 10 00 - Concrete Forming and Accessories: Formwork and accessories.
 - 2. Section 03 20 00 - Concrete Reinforcing.

1.2 REFERENCES

- A. American Concrete Institute:
 - 1. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 - 2. ACI 301 - Specifications for Structural Concrete.
 - 3. ACI 305 - Hot Weather Concreting.
 - 4. ACI 306.1 - Standard Specification for Cold Weather Concreting.
 - 5. ACI 308.1 - Standard Specification for Curing Concrete.
 - 6. ACI 318 - Building Code Requirements for Structural Concrete.
- B. ASTM International:
 - 1. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 - 2. ASTM C33 - Standard Specification for Concrete Aggregates.
 - 3. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 4. ASTM C42/C42M - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
 - 5. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
 - 6. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
 - 7. ASTM C150 - Standard Specification for Portland Cement.
 - 8. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
 - 9. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - 10. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 - 11. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
 - 12. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
 - 13. ASTM C685/C685M - Standard Specification for Concrete Made By Volumetric Batching and Continuous Mixing.
 - 14. ASTM C845 - Standard Specification for Expansive Hydraulic Cement.
 - 15. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
 - 16. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.

17. ASTM C1107/C1107M - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
18. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
19. ASTM C1157 - Standard Performance Specification for Hydraulic Cement.
20. ASTM C1218/C1218M - Standard Test Method for Water-Soluble Chloride in Mortar and Concrete.
21. ASTM D994 - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type).
22. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
23. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
24. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
25. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
26. ASTM E1643 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.
27. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.

1.3 PERFORMANCE REQUIREMENTS

- A. Vapor Retarder Permeance: Per Section 03 10 00.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit data on joint devices, attachment accessories, and admixtures.
- C. Design Data:
 1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
 - a. Hot and cold weather concrete work.
 - b. Air entrained concrete work.
 2. Identify mix ingredients and proportions, including admixtures.
 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.
- D. Manufacturer's Installation Instructions: Submit installation procedures and interface required with adjacent Work.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Accurately record actual locations of embedded utilities and components concealed from view in finished construction.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 318.
- B. Conform to ACI 305 when concreting during hot weather, except as amended herein.
- C. Conform to ACI 306.1 when concreting during cold weather, except as amended herein.
- D. Acquire cement and aggregate from one source for Work.
- E. Batch Plant: Currently certified by the National Ready Mixed Concrete Association
- F. Mix Designer: Licensed professional engineer registered in the State of Texas or TXDOT approved mix designer.
- G. Maintain one copy of each document on site.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: Environmental conditions affecting products on site.
- B. Maintain concrete temperature after installation at minimum 50 degrees F for minimum 7 days.

1.8 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

PART 2 PRODUCTS

2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, **Type I – General Purpose**
 - 1. Meet ASTM C150.
 - 2. Alkalies: Less than 60%.
- B. Normal Weight Aggregates: ASTM C33 furnished from a single source.
 - 1. Meet ASTM C33.
 - 2. Coarse Aggregate: In accordance with ACI 318 consisting of natural gravels, crushed gravels, crushed stone, or combination of these materials containing no more than 15% of flat, elongated particles (long dimension no more than 5 times short dimension). No more than 0.5% of coarse aggregate passing a 200 sieve.
 - 3. Fine Aggregate: Clean, sharp natural sand per ASTM C33 with no more than 4% of fine aggregate passing a 200 sieve.

- C. Water: ACI 318; potable, less than 250 ppm of chlorides.

2.2 ADMIXTURES

- A. General: Compatible with other admixtures and free from chlorides or other corrosive chemicals.
- B. Fly Ash (Pozzolan): NOT ALLOWED
- C. Air Entrainment:
 - 1. ASTM C260, non-toxic after 30 days containing no chlorides.
 - 2. Concrete with air-entrainment admixture shall maintain air percentage, as batched, within plus or minus 2% for the time required for placement.
- D. High Range Water Reducing Admixture (Superplasticizer): ASTM C494/C494M.
 - 1. Hold slump of 5" or greater for time required for placement.
 - 2. Use Type F or Type G.
 - 3. Manufacturers
 - a. BASF Admixtures Inc.; Rheobuild
 - b. Euclid Chemical Co.; Eucon 537
 - c. WR Grace & Co.; Daracem 100
- E. Water Reducing Admixture: ASTM C494/C494M, Type A or Type D.
 - 1. Manufacturers:
 - a. BASF Admixtures Inc.; Pozzolith or Polyheed
 - b. Euclid Chemical Co.; Eucon WR-91
 - c. WR Grace & Co.; HYCOL
- F. Silica Fume: Not Allowed.

2.3 ACCESSORIES

- A. Bond Breaker:
 - 1. Manufacturers:
 - a. Burke Co.; Burke Clean Lift Bond Breaker or Burke Tilt Free Bond Breaker
 - b. Nox-Crete Products Group; Silcoseal Select
 - c. Williams Distributors, Inc.; Williams Tilt-Up Compound.
 - d. Substitutions: Not Permitted.
- B. Bonding Agent: Two component modified epoxy resin.
 - 1. Manufacturers:
 - a. BASF Building Systems, Inc.; Concrevice
 - b. Euclid Chemical Co.; Euco Epoxy System
 - c. Sika Chemical Corp.; Sikadur 32.
 - d. Substitutions: Not Permitted.
- C. Vapor Retarder: ASTM E1745 Class A; 10 mil thick clear polyethylene film type recommended for below grade application. Furnish joint tape recommended by manufacturer.

- D. Non-Shrink Grout: ASTM C1107/C1107M; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 4,000 psi in 24 hours and 7,000 psi in 7 days.
 - 1. Manufacturers:
 - a. Euclid Chemical Company, Euco N-S Grout
 - b. Master Builders Masterflow 713
 - c. U.S. Grout Corp, Five Star Grout
 - d. Substitutions: Not Permitted.

- E. Concrete Reinforcing Fibers: ASTM C1116, high strength industrial-grade fibers specifically engineered for secondary reinforcement of concrete. Tensile strength -130 ksi; toughness, 15 ksi, 3/4 inch long fibers, 34 million/lb fiber count.
 - 1. Manufacturers:
 - a. W. R. Grace
 - b. Fibermesh
 - c. Forta
 - d. ProMesh
 - e. Substitutions: Section 01 60 00 - Product Requirements.

2.4 JOINT DEVICES AND FILLER MATERIALS

- A. Sealant and Primer: As approved by Engineer.

2.5 CONCRETE MIX DESIGN

- A. Design: Select and proportion ingredients using trial batches; sample, cure, and test concrete mix through approved independent testing laboratory in accordance with ACI 211.1
 - 1. Concrete Backfill and Concrete Encasement: Design for 2,000 psi at 28 days using 3/4-inch aggregate, 6" maximum slump, and 0.67 maximum water to cement ratio.
 - 2. Mud Slabs, Thrust Blocking, and Rip-Rap: Design for 2,500 psi at 28 days using 3/4-inch aggregate, 4.5" maximum slump and 0.48 maximum water to cement ratio.
 - 3. Structural Concrete Compressive Strength (F'c):
 - a. 4,000 psi at 28 days, unless otherwise shown.
 - b. 3,000 psi at 28 days for secondary concrete elements such as curb and gutter and sidewalks (unless indicated otherwise).
 - c. Design lab-cured trial mix cylinders.
 - d. Use additional concrete above minimum specified to attain required average compressive strength (F'cr).
 - e. Use F'cr as basis for selecting concrete proportions as set forth in ACE 301.
 - f. F'cr: Equal to F'c plus 1,200 when data is not available to establish standard deviation.

- B. Proportions:
 - 1. Select proportions for normal weight concrete in accordance with ACI 211.1.
 - 2. Unless specifically stated otherwise, water to cement ratio shall control the amount of total water added to concrete as follows:

Course Aggregate Size (inches)	Water to Cement Ratio	
	Max. W/C Ratio (Superplasticizer)	Max. W/C Ratio (No Superplasticizer)

1-1/2	0.40	0.44
1	0.40	0.44
3/4	0.40	0.44

3. Minimum Cement Content:
 - a. 517 lbs./cu. yd. for 1-1/2" aggregate size.
 - b. 540 lbs./cu. yd. for 1" aggregate size.
 - c. 564 lbs./cu. yd. for 3/4" aggregate size.
 - d. Increase cement, as required, to obtain strength requirements and water-cement ratio.

- C. Select proportions for concrete in accordance with ACI 318 without trial mixtures or field experience when approved by Engineer.

- D. Admixtures: Include admixture types and quantities indicated in concrete mix designs only when approved by Engineer.
 1. Use accelerating admixtures in cold weather. Use of admixtures will not relax cold weather placement requirements.
 2. Do not use fly ash in any mix design.
 3. Do not use calcium chloride nor admixtures containing calcium chloride.
 4. Use water reducers in all structural concrete.
 5. Use high range water reducers (superplasticizers) for all wall concrete and at the Contractor's option for slab or other than walls for workability.
 6. Air Content: 4% to 6% when tested per ACI C231.

- E. Slump Range at Site:
 1. 4.5" minimum, 8" maximum for concrete with high range water reducing admixture.
 2. 3" minimum and 5" maximum for concrete without high range water reducing admixture.

- F. Average Compressive Strength Reduction: Not permitted.

- G. Ready Mixed Concrete: Mix and deliver concrete in accordance with ASTM C685/C685M.

- H. Site Mixed Concrete: Mix concrete in accordance with ACI 318.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

- B. Verify requirements for concrete cover over reinforcement.

- C. Verify anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with placing concrete.

3.2 PREPARATION

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent. Remove laitance, coatings, and unsound materials.
- B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- C. Remove debris and ice from formwork, reinforcement, and concrete substrates.
- D. Remove water from areas receiving concrete before concrete is placed.
- E. Joints:
 - 1. Locate expansion, control, contraction, and construction joints where shown.
 - 2. If not shown, provide construction joints at a maximum spacing of 40 feet.
 - 3. Vertical construction joints may not be greater than 20 feet from wall corners or intersections.

3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 301 and ACI 304R, except as modified herein.
- B. Notify testing laboratory and Engineer minimum 24 hours prior to commencement of operations.
- C. Discharge time: Not to exceed 90 minutes, unless otherwise approved by Engineer.
- D. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints, and reinforcement supports are not disturbed during concrete placement.
- E. Install vapor retarder under interior slabs on grade in accordance with ASTM E1643. Lap joints minimum 6 inches and seal watertight by adhesive applied between overlapping edges and ends.
- F. Repair vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.
- G. Separate slabs on grade from vertical surfaces with 2 inch thick joint filler.
- H. Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- I. Install joint device anchors. Maintain correct position to allow joint cover to be flush with floor and wall finish.
- J. Install joint covers in longest practical length, when adjacent construction activity is complete.
- K. Apply sealants in joint devices as approved by Engineer.

- L. Deposit concrete at final position. Prevent segregation of mix.
- M. Place concrete in continuous operation for each panel or section determined by predetermined joints.
- N. Consolidate concrete.
- O. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- P. Place concrete continuously between predetermined expansion, control, and construction joints.
- Q. Do not interrupt successive placement; do not permit cold joints to occur.
- R. Place floor slabs in checkerboard or saw cut pattern.
- S. Saw cut joints within 12 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
- T. Screed floors and slabs on grade level, maintaining surface flatness of a maximum of 1/8 inch in 10 feet.
- U. Cold Weather:
 - 1. Do not place when ambient temperature is below 40 degrees F.
 - 2. Maintain surface temperature above 40 degrees F at all times.
 - 3. Provide surface thermometers to monitor surface temperatures during curing.
 - 4. Conform to ACI 306.1 and ACI 301 requirements.
- V. Hot Weather:
 - 1. Prepare, mix, place, cure, and protect per ACI 305R.
 - 2. Maintain concrete temperature below 90 degrees F at all times.
 - 3. Spray evaporation retardant on all exposed surfaces when temperature is greater than 90 degrees F.
 - 4. Ensure that admixtures do not produce flash set plastic shrinkage or cracking from heat of hydration.

3.4 SEPARATE FLOOR TOPPINGS

- A. Prior to placing floor topping, roughen substrate concrete surface and remove deleterious material. Broom and vacuum clean.
- B. Place required dividers, edge strips, reinforcing, and other items to be cast in.
- C. Apply bonding agent to substrate.
- D. Place concrete floor toppings to required lines and levels. Place topping in checkerboard panels, dimension not to exceed 20 feet.
- E. Screed toppings level, maintaining surface flatness of 1/8 inch in 10 feet.

3.5 CONCRETE FINISHING

- A. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1/4 inch per foot as indicated on Drawings.

3.6 CURING AND PROTECTION

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
 - 1. Protect concrete footings from freezing for minimum 5 days.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Ponding: Maintain 100 percent coverage of water over floor slab areas continuously for 7 days.
- D. Spraying: Spray water over floor slab areas and maintain wet for 7 days.
- E. Backfill: Do not backfill against walls for a minimum of 28 days after placement, unless otherwise approved by the Engineer. Place backfill uniformly across the wall.

3.7 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements and Section 01 70 00 - Execution and Closeout Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Field inspection and testing will be performed by Owner's testing laboratory in accordance with ACI 318.
- C. Provide free access to Work and cooperate with appointed firm.
- D. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- E. Concrete Inspections:
 - 1. Continuous Placement Inspection: Inspect for proper installation procedures.
 - 2. Periodic Curing Inspection: Inspect for specified curing temperature and procedures.
- F. Strength Test Samples:
 - 1. Sampling Procedures: ASTM C172.
 - 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
 - 3. Sample concrete and make one set of four cylinders for every 150 cubic yards or less of each class of concrete placed each day and for every 5,000 square feet of surface area for slabs and walls.
 - 4. When volume of concrete for any class of concrete would provide less than 5 sets of cylinders, take samples from five randomly selected batches, or from every batch when less than 5 batches are used.
 - 5. Make one additional cylinder during cold weather concreting, and field cure.

- G. Field Testing:
 - 1. Slump Test Method: ASTM C143/C143M.
 - 2. Air Content Test Method: ASTM C173/C173M.
 - 3. Temperature Test Method: ASTM C1064/C1064M.
 - 4. Measure slump and temperature for each compressive strength concrete sample.
 - 5. Measure air content in air entrained concrete for each compressive strength concrete sample.

- H. Cylinder Compressive Strength Testing:
 - 1. Test Method: ASTM C39/C39M.
 - 2. Test Acceptance: In accordance with ACI 318
 - 3. Test one cylinder at 7 days.
 - 4. Test two cylinders at 28 days.
 - 5. Retain one cylinder for 28 days for testing when requested by Engineer.
 - 6. Dispose remaining cylinders when testing is not required.

- I. Maintain records of concrete placement. Record date, location, quantity, air temperature and test samples taken.

3.8 PATCHING

- A. Allow Engineer to inspect concrete surfaces immediately upon removal of forms.
- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.
- C. Inject leaking cracks with injection epoxy equal to Sikadur 55 SLV.
- D. Patch imperfections as directed by Engineer in accordance with ACI 318.
- E. Provide a structurally sound surface finish, uniform in appearance acceptable to the Engineer.
- F. Tie Holes:
 - 1. Fill with non-shrink grout.
 - 2. Match color of concrete.
 - 3. Compact using steel hammer or steel tool to high density.
 - 4. Cure with water.

3.9 WATER LEAKAGE

- A. Water Containing Structures:
 - 1. Conduct leakage test after concrete has attained full design strength.
 - 2. Perform leakage test before backfill is placed against the structure or coatings have been installed.
 - 3. Install temporary plugs, bulkheads, or blind flanges as required for a complete seal.
 - 4. Fill with water to maximum liquid level and maintain for 48 hours prior to start.
 - 5. Measure water level for 72 hours after initial filling.
 - 6. Volume loss shall not exceed 0.1% of liquid volume over the test period.
 - 7. No visible seepage or damp areas shall be allowed.

3.10 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by Engineer.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.
- D. Repair all concrete damaged by construction

END OF SECTION

SECTION 31 25 12 – STORM WATER POLLUTION PREVENTION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Documentation to be prepared and signed by Contractor before conducting construction operations, in accordance with the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit Number TXR 150000, latest issue date (the Construction General Permit).
2. Implementation, maintenance inspection, and termination of storm water pollution prevention control measures including, but not limited to, erosion and sediment controls, storm water management plans, waste collection and disposal, off-site vehicle tracking, and other appropriate practices.
3. Review of the Storm Water Pollution Prevention Plan (SWP3) implementation in a meeting with Engineer prior to start of construction.

B. Related Sections:

1. Section 03 30 00 - Cast-In-Place Concrete.

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Storm Water Pollution Prevention Plan:

1. Basis of Measurement: Lump Sum.
2. Basis of Payment: Payment for Storm Water Pollution Prevention Plan shall be made at the lump sum bid for "Storm Water Pollution Prevention Plan." Payment for all work prescribed under this item shall be full compensation for the Storm Water Pollution Prevention Plan including all preparation, submittals, notices, updates, and revisions.

B. Storm Water Pollution Prevention Plan Implementation:

1. Basis of Measurement: Lump Sum.
2. Basis of Payment: Includes all aspects of implementing the SWP3, from Notice of Intent through Notice of Termination.

1.3 REFERENCES

- A. Construction General Permit (TPDES No. TXR 150000).
- B. Clean Water Act.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Submit one copy of the SWP3 to Engineer for record retention purposes only. Engineer will not review or approve the SWP3.

1.5 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with the SWP3 as per the submission of the Notice of Intent.
- B. Maintain one copy of the SWP3 document on site.

1.7 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this section.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 SITE SPECIFIC STORM WATER POLLUTION PREVENTION PLAN (SWP3)

- A. Fulfill all TPDES Construction General Permit (TXR 150000) requirements.
- B. Contractor shall fulfill the role of Primary Operator as defined by the TPDES Construction General Permit (TXR 150000) for this project.
- C. Prepare and submit all required documentation and pay all applicable fees to TCEQ required by the TPDES Construction General Permit (TXR 150000). This includes but is not limited to:
 - 1. Notice of Intent.
 - 2. Site Notices.
 - 3. Notice of Termination.
 - 4. Notification of MS4 Operator.
- D. SWP3:
 - 1. Prepare a SWP3 following Part III of the TPDES Construction General Permit (TXR 150000).
 - 2. Update or revise the SWP3 as needed during the construction following Part III, Section E of the TPDES Construction General Permit (TXR 150000).
 - 3. Submit the SWP3 and any updates or revisions to the Engineer for review and address comments prior to commencing, or continuing, construction activities.
 - 4. Conduct inspections in accordance with TPDES Construction General Permit (TXR 150000).
 - 5. Maintain copies of SWP3, inspection reports, and other documentation as required by TPDES Construction General Permit (TXR 150000).

3.2 SWP3 IMPLEMENTATION

- A. Implement SWP3 utilizing state of the art Best Management Practice controls as required by the Construction General Permit, the site specific SWP3, and local government.
- B. Inspect and maintain controls throughout the course of construction per the Construction General Permit requirements.
- C. Remove controls per the Construction General Permit requirements.
- D. On-Site Waste Material Storage:
 - 1. On-site waste material storage shall be self-contained and shall satisfy appropriate locate, state, and federal rules and regulations.
 - 2. Prepare list of waste material to be stored on-site. Update list as necessary to include up-to-date information. Keep a copy of updated list with the SWP3.
 - 3. Prepare description of controls to reduce pollutants generated from on-site storage. Include storage practices necessary to minimize exposure of materials to storm water, and spill prevention and response measures consistent with best management practices. Keep a copy of the description with the SWP3.

END OF SECTION

SECTION 32 13 13 - CONCRETE PAVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aggregate base course.
 - 2. Concrete paving for:
 - a. Concrete streets and roads.
 - b. Concrete parking lots.
 - c. Concrete curbs and gutters.
 - d. Concrete median barriers.
 - e. Concrete sidewalks.
 - f. Concrete stair steps.
 - g. Concrete driveways.
- B. Related Requirements:
 - 1. Section 03 10 00 - Concrete Formwork.
 - 2. Section 03 20 00 - Reinforcement Steel.
 - 3. Section 03 30 00 - Cast in Place Concrete.

1.2 UNIT PRICE MEASUREMENT AND PAYMENT

- A. Concrete Paving:
 - 1. Basis of Measurement: Pavement by square yard. Curb & gutter and median barriers by linear foot.
 - 2. Basis of Payment: Includes forms, reinforcing, concrete, joints, accessories, placing, finishing, curing, and testing.

1.3 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO M324 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
- B. American Concrete Institute:
 - 1. ACI 301 - Specifications for Structural Concrete.
 - 2. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
- C. ASTM International:
 - 1. ASTM A184/A184M - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
 - 2. ASTM A185/A185M - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
 - 3. ASTM A497/A497M - Standard Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
 - 4. ASTM A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

5. ASTM A706/A706M - Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement.
6. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement.
7. ASTM A775/A775M - S Standard Specification for Epoxy-Coated Steel Reinforcing Bars.
8. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement.
9. ASTM A934/A934M - Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
10. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
11. ASTM C33 - Standard Specification for Concrete Aggregates.
12. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
13. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete.
14. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic Cement Concrete.
15. ASTM C150 - Standard Specification for Portland Cement.
16. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete.
17. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
18. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
19. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
20. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
21. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete.
22. ASTM C595 - Standard Specification for Blended Hydraulic Cements.
23. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete.
24. ASTM C979 - Standard Specification for Pigments for Integrally Colored Concrete.
25. ASTM C989 - Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars.
26. ASTM C1017/C1017M - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete.
27. ASTM C1064/C1064M - Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
28. ASTM C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete.
29. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
30. ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).
31. ASTM D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
32. ASTM D6690 - Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.

1.4 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.

- B. Convene minimum one week prior to commencing work of this section.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data:
 - 1. Submit data on concrete materials, joint filler, admixtures, and curing compounds.
- C. Design Data:
 - 1. Submit concrete mix design for each concrete strength. Submit separate mix designs when admixtures are required for the following:
 - a. Hot and cold weather concrete work.
 - 2. Identify mix ingredients and proportions, including admixtures.
 - 3. Identify chloride content of admixtures and whether or not chloride was added during manufacture.
- D. Source Quality Control Submittals: Indicate results of shop factory tests and inspections.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301 and the requirements of Section 03 10 00, Section 03 20 00, and Section 03 30 00.
- B. Obtain cementitious materials from same source throughout.

1.7 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum three years documented experience.

1.8 AMBIENT CONDITIONS

- A. Do not place concrete when base surface temperature is less than 40 degrees F, or surface is wet or frozen.

PART 2 PRODUCTS

2.1 CONCRETE PAVING

- A. Form Materials:
 - 1. Form Materials: As specified in Section 03 10 00 - Concrete Formwork.
- B. Reinforcement:
 - 1. Reinforcing Steel: Type specified in Section 03 20 00 - Reinforcement Steel.

- a. Dowel Bars: Dowel bars shall be plain steel bars conforming to ASTM A615 or ASTM A966 and shall be free from burring or other deformation restricting slippage in the concrete. Before delivery to the construction site each dowel bar shall be painted with one coat of paint conforming to MIL-DTL-24441/20A.SSPC Paint 5 or SSPC Paint 25. Metal or plastic collars (when indicated on Drawings) shall be full circular device supporting the dowel until the epoxy hardens.

The sleeves for dowel bars used in expansion joints shall be translucent of an approved design to cover 2 inches (minimum) of the dowel, with a closed end and with a suitable stop to hold the end of the bar at least 1½ inches from the closed end of the sleeve. Sleeves shall be of such design that they will not collapse during construction.

C. Concrete Materials:

1. Concrete Materials shall be as specified in Section 03 30 00 – Cast in Place Concrete.
2. Cement: ASTM C150, Type IA - Air Entraining, Type IIA - Air Entraining.
3. Exposed Aggregate: Gravel washed natural mineral aggregate; furnished from single source.
 - a. Minimum Size: 1/4 inch.
 - b. Maximum Size: 1/2 inch.
 - c. Color: As selected.

2.2 FABRICATION

- A. Fabricate reinforcing in accordance with CRSI Manual of Practice.
- B. Form standard hooks for 180 degree bends and 90 degree bends as indicated on the Drawings.

2.3 MIXES

A. Concrete Mix:

1. Mix and deliver concrete in accordance with ASTM C94/C94M, Option a.
2. Select proportions for normal weight concrete in accordance with ACI 301 Method 1.
3. Provide concrete to the following criteria:
 - a. Compressive Strength: 4000 psi at 28 days.
 - b. Slump: 3 inches to ±1 inch.
 - c. Minimum Cement Content: 564 pounds/cu yd.
 - d. Maximum Water/Cement Ratio: 0.45 (non-air entrained); 0.35 (air entrained).
 - e. Air Entrainment: ASTM C94/C94M; for severe exposure condition; maximum variation of 1.5 percent from required air content.
4. Limit the following cementitious materials to maximum percentage by mass of all cementitious materials:
 - a. Fly Ash: 0 percent. Fly ash shall not be used.
5. Use accelerating admixtures in cold weather only when approved by the Engineer in writing. Use of admixtures will not relax cold weather placement requirements.
6. Use calcium chloride only when approved by the Engineer in writing.
7. Use set retarding admixtures during hot weather only when approved by the Engineer in writing.

2.4 ACCESSORIES

- A. Curing Compound: ASTM C309, Type 2, Class B.

2.5 SOURCE QUALITY CONTROL

- A. Section 03 30 00 – Cast in Place Concrete: Testing.
- B. Submit proposed mix design of each class of concrete to Engineer for review prior to commencement of Work.
- C. Tests on cement, aggregates, and mixes will be performed to ensure conformance with specified requirements.
- D. Test samples in accordance with ASTM C94/C94M.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify compacted base or subgrade is dry and ready to support paving and imposed loads.
 - 1. Proof roll subgrade with two perpendicular passes to identify soft spots.
 - 2. Remove soft subgrade or base and replace with Flexible Base.
- C. Verify gradients and elevations of base are correct.

3.2 PREPARATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.
- B. Moisten substrate to minimize absorption of water from fresh concrete.
- C. Coat surfaces of manhole frames with oil to prevent bond with concrete paving.
- D. Notify Engineer minimum 24 hours prior to commencement of concreting operations.

3.3 INSTALLATION

- A. Forms:
 - 1. Place and secure forms and screeds to correct location, dimension, profile, and gradient.
 - 2. Assemble formwork to permit easy stripping and dismantling without damaging concrete.
- B. Reinforcement:
 - 1. Place reinforcing as indicated on Drawings.
 - 2. Interrupt reinforcing at expansion joints.

3. Provide doweled joints as indicated on Drawings. Dowel bars or other load-transfer units of an approved type shall be placed across joints in the manner as shown on Drawings. They shall be of the dimensions and spacings as shown and held rigidly in the middle of the slab depth in the proper horizontal and vertical alignment of by an approved assembly device to be left permanently in place. The dowel or load-transfer and joint devices shall be rigid enough to permit complete assembly as a unit ready to be lifted and placed into position. A dowel expansion cap or sleeve shall be furnished for each dowel bar used with expansion joints. These caps shall be substantial enough to prevent collapse and shall be placed on the ends of the dowels as shown on Drawings. The caps or sleeves shall fit the dowel bar tightly and the closed end shall be watertight. The portion of each dowel painted with rust preventative paint, as required under paragraph 2.1(B) and shown on Drawings to receive a debonding lubricant, shall be thoroughly coated with asphalt MC-70, or an approved lubricant, to prevent the concrete from bonding to that portion of the dowel. If free-sliding plastic-coated or epoxy-coated steel dowels are used, a lubrication bond breaker shall be used except when approved pullout tests indicate it is not necessary. Where butt-type joints with dowels are designated, the exposed end of the dowel shall be oiled.
 4. Repair damaged galvanizing and/or epoxy coating to match shop finish.
 5. Install tie bars consisting of deformed bars in joints as shown on Drawings. Tie bars shall be placed at right angles to the centerline of the concrete slab and shall be spaced at intervals shown on Drawings. They shall be held in position parallel to the pavement surface and in the middle of the slab depth. When tie bars extend into an unpaved lane, they may be bent against the form at longitudinal construction joints, unless threaded bolt or other assembled tie bars are specified. These bars shall not be painted, greased, or enclosed in sleeves. When slip-form operations call for tie bars, two-piece hook bolts can be installed in the female side of the keyed joint provided the installation is made without distorting the keyed dimensions or causing edge slump. If a bent tie bar installation is used, the tie bars shall be inserted through the keyway liner only on the female side of the joint. In no case shall a bent tie bar installation for male keyways be permitted.
- C. Placing Concrete:
1. Place concrete as specified in Section 03 30 00 - Cast in Place Concrete.
 2. Ensure reinforcing, inserts, embedded parts, and formed joints are not disturbed during concrete placement.
 3. Place concrete continuously over the full width of the panel and between predetermined construction joints. Do not break or interrupt successive pours such that cold joints occur.
- D. Joints: Joints shall be constructed as shown on Drawings and in accordance with these requirements. All joints shall be constructed with their faces perpendicular to the surface of the pavement and finished or edged as shown on Drawings. Joints shall not vary more than ½-inch from their designated position and shall be true to line with not more than ¼-inch variation in 10 feet. The surface across the joint shall be tested with a 10-foot straightedge as the joints are finished and any irregularities in excess of ¼-inch shall be corrected before the concrete has hardened. All joints shall be so prepared, finished, or cut to provide a groove of uniform width and depth as shown on Drawings.
1. Place expansion joints as indicated on Drawings. Premolded joint filler of the thickness as shown on Drawings shall extend for the full depth and width of the slab at the joint, except for space for sealant at the top of the slab. The filler shall be securely staked or fastened into position perpendicular to the proposed finished surface. A cap shall be provided to protect the top edge of the filler and to permit the concrete to be placed and

finished. After the concrete has been placed and struck off, the cap shall be carefully withdrawn leaving the space for the premolded filler. The edges of the joint shall be finished and tooled while the concrete is still plastic. Any concrete bridging the joint space shall be removed for the full width and depth of the joint. Align curb, gutter, pavement, and sidewalk joints.

2. Place isolation joints between paving components and building or other structures as indicated on Drawings. Construct isolation joints identically to expansion joints as specified in (1), above. Isolation joints shall not be dowelled.
3. Provide construction joints as indicated on Drawings. Longitudinal construction joints shall be slip-formed or formed against side forms with or without keyways, as shown on Drawings. Transverse construction joints shall be installed at the end of each day's placing operations and at any other points within a paving lane when concrete placement is interrupted for more than 30 minutes or it appears that the concrete will obtain its initial set before fresh concrete arrives. The installation of the joint shall be located at a planned contraction or expansion joint. If placing of the concrete is stopped, the Contractor shall remove the excess concrete back to the previous planned joint.
4. Install contraction joints at the locations and spacing as shown on Drawings. Contraction joints shall be installed to the dimensions required by forming a groove or cleft in the top of the slab while the concrete is still plastic or by sawing a groove into the concrete surface after the concrete has hardened. When the groove is formed in plastic concrete the sides of the grooves shall be finished even and smooth with an edging tool. If an insert material is used, the installation and edge finish shall be according to the manufacturer's instructions. The groove shall be finished or cut clean so that spalling will be avoided at intersections with other joints. Groove or saw cut contraction joints $\frac{1}{4}$ -inch wide at an optimum time as soon as possible after finishing. Cut $\frac{1}{4}$ of depth of slab into the slab. If contraction joint spacing is not indicated on Drawings, maximum contraction joint spacing shall be thirty (30) times the depth of the concrete paving.
5. Seal joints as indicated on Drawings and in accordance with Section 32 13 15.
6. Provide keyways as indicated on Drawings. Form keyways (only female keys permitted) in the plastic concrete by means of side forms or the use of keyway liners that are inserted during the slip-form operations. The keyway shall be formed to a tolerance of $\frac{1}{4}$ inch in any dimension and shall be of sufficient stiffness to support the upper keyway flange without distortion or slumping of the top of the flange. The dimensions of the keyway forms shall not vary more than plus or minus $\frac{1}{4}$ inch from the mid-depth of the pavement. Liners that remain in place permanently and become part of the keyed joint shall be made of galvanized, copper clad, or of similar rust-resistant material compatible with plastic and hardened concrete and shall not interfere with joint reservoir sawing and sealing.

E. Finishing Schedule:

1. Vehicular Paving: Heavy broom.
2. Sidewalk Paving: Light broom.
3. Curbs and Gutters: Light broom.

F. Curing and Protection

1. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
3. Cure concrete surfaces as specified in Section 03 30 00 – Cast in Place Concrete.

3.4 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation of Surface Flatness: 1/4 inch in 10 ft.
- C. Maximum Variation From True Position: 1/4 inch.
- D. Maximum Variation in Thickness: 1/4 inch.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Requirements for inspecting, testing.
- B. Inspect reinforcing placement for size, spacing, location, support.
- C. Testing firm will take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
- D. Strength Test Samples:
 - 1. Sampling Procedures: ASTM C172.
 - 2. Cylinder Molding and Curing Procedures: ASTM C31/C31M, cylinder specimens, standard cured.
 - 3. Sample concrete and make one set of three standard cylinders for every 50 cu yds or less of each class of concrete placed each day and for every 2500 sf of surface area paving.
 - 4. Make one additional cylinder during cold weather concreting, and field cure.
- E. Field Testing:
 - 1. Slump Test Method: ASTM C143/C143M.
 - 2. Air Content Test Method: ASTM C173/C173M ASTM C231.
 - 3. Temperature Test Method: ASTM C1064/C1064M.
 - 4. Measure slump and temperature for each compressive strength concrete sample.
 - 5. Measure air content in air entrained concrete for each compressive strength concrete sample.
- F. Cylinder Compressive Strength Testing:
 - 1. Test Method: ASTM C39/C39M.
 - 2. Test Acceptance: Average compressive strength of three consecutive test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive by more than 500 psi.
 - 3. Test one cylinder at 7 days.
 - 4. Test one cylinder at 28 days.
 - 5. Retain one cylinder for reserve for testing later when requested by Engineer.
 - 6. Dispose remaining cylinders when testing is not required.
- G. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.6 PROTECTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Immediately after placement, protect paving from premature drying, excessive hot or cold temperatures, and mechanical injury.
- C. Do not permit vehicular traffic over paving for 14 days (minimum) after finishing.

END OF SECTION

Technical Specifications for TxDOT

The Texas Department of Transportation “Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges,” 2014 Edition, is incorporated herein by reference for all intents and purposes. If a standard specified in that document conflicts with a standard included within a bid specifications document, the standard in the bid specifications document controls. If the standard is still unclear, the Engineer will determine which standard controls and his determination shall be final.

Special Specification 3003

Emulsion Treatment (Road Mixed)



1. DESCRIPTION

Mix and compact emulsion, additives, water, and base, with or without asphalt concrete pavement, in the roadway.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications. Notify the Engineer of the proposed material sources and of changes to material sources. The Engineer will verify that the specification requirements are met before the sources can be used. The Engineer may sample and test project materials at any time for verification of properties. Use Tex-100-E for material definitions.

- 2.1. **Emulsion.** Provide an asphalt-emulsion that meets the requirements of Table 2.
- 2.2. **Flexible Base.** Furnish base material that meets the requirements of Item 247, "Flexible Base," for the type and grade shown on the plans, before the addition of emulsion.
- 2.3. **Additive.** Determine the amount and type of additive, if any, during the mix design. When an additive is required, the total amount in the mix will not exceed 1.5% by weight of material.
- 2.3.1. **Lime.** When lime is required, furnish lime that meets the requirements of DMS-6350, "Lime and Lime Slurry," and DMS-6330, "Pre-Qualification of Lime Sources." Use hydrated lime or commercial lime slurry as shown on the plans.
- 2.3.2. **Cement.** When cement is required, furnish hydraulic cement that meets the requirements of DMS-4600, "Hydraulic Cement," and the Department's Hydraulic Cement Quality Monitoring Program (HCQMP). Sources not on the HCQMP will require testing and approval before use.
- 2.3.3. **Fly Ash.** When fly ash is required, furnish fly ash that meets the requirements of DMS-4615, "Fly Ash for Soil Treatment."
- 2.4. **Mix Design.** Submit a mix design to the Engineer for approval, before the start of the project. Include the optimum moisture content, maximum dry density, percent additive, percent additional flexible base, percent existing material, and optimum percent asphalt-emulsion required to meet the mixture requirements in Table 1. Prepare unconfined compressive strength (UCS) specimens in accordance with Tex-113-E. Perform additional mix designs based on existing material variability, as directed by the Engineer.

Table 1
Laboratory Mixture Design Properties¹

Property	Test Procedure	Criteria
Min indirect tensile strength (ITS), psi	Tex-226-F	50
Min unconfined compressive strength (UCS), psi	Tex-117-E, Part II	150
Min retained UCS, psi	Tex-117-E ²	80%

1. Air dry specimens at 77 ±5°F for 72 hr. before testing.
2. Average of three specimens subjected to 10-day capillary moisture absorption before conducting UCS (similar to Tex-117-E, Part I, or Tex-121-E, Part I, without oven drying).

Table 2
Emulsified Asphalt Properties

Test	Method	Min	Max
Residue from distillation, %	AASHTO T 59	60	-
Oil distillate by distillation, %	AASHTO T 59	-	0.5
Sieve Test, %	AASHTO T 59	-	0.1
Penetration, 25°C, dmm	AASHTO T 49	55	95

- 2.5. **Water.** Furnish water free of industrial waste and other objectionable material.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work. Provide rollers in accordance with Item 210, "Rolling." Provide proof rollers in accordance with Item 216, "Proof Rolling," when required.

Provide a self-propelled mixer capable of fully mixing the existing road to the depth required, incorporate the asphalt-emulsion and water, and mix the materials to produce a homogeneous material. Provide a mixer with a minimum power of 400 HP. Provide a machine capable of mixing at least 8 ft. (2.4 m) wide and 12 in. (30.5 cm) deep in each pass. The mixer must contain a system for adding asphalt-emulsion with a full width spray bar consisting of a positive displacement pump interlocked to the machine speed so that the amount of emulsion being added is automatically adjusted with changes in machine speed. The emulsion injection system must be capable of incorporating up to 7 gal. per square yard of emulsion. Provide individual valves on the emulsion injection system spray bar that are capable of being turned off as necessary to minimize emulsion overlap on subsequent passes.

4. CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans, or as directed.

- 4.1. **Preshaping.** Pulverize existing bituminous surface and all existing pavement layers to the required depth. Incorporate water and additional flexible base during this operation, if needed. Shape roadway material in accordance with applicable bid items to conform to typical sections shown on the plans and as directed before the addition of asphalt-emulsion. Compact the material to support equipment and / or traffic, and to provide depth control during mixing.
- 4.2. **Mixing.** Before mixing, aerate if too wet and add water if too dry. Add emulsion at the percentage determined in Section 3003.2.4., "Mix Design." Monitor the required depth of mixing regularly.

Complete the entire operation of mixing the existing road and incorporating additional flexible base, water, and asphalt-emulsion in one pass. Ensure that each adjacent pass of the mixer overlaps the previous pass by a minimum of 6 in. Use multiple passes if the quality control requirements specified in Article 3003.5., "Quality Control," are not met. If an additional pass of the mixer significantly improves dispersion of the emulsion, use this additional pass for the entire project.

After mixing, the Engineer will sample the mixture at roadway moisture and test in accordance with Tex-101-E, Part III, to determine compliance with the gradation requirements in Table 3.

Table 3
Gradation Requirements

Sieve Size	Percent Passing
1-3/4 in.	100
3/4 in.	85

- 4.3. **Application of Additive.** Uniformly apply additive in advance of the mixer. Minimize dust and scattering of additives by wind. Do not apply additives when, in the opinion of the Engineer, wind conditions cause blowing additive to become dangerous to traffic or objectionable to adjacent property owners.
- 4.3.1. **Lime.** Uniformly apply lime using dry or slurry placement as shown on the plans, or as directed. Add lime at the percentage determined in the mix design. Apply lime only on an area where mixing can be completed during the same working day.
- Start lime application only when the air temperature is at least 35°F and rising or is at least 40°F. Take the temperature in the shade and away from artificial heat. Suspend application when the Engineer determines that weather conditions are unsuitable.
- 4.3.1.1. **Dry Placement.** When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of hydrated lime with approved equipment. Only hydrated lime may be distributed by bag. Do not use a motor grader to spread hydrated lime.
- 4.3.1.2. **Slurry Placement.** Provide slurry free of objectionable materials, at or above the approved minimum dry solids content, and with a uniform consistency that will allow ease of handling and uniform application.
- Deliver commercial lime slurry to the jobsite or prepare lime slurry at the jobsite or other approved location by using hydrated lime as specified.
- Distribute slurry uniformly by making successive passes over a measured section of roadway until the specified lime content is reached.
- 4.3.2. **Cement.** Uniformly apply cement using dry placement unless otherwise shown on the plans. Add cement at the percentage determined in the mix design. Apply cement only on an area where mixing, compacting, and finishing can be completed during the same working day. Before applying cement, bring the prepared roadway to approximately optimum moisture content. When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of dry cement with approved equipment.
- 4.3.3. **Fly Ash.** Uniformly apply fly ash using dry placement unless otherwise shown on the plans. Add fly ash at the percentage determined in the mix design. Apply fly ash only on an area where mixing, compacting, and finishing can be completed during the same working day. Before applying fly ash, bring the prepared roadway to approximately optimum moisture content. When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of fly ash with approved equipment.
- 4.3.4. **Emulsion.** Uniformly apply emulsion as specified in Section 3003.4.2., "Mixing." Add emulsion at the percentage determined in Section 3003.2.4., "Mix Design." Apply emulsion only on an area where mixing and compaction can be completed during the same working day.
- Suspend emulsion application if the weather forecast calls for freezing temperatures within 7 days after incorporation of the emulsion. Finish emulsion application before the historical weather database predicts freezing temperatures within 7 days after completion of the emulsion portion of the project. Suspend application when the Engineer determines that weather conditions are unsuitable.
- 4.4. **Compaction.** Compact the mixture using density control, unless otherwise shown on the plans. Multiple lifts are permitted when shown on the plans or approved.

Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least one-half the width of the roller unit. On super-elevated curves, begin rolling at the low side and progress toward the high side. Offset alternate trips of the roller. Operate rollers at a speed between 2 and 6 mph, as directed.

Perform initial compaction using a heavy tamping roller applying high amplitude and low frequency. Maintain the heavy tamping roller within 500 ft. of the mixer at all times. Continue rolling until the heavy tamping roller "walks out" of the material. Walking out for the heavy tamping roller is defined as light being evident between all of the pads at the material-heavy tamping roller drum interface.

After the completion of heavy tamping rolling, remove remaining tamping marks. Cut no deeper than the depth of the tamping marks. Achieve desired slope and shape to the lines and grades shown on the plans. Perform final surface shaping on the same day as the asphalt-emulsion is incorporated. Clip, skin, or tight-blade the surface to remove and waste accumulated fines. Do not use fines to fill surface irregularities.

Use a vibratory roller and pneumatic roller to compact the bladed material. Do not finish-roll in vibratory mode. If necessary, use a light spray of water to aid in final compaction density and appearance.

Rework material that fails to meet or that loses required moisture, density, stability, or finish within 24 hours of completion of compaction. Add additional emulsion and additives at the percentage directed.

Reworking includes loosening, adding material or removing unacceptable material if necessary; mixing as directed; compacting; and finishing. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.

When an area fails to meet or loses required moisture, density, stability, or finish more than 24 hours after completion of compaction and before the next course is placed or the project is accepted, remove the unacceptable material and replace with new material that meets the mix design requirements. Compact and finish until specification requirements are met. Perform the work at no additional expense to the Department.

4.4.1. **Ordinary Compaction.** Roll with approved compaction equipment, as directed. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing treated material as required, reshaping, and recompacting.

4.4.2. **Density Control.** The Engineer will determine roadway density of completed sections in accordance with Tex-115-E. The Engineer may accept the section if no more than 1 of the 5 most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

Compact the bottom course to at least 95% of the maximum density determined in accordance with Tex-113-E, unless otherwise shown on the plans. Compact subsequent courses treated under this Item to at least 97% of the maximum density determined in accordance with Tex-113-E, unless otherwise shown on the plans.

4.5. **Curing.** Cure the finished section until the moisture content is at least 2 percentage points below optimum, or as directed before applying the next successive course or prime coat. Do not allow equipment or traffic on the finished course during curing, unless otherwise approved. The Engineer may allow traffic on the finished course during curing if proof rolling indicates adequate stability. Proof roll in accordance with Item 216, "Proof Rolling."

If deformation occurs, do not allow traffic to return to the finished section until the mixed material is firm enough to accommodate traffic without deformation. Apply seals or additional courses within 14 calendar days of final compaction.

When the plans show no specific detour, the Contractor will provide one-way traffic control until proof rolling permits the return of normal traffic to the compacted material.

5. QUALITY CONTROL

The Contractor is responsible for quality control (QC) of the process and the completed base. The Engineer will provide sampling frequencies.

- 5.1. **Asphalt-Emulsion.** A representative from the asphalt-emulsion supplier will check the mixing and curing properties at the beginning of the project and will make recommendations for design changes to the Engineer.
- 5.2. **Moisture Content.** Check moisture content in accordance with Tex-103-E before addition of emulsion. Check the moisture content on the same day emulsion is applied. If rain has occurred after testing and before emulsion addition, recheck the moisture content.
- 5.3. Adjust by moisture addition (water truck) or aeration if the average moisture content is not within 1% of the mix design recommendation. Recheck the moisture content if manipulation has occurred.
- 5.4. **Emulsion Content.** Apply the amount of asphalt-emulsion recommended in the mix design. The Engineer must approve changes in asphalt-emulsion content or supplier. Check the percentage of emulsion added using meter readings or truck weigh tickets; the quantity of material reclaimed (depth, width, and length); and estimated in-place density determined by Tex-113-E (mix design or field check) or nuclear density gauge. Determine emulsion content on the first day of processing during the first emulsion transport. Adjust equipment calibration if necessary. Check emulsion content again if adjustments are made. Determine subsequent emulsion content as directed by the Engineer, but not less than once per day.
- 5.5. **Density.** Obtain samples to the full depth of reclamation before rolling and store in a sealed container for no longer than 2 hours. Compact in accordance with Tex-113-E and adjust mixing and compaction operations to achieve maximum dry density established in the mix design.

6. MEASUREMENT

- 6.1. **Emulsion.** Emulsion will be measured by the gallon.
- 6.2. **Additive.**
 - 6.2.1. **Lime.** When lime is furnished in trucks, the weight of lime will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at a location approved by the Engineer. Scales must conform to the requirements of Item 520, "Weighing and Measuring Equipment."

When lime is furnished in bags, each bag must indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in any shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.
 - 6.2.1.1. **Hydrated Lime.**
 - 6.2.1.1.1. **Dry.** Lime will be measured by the ton (dry weight).
 - 6.2.1.1.2. **Slurry.** Lime will be measured by the ton (dry weight) of the hydrated lime used to prepare the lime slurry at the jobsite.
 - 6.2.1.2. **Commercial Lime Slurry.** Lime slurry will be measured by the ton (dry weight) as calculated from the minimum percent dry solids content of the slurry, multiplied by the weight of the slurry in tons delivered.
- 6.2.2. **Cement.** Cement will be measured by the ton (dry weight). When cement is furnished in trucks, the weight of cement will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at a location approved by the Engineer. Scales must conform to the requirements of Item 520, "Weighing and Measuring Equipment."

When cement is furnished in bags, indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in a shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.

- 6.2.3. **Fly Ash.** Fly ash will be measured by the ton (dry weight). When fly ash is furnished in trucks, the weight of fly ash will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at a location approved by the Engineer. Scales must conform to the requirements of Item 520, "Weighing and Measuring Equipment."

When fly ash is furnished in bags, each bag must indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in any shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.

- 6.3. **Emulsion Treatment.** Emulsion treatment will be measured by the square yard of surface area. The dimensions for determining the surface area is established by the widths shown on the plans and lengths measured at placement.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid in accordance with Section 7.1, "Emulsion"; Section 7.2, "Lime"; Section 7.3, "Cement"; Section 7.4, "Fly Ash"; and Section 7.5, "Emulsion Treatment."

Furnishing and delivering new base will be paid for in accordance with Item 247, "Flexible Base," unless otherwise shown on the plans.

Mixing, spreading, blading, shaping, compacting, and finishing new or existing base material will be paid for under Section 7.5., "Emulsion Treatment." Removal and disposal of existing asphalt concrete pavement will be paid for in accordance with pertinent Items or Article 4.2., "Changes in the Work."

Additives and emulsion used for reworking a section will not be paid for directly but will be subsidiary to this Item.

Sprinkling and rolling, except proof rolling, will not be paid for directly but will be subsidiary to this Item unless otherwise shown on the plans. When proof rolling is shown on the plans or directed by the Engineer, it will be paid for in accordance with Item 216, "Proof Rolling."

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade or existing base will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade or existing base will be in accordance with pertinent Items or Article 4.2., "Changes in the Work."

- 7.1. **Emulsion.** Emulsion will be paid for at the unit price bid for "Emulsion." This price is full compensation for materials, delivery, equipment, labor, tools, and incidentals.
- 7.2. **Lime.** Lime will be paid for at the unit price bid for "Lime" of the specified type (Hydrated (Dry), Hydrated (Slurry), or Commercial Lime Slurry). This price is full compensation for furnishing lime.
- 7.3. **Cement.** Cement will be paid for at the unit price bid for "Cement." This price is full compensation for furnishing cement.
- 7.4. **Fly Ash.** Fly ash will be paid for at the unit price bid for "Fly Ash." This price is full compensation for furnishing fly ash.

- 7.5. **Emulsion Treatment.** Emulsion treatment will be paid for at the unit price bid for "Emulsion Treatment (Existing Base)," or "Emulsion Treatment (Mixing Existing Material and New Base)," for the depth specified. No payment will be made for thickness or width exceeding that shown on the plans.

This price is full compensation for shaping existing material, loosening, mixing, pulverizing, spreading, applying additives and emulsion, compacting, finishing, curing, curing materials, blading, shaping and maintaining shape, replacing mixture, disposing of loosened materials, processing, hauling, preparing secondary subgrade, water, equipment, labor, tools, and incidentals.

Special Specification 6001

Portable Changeable Message Sign



1. DESCRIPTION

Furnish, operate, and maintain portable trailer mounted changeable message sign (PCMS) units.

2. MATERIALS

Furnish new or used material in accordance with the requirements of this Item and the details shown on the plans. Provide a self-contained PCMS unit with the following:

- Sign controller
- Changeable Message Sign
- Trailer
- Power source

Paint the exterior surfaces of the power supply housing, supports, trailer, and sign with Federal Orange No. 22246 or Federal Yellow No. 13538 of Federal Standard 595C, except paint the sign face assembly flat black.

- 2.1. **Sign Controller.** Provide a controller with permanent storage of a minimum of 75 pre-programmed messages. Provide an external input device for random programming and storage of a minimum of 75 additional messages. Provide a controller capable of displaying up to 3 messages sequentially. Provide a controller with adjustable display rates. Enclose sign controller equipment in a lockable enclosure.
- 2.2. **Changeable Message Sign.** Provide a sign capable of being elevated to at least 7 ft. above the roadway surface from the bottom of the sign. Provide a sign capable of being rotated 360° and secured against movement in any position.
- Provide a sign with 3 separate lines of text and 8 characters per line minimum. Provide a minimum 18 in. character height. Provide a 5 × 7 character pixel matrix. Provide a message legibility distance of 600 ft. for nighttime conditions and 800 ft. for normal daylight conditions. Provide for manual and automatic dimming light sources.
- The following are descriptions for 3 screen types of PCMS:
- **Character Modular Matrix.** This screen type comprises of character blocks.
 - **Continuous Line Matrix.** This screen type uses proportionally spaced fonts for each line of text.
 - **Full Matrix.** This screen type uses proportionally spaced fonts, varies the height of characters, and displays simple graphics on the entire sign.
- 2.3. **Trailer.** Provide a 2 wheel trailer with square top fenders, 4 leveling jacks, and trailer lights. Do not exceed an overall trailer width of 96 in. Shock mount the electronics and sign assembly.
- 2.4. **Power Source.** Provide a diesel generator, solar powered power source, or both. Provide a backup power source as necessary.
- 2.5. **Cellular Telephone.** When shown on the plans, provide a cellular telephone connection to communicate with the PCMS unit remotely.

3. CONSTRUCTION

Place or relocate PCMS units as shown on the plans or as directed. The plans will show the number of PCMS units needed, for how many days, and for which construction phases.

Maintain the PCMS units in good working condition. Repair damaged or malfunctioning PCMS units as soon as possible. PCMS units will remain the property of the Contractor.

4. MEASUREMENT

This Item will be measured by each PCMS or by the day used. All PCMS units must be set up on a work area and operational before a calendar day can be considered measurable. When measurement by the day is specified, a day will be measured for each PCMS set up and operational on the worksite.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Portable Changeable Message Sign." This price is full compensation for PCMS units; set up; relocating; removing; replacement parts; batteries (when required); fuel, oil, and oil filters (when required); cellular telephone charges (when required); software; and equipment, materials, tools, labor, and incidentals.

Special Provision to Special Specification 6001 Portable Changeable Message Sign



Special Specification 6001 "Portable Changeable Message Sign", is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 6001.4., "Measurement." The paragraph is voided and replaced by the following:

This Item will be measured by lump sum for entire project. Measurement will include the quantity of signs for the full number of days as shown in Plans.

Engineer's Opinion of Probable Cost

**City of Bastrop
Old Austin Highway Rehabilitation**

**Project No. 4-01127
Date - May 10, 2019**

Item	Specification	Description	Quantity	Unit	Unit Price	Total Amount
1.00	General Conditions					
1.01	WP-01 21 00	MOBILIZATION & PROJECT INCIDENTALS - Section 01 21 00	1	LS	\$ 64,680.00	\$ 64,680.00
1.02	PN	TRAFFIC CONTROL PLAN - PROJECT NOTES	1	LS	\$ 2,500.00	\$ 2,500.00
1.03	PN	TRAFFIC CONTROL PLAN - IMPLEMENTATION	1	LS	\$ 18,000.00	\$ 18,000.00
1.04	WP - 31 25 12	STORM WATER POLLUTION PREVENTION PLAN	1	LS	\$ 500.00	\$ 500.00
1.05	WP - 31 25 12	STORMWATER POLLUTION PREVENTION PLAN IMPLEMENTATION	1	LS	\$ 2,500.00	\$ 2,500.00
1.06	TxDOT 6001	PORTABLE CHANGEABLE MESSAGE SIGN - 45 DAYS	1	LS	\$ 13,500.00	\$ 13,500.00
1.06	WP - 01 30 00	CONTINGENCY ALLOWANCE	1	LS	\$ 25,000.00	\$ 25,000.00
					\$ -	\$ -
Subtotal General Conditions						\$ 126,680.00
2.00	2.00	Demolition				
2.01	TxDOT 105	REMOVING TREATED & UNTREATED BASE & ASPHALT PAVEMENT	35	SY	\$ 6.00	\$ 210.00
					\$ -	\$ -
					\$ -	\$ -
Subtotal Demolition						\$ 210.00
3.00	3.00	Street Improvements				
3.01	TxDOT 315	FOG SEAL (CSS-1H)	3,572	GAL	\$ 3.75	\$ 13,395.00
3.02	TxDOT 340	DENSE GRADED HMA (SQ) TY-D (PG70-22)	2,089	TON	\$ 95.00	\$ 198,445.50
3.03	TxDOT 351	FLEXIBLE PAVEMENT STRUCTURE REPAIR (4")	15	SY	\$ 45.00	\$ 675.00
3.04	TxDOT 354	PLANE ASPHALT CONCRETE PAVEMENT (0" to 1-1/2")	8,170	SY	\$ 1.75	\$ 14,297.50
3.05	TxDOT 3003	EMULSION TREATMENT (MIX EXIST MATERIAL)(6 1/2")	23,815	SY	\$ 3.40	\$ 80,971.00
3.06	TxDOT 3003	EMULSION TREATMENT (CEMENT)(2%)	151	TON	\$ 170.00	\$ 25,670.00
3.07	TxDOT 3003	EMULSION TREATMENT (EMULSION)(4.8%)	84,139	GAL	\$ 2.75	\$ 231,382.25
3.08	WP - 32 13 13	8" REINFORCED CONCRETE FILLET	200	SF	\$ 12.00	\$ 2,400.00
3.09	WP - 32 13 13	8" REINFORCED CONCRETE VALLEY	140	SF	\$ 18.00	\$ 2,520.00
Subtotal Street Improvements						\$ 569,756.25
4.00	4.00	Pavement Marking Improvements				
4.01	TxDOT 666	REFL PAV MRK TY I (Y)4"(SLD)(100 MIL)	10,320	LF	\$ 0.55	\$ 5,676.00
4.02	TxDOT 666	REFL PAV MRK TY I (Y)4"(BRK)(100 MIL)(80 FT SPA)	9,480	LF	\$ 0.55	\$ 5,214.00
4.03	TxDOT 666	REFL PAV MRK TY I (W)4"(SLD)(100 MIL)	1,250	LF	\$ 0.55	\$ 687.50
4.04	TxDOT 666	REFL PAV MRK TY I (W)4"(BRK)(100 MIL)(40 FT SPA)	350	LF	\$ 0.55	\$ 192.50
4.05	TxDOT 666	REFL PAV MRK TY I (ARROW)(100 MIL)	26	EA	\$ 125.00	\$ 3,250.00
4.06	TxDOT 666	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	565	LF	\$ 1.25	\$ 706.25
4.07	TxDOT 666	REFL PAV MRK TY I (W)24"(SLD)(100 MIL) (CROSSWALK)	540	LF	\$ 9.80	\$ 5,292.00
4.08	TxDOT 666	REFL PAV MRK TY I (W)24"(SLD)(100 MIL) (STOP BAR)	240	LF	\$ 8.25	\$ 1,980.00
4.09	TxDOT 666	REFL PAV MRK TY I (W)8"(DOTD)(100 MIL)	130	LF	\$ 1.40	\$ 182.00
4.10	TxDOT 672	REFL PAV MRKR TY II-A-A	347	EA	\$ 3.00	\$ 1,041.00
4.11	TxDOT 672	REFL PAV MRKR TY I-C	87	EA	\$ 3.00	\$ 261.00
4.12	TxDOT 666	REFL PAV MRK TY I (W)12"(SLD)(100 MIL)	105	LF	\$ 3.25	\$ 341.25
Subtotal Pavement Marking Improvements						\$24,823.50
Total Construction Cost						\$ 721,469.75

Aaron Concrete		Angel Brothers	
Unit Price	Unit Amount	Unit Price	Unit Amount
\$ 70,000.00	70,000.00	\$ 90,000.00	90,000.00
\$ 4,000.00	4,000.00	\$ 1,000.00	1,000.00
\$ 17,000.00	17,000.00	\$ 40,000.00	40,000.00
\$ 2,800.00	2,800.00	\$ 1,000.00	1,000.00
\$ 8,800.00	8,800.00	\$ 5,000.00	5,000.00
\$ 30,000.00	30,000.00	\$ 10,000.00	10,000.00
\$ 25,000.00	25,000.00	\$ 25,000.00	25,000.00
	157,600.00		172,000.00
\$ 115.00	4,025.00	\$ 15.00	525.00
	\$ 4,025.00		\$ 525.00
\$3.50	12,502.00	4.50	16,074.00
\$113.00	236,045.70	110.00	229,779.00
\$250.00	3,750.00	120.00	1,800.00
\$18.00	147,060.00	5.00	40,850.00
\$15.00	357,225.00	9.00	214,335.00
\$195.00	29,445.00	185.00	27,935.00
\$3.50	294,486.50	3.30	277,658.70
\$25.00	5,000.00	20.00	4,000.00
\$34.00	4,760.00	30.00	4,200.00
	1,090,274.20		816,631.70
0.50	5,160.00	0.50	5,160.00
0.25	2,370.00	0.25	2,370.00
0.50	625.00	0.50	625.00
1.15	402.50	1.20	420.00
108.00	2,808.00	110.00	2,860.00
4.50	2,542.50	4.00	2,260.00
8.90	4,806.00	9.00	4,860.00
8.90	2,136.00	9.00	2,160.00
1.30	169.00	1.20	156.00
4.50	1,561.50	4.00	1,388.00
4.50	391.50	4.00	348.00
8.85	929.25	9.00	945.00
	23,901.25		23,552.00
	\$ 1,275,800.45		\$ 1,012,708.70

June 6, 2019

City of Bastrop
1311 Chestnut Street
Bastrop, TX 78602

Attn: Mr. Trey Job, CPM

Re: Old Austin Highway Pavement Rehabilitation (from LP 150 to SH 71)
City of Bastrop Proposal No.: 19-003
Walker Partners Project No.: 4-01127

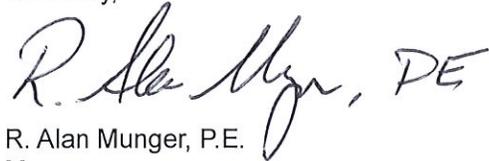
Dear Mr. Job:

On June 4, 2019, two proposals were received for the Old Austin Highway Pavement Rehabilitation Project. The lowest responsible bidder and the most qualified proposal was received from Angel Brothers Enterprises, Ltd. with a total bid of \$1,012,790.12 and a total 85 points of a possible 100.

Walker Partners recommends awarding the bid proposal to Angel Brothers Enterprises, Ltd, for a total construction amount of \$1,012,790.12, which includes a construction contingency of \$25,000.

Please contact me if you have any questions or require additional information.

Sincerely,



R. Alan Munger, P.E.
Manager

RAM:ram

Attachment

Walker Partners, LLC
Proposal Tabulation

City of Bastrop
Old Austin Highway Pavement Rehabilitation
Project No.: 4-01127.00
June 4, 2019 / 2:00 p.m.

Proposers

Item No.	Proposal Item Description	Estimated		Angel Brothers Enterprises, Ltd.		Aaron Concrete Contractors, L.P.	
		Quantities	Measure	Unit Price	Unit Amount	Unit Price	Unit Amount
1.00	General Conditions						
1.01	MOBILIZATION & PROJECT INCIDENTALS - Section 01	1	LS	90,000.00	90,000.00	70,000.00	70,000.00
1.02	TRAFFIC CONTROL PLAN - PROJECT NOTES	1	LS	1,000.00	1,000.00	4,000.00	4,000.00
1.03	TRAFFIC CONTROL PLAN - IMPLEMENTATION - PROJECT NOTES	1	LS	40,000.00	40,000.00	17,000.00	17,000.00
1.04	STORM WATER POLLUTION PREVENTION PLAN	1	LS	1,000.00	1,000.00	2,800.00	2,800.00
1.05	STORMWATER POLLUTION PREVENTION PLAN IMPLEMENTATION	1	LS	5,000.00	5,000.00	8,800.00	8,800.00
1.06	PORTABLE CHANGEABLE MESSAGE SIGN - 45 DAYS (4 EA. DAY)	1	LS	10,000.00	10,000.00	30,000.00	30,000.00
1.07	CONTINGENCY ALLOWANCE	1	LS	25,000.00	25,000.00	25,000.00	25,000.00
	Subtotal General Conditions				172,000.00		157,600.00
2.00	Demolition						
2.01	REMOVING TREATED & UNTREATED BASE & ASPHALT PAVEMENT	35	SY	15.00	525.00	115.00	4,025.00
	Subtotal Demolition				525.00		4,025.00
3.00	Street Improvements						
3.01	FOG SEAL (CSS-1H)	3,572	GAL	4.50	16,074.00	3.50	12,502.00
3.02	DENSE GRADED HMA (SQ) TY-D (PG70-22)	2,089	TON	110.00	229,790.00	113.00	236,057.00
3.03	FLEXIBLE PAVEMENT STRUCTURE REPAIR (4")	15	SY	120.00	1,800.00	250.00	3,750.00
3.04	PLANE ASPHALT CONCRETE PAVEMENT (0" to 1-1/2")	8,170	SY	5.00	40,850.00	18.00	147,060.00
3.05	EMULSION TREATMENT (MIX EXIST MATERIAL)(6 1/2")	23,815	SY	9.00	214,335.00	15.00	357,225.00
3.06	EMULSION TREATMENT (CEMENT)(2%)	151	TON	185.00	27,935.00	195.00	29,445.00
3.07	EMULSION TREATMENT (EMULSION)(4.8%)	84,139	GAL	3.30	277,658.70	3.50	294,486.50
3.08	8" REINFORCED CONCRETE FILLET	200	SF	20.00	4,000.00	25.00	5,000.00
3.09	8" REINFORCED CONCRETE VALLEY	140	SF	30.00	4,200.00	34.00	4,760.00
	Subtotal Street Improvements				816,642.70		1,090,285.50

Item No.	Proposal Item Description	Estimated		Angel Brothers Enterprises, Ltd.		Aaron Concrete Contractors, L.P.	
		Quantities	Measure	Unit Price	Unit Amount	Unit Price	Unit Amount
4.00	Pavement Marking Improvements						
4.01	REFL PAV MRK TY I (Y)4"(SLD)(100 MIL)	10,320	LF	0.50	5,160.00	0.50	5,160.00
4.02	REFL PAV MRK TY I (Y)4"(BRK)(100 MIL)(80 FT SPA)	9,480	LF	0.25	2,370.00	0.25	2,370.00
4.03	REFL PAV MRK TY I (W)4"(SLD)(100 MIL)	1,250	LF	0.50	625.00	0.50	625.00
4.04	REFL PAV MRK TY I (W)4"(BRK)(100 MIL)(40 FT SPA)	350	LF	1.20	420.00	1.15	402.50
4.05	REFL PAV MRK TY I (ARROW)(100 MIL)	26	EA	110.00	2,860.00	108.00	2,808.00
4.06	REFL PAV MRK TY I (W)8"(SLD)(100 MIL)	565	LF	4.00	2,260.00	4.50	2,542.50
4.07	REFL PAV MRK TY I (W)24"(SLD)(100 MIL) (CROSSWALK)	540	LF	8.00	4,860.00	8.90	4,806.00
4.08	REFL PAV MRK TY I (W)24"(SLD)(100 MIL) (STOP BAR)	240	LF	9.00	2,160.00	8.90	2,136.00
4.09	REFL PAV MRK TY I (W)8"(DOTD)(100 MIL)	130	LF	1.20	156.00	1.30	169.00
4.10	REFL PAV MRKR TY II-A-A	347	EA	4.00	1,388.00	4.50	1,561.50
4.11	REFL PAV MRKR TY I-C	87	EA	4.00	348.00	4.50	391.50
4.12	REFL PAV MRK TY I (W) 12" (SLD)(100 MIL)	105	LF	9.00	945.00	8.85	929.25
	Subtotal Pavement Marking Improvements				23,552.00		23,901.25
	Total Proposal				\$1,012,719.70		\$1,275,811.75



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 9E

TITLE:

Consider action to approve Resolution No. R-2019-57 of the City Council of the City of Bastrop, Texas awarding a contract to Barclays Premier Utility Services, LLC in the amount of Three hundred Seventy-four Thousand Seven Hundred Sixty-five dollars and zero cents (\$374,765.00) for the construction of a Sewer Line related to the North Bastrop Community Rehabilitation Project; attached as Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.

STAFF REPRESENTATIVE:

Trey Job, Managing Director of Public Works & Leisure Services

BACKGROUND/HISTORY:

The City of Bastrop received a Community Development Block Grant that provides funding for the sewer line replacement within a portion of Main Street and all of Locust, Magnolia, and Maple Streets. Once the funding was secured in 2018, the City of Bastrop hired Strand and Associates to provide the design, bidding, and contract management for the project.

The Bid Opening for this project was held on Wednesday, April 24, 2019. The City received seven (7) bids for the project ranging from \$374,765.00 to \$544,529.00. Barclays Premier Utility Services, LLC of Houston TX., met all bidding requirements, was found to be the lowest responsible bidder and is recommended for award of this contract for the amount of \$374,765.00.

POLICY EXPLANATION:

The City Council made a commitment to fiscal sustainability by “deciding to no longer kick the can down the road.” Replacing and repairing aging infrastructure is vital to the fiscal sustainability of the city.

FUNDING SOURCE:

The project will be funded by Texas Community Development Block Grant funds and a twenty-five percent grant match provided by the City of Bastrop Water & Wastewater 2019 budget.

RECOMMENDATION:

Consider action to approve Resolution No. R-2019-57 of the City Council of the City of Bastrop, Texas awarding a contract to Barclays Premier Utility Services, LLC in the amount of Three hundred Seventy-four Thousand Seven Hundred Sixty-five dollars and zero cents (\$374,765.00) for the construction of a Sewer Line related to the North Bastrop Community Rehabilitation Project; attached as Exhibit A; and authorizing the City Manager to execute all necessary documents for the agreement; providing for a repealing clause; and establishing an effective date.

ATTACHMENTS:

- Resolution
- Recommendation to Award
- Bid Tabulation
- Draft Project manual



RESOLUTION NO. R-2019-57

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BASTROP, TX AWARDED A CONTRACT TO BARCLAYS PREMIER UTILITY SERVICES, LLC IN THE AMOUNT OF THREE HUNDRED SEVENTY-FOUR THOUSAND SEVEN HUNDRED SIXTY-FIVE DOLLARS AND ZERO CENTS (\$374,765.00) FOR THE CONSTRUCTION OF A SEWER LINE RELATED TO THE NORTH BASTROP COMMUNITY REHABILITATION PROJECT; ATTACHED AS EXHIBIT A; AND AUTHORIZING THE CITY MANAGER TO EXECUTE ALL NECESSARY DOCUMENTS FOR THE AGREEMENT; PROVIDING FOR A REPEALING CLAUSE; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, The City of Bastrop has committed to fiscal sustainability and understands that proper maintenance is vital to extending the life of its wastewater assets; and

WHEREAS, The City Council of the City of Bastrop, Texas, understands the need and endeavors to provide the essential services such as providing wastewater to the homes and businesses of Bastrop; and

WHEREAS, The City Council of the City of Bastrop, Texas, has appointed the City Manager as the Chief Administrative Officer of the City; and

WHEREAS, The City Manager is responsible for the proper administration of all affairs of the City; and

WHEREAS, The City of Bastrop has reviewed all proposals, and found the lowest responsible bidder to be qualified.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BASTROP, TEXAS:

Section 1: That the City Manager is hereby authorized to execute a contract for the North Bastrop Community Rehabilitation Project with Barclays Premier Utility Services, LLC in the amount of \$374,765.00, attached as Exhibit A.

Section 2: That the City Council of the City of Bastrop has found Barclays Premier Utility Services, LLC to be a subject matter expert in the field of installation and replacement of wastewater utilities.

Section 3: All orders, ordinances, and resolutions, or parts thereof, which are in conflict or inconsistent with any provision of this Resolution are hereby repealed to the extent of such conflict, and the provisions of this Resolution shall be and remain controlling as to the matters resolved herein.

Section 4: That this Resolution shall take effect immediately upon its passage, and it is so resolved.

DULY RESOLVED AND ADOPTED by the City Council of the City of Bastrop this 11th day of June 2019.

APPROVED:

Connie B. Schroeder, Mayor

ATTEST:

Ann Franklin, City Secretary

APPROVED AS TO FORM:

Alan Bojorquez, City Attorney

Bids Received: 02:00 PM
April 24, 2019

STRAND ASSOCIATES, INC.®
1906 Niebuhr Street
Brenham, TX 77833

2018 TXCDBG SANITARY SEWER IMPROVEMENTS
CONTRACT 1-2018
CITY OF BASTROP, TEXAS

BID TABULATION SUMMARY

Bidder and Address	Bid Bond	Addenda Acknowledged	Computed Total Bid
Barclays Premier Utility Services, LLC 1630 Gault Road Houston, TX 77039	5%	N/A	\$374,765.00
King Solutions Services, LLC 13221 Chrisman Road Houston, TX 77039	5%	N/A	\$406,390.00
T Construction, LLC 12601 McNair Street Houston, TX 77015	5%	N/A	\$413,609.00
Texas Pride Utilities, LLC 725 Carby Road Houston, TX 77037	5%	N/A	\$418,388.00
Lopez Utilities Contractor, LLC 715 Minnesota Street South Houston, TX 77587	5%	N/A	\$446,589.00 *\$455,264.00
PM Construction & Rehab, LLC Dbas IPR South Central, LLC 131 North Richey Street Pasadena, TX 77506	5%	N/A	\$544,444.00
Horseshoe Construction, Inc. 2309 South Battleground Road La Porte, TX 77571	5%	N/A	\$544,529.00

*CONTRACTOR'S COMPUTED TOTAL

Reviewed by: *Molly Goff*



Bids Received: 02:00 PM, April 24, 2019

STRAND ASSOCIATES, INC.®
1906 Niebuhr Street
Brenham, TX 77833

2018 TXCDBG SANITARY SEWER IMPROVEMENTS
CONTRACT 1-2018
CITY OF BASTROP, TEXAS
BID TABULATION BREAKDOWN

Barclays Premier Utility Services, LLC 1630 Gault Road Houston, TX 77039	King Solutions Services, LLC 13221 Chrisman Road Houston, TX 77039	T Construction, LLC 12601 McNair Street Houston, TX 77015	Texas Pride Utilities, LLC 725 Carby Road Houston, TX 77037	Lopez Utilities Contractor, LLC 715 Minnesota Street South Houston, TX 77587	PM Construction & Rehab, LLC dba IPR South Central, LLC 131 North Richey Street Pasadena, TX 77506	Horseshoe Construction, Inc. 2309 South Battleground Road La Porte, TX 77571
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No.	Description	Quantity	Unit	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1.	Traffic Control	1	LS	\$ 1,000.00	\$ 1,000.00	\$ 3,500.00	\$ 3,500.00	\$ 29,000.00	\$ 29,000.00	\$ 14,000.00	\$ 14,000.00	\$ 8,500.00	\$ 8,500.00	\$ 5,500.00	\$ 5,500.00	\$ 20,000.00	\$ 20,000.00
2.	Install 10-IN HDPE DR 19 Sanitary Sewer Line by Pipe Bursting	542	LF	\$ 70.00	\$ 37,940.00	\$ 50.00	\$ 27,100.00	\$ 39.00	\$ 21,138.00	\$ 40.00	\$ 21,680.00	\$ 48.00	\$ 26,016.00	\$ 62.00	\$ 33,604.00	\$ 70.00	\$ 37,940.00
3.	Install 10-IN HDPE DR 13.5 Sanitary Sewer Line by Pipe Bursting	973	LF	\$ 60.00	\$ 58,380.00	\$ 60.00	\$ 58,380.00	\$ 43.00	\$ 41,839.00	\$ 46.00	\$ 44,758.00	\$ 46.00	\$ 44,758.00	\$ 65.00	\$ 63,245.00	\$ 78.00	\$ 75,894.00
4.	Install 8-IN HDPE DR 19 Sanitary Sewer Line by Pipe Bursting	480	LF	\$ 50.00	\$ 24,000.00	\$ 42.00	\$ 20,160.00	\$ 36.00	\$ 17,280.00	\$ 38.00	\$ 18,240.00	\$ 38.00	\$ 18,240.00	\$ 50.00	\$ 24,000.00	\$ 58.00	\$ 27,840.00
5.	Install 6-IN HDPE DR 19 Sanitary Sewer Line by Pipe Bursting	1,570	LF	\$ 50.00	\$ 78,500.00	\$ 32.00	\$ 50,240.00	\$ 32.00	\$ 50,240.00	\$ 42.00	\$ 65,940.00	\$ 32.00	\$ 50,240.00	\$ 45.00	\$ 70,650.00	\$ 52.00	\$ 81,640.00
6.	Install 6-IN HDPE DR 13.5 Sanitary Sewer Line by Pipe Bursting	1,075	LF	\$ 50.00	\$ 53,750.00	\$ 35.00	\$ 37,625.00	\$ 34.00	\$ 36,550.00	\$ 46.00	\$ 49,450.00	\$ 30.00	\$ 32,250.00	\$ 48.00	\$ 51,600.00	\$ 55.00	\$ 59,125.00
7.	Remove and Dispose of Existing MH and Install Concrete MH	13	EA	\$ 2,000.00	\$ 26,000.00	\$ 5,600.00	\$ 72,800.00	\$ 5,500.00	\$ 71,500.00	\$ 4,000.00	\$ 52,000.00	\$ 6,500.00	\$ 84,500.00	\$ 6,000.00	\$ 78,000.00	\$ 5,500.00	\$ 71,500.00
8.	Install Concrete MH	3	EA	\$ 2,000.00	\$ 6,000.00	\$ 6,500.00	\$ 19,500.00	\$ 5,500.00	\$ 16,500.00	\$ 4,000.00	\$ 12,000.00	\$ 5,200.00	\$ 15,600.00	\$ 5,600.00	\$ 16,800.00	\$ 5,250.00	\$ 15,750.00
9.	Install Extra Depth for MH	45	VLF	\$ 75.00	\$ 3,375.00	\$ 150.00	\$ 6,750.00	\$ 490.00	\$ 22,050.00	\$ 300.00	\$ 13,500.00	\$ 100.00	\$ 4,500.00	\$ 1,250.00	\$ 56,250.00	\$ 375.00	\$ 16,875.00
10.	Remove and Dispose of Existing 10-IN Sanitary Sewer and Install 10-IN ASTM D 3034 SDR 26 PVC and Connect to Existing 10-IN Sanitary Sewer	10	LF	\$ 35.00	\$ 350.00	\$ 85.00	\$ 850.00	\$ 35.00	\$ 350.00	\$ 40.00	\$ 400.00	\$ 98.00	\$ 980.00	\$ 135.00	\$ 1,350.00	\$ 80.00	\$ 800.00
11.	Remove and Dispose of Existing 8-IN Sanitary Sewer and Install 8-IN ASTM D 3034 SDR 26 PVC and Connect to Existing 8-IN Sanitary Sewer	30	LF	\$ 35.00	\$ 1,050.00	\$ 65.00	\$ 1,950.00	\$ 30.00	\$ 900.00	\$ 40.00	\$ 1,200.00	\$ 92.00	\$ 2,760.00	\$ 90.00	\$ 2,700.00	\$ 65.00	\$ 1,950.00

				Barclays Premier Utility Services, LLC 1630 Gault Road Houston, TX 77039		King Solutions Services, LLC 13221 Chrisman Road Houston, TX 77039		T Construction, LLC 12601 McNair Street Houston, TX 77015		Texas Pride Utilities, LLC 725 Carby Road Houston, TX 77037		Lopez Utilities Contractor, LLC 715 Minnesota Street South Houston, TX 77587		PM Construction & Rehab, LLC dba IPR South Central, LLC 131 North Richey Street Pasadena, TX 77506		Horseshoe Construction, Inc. 2309 South Battleground Road La Porte, TX 77571	
No.	Description	Quantity	Unit	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
12.	Remove and Dispose of Existing 6-IN Sanitary Sewer and Install 6-IN ASTM D 3034 SDR 26 PVC and Connect to Existing 6-IN Sanitary Sewer	50	LF	\$ 35.00	\$ 1,750.00	\$ 45.00	\$ 2,250.00	\$ 42.00	\$ 2,100.00	\$ 40.00	\$ 2,000.00	\$ 85.00	\$ 4,250.00	\$ 65.00	\$ 3,250.00	\$ 45.00	\$ 2,250.00
13.	Remove and Dispose of Existing 4-IN Sanitary Sewer and Install 4-IN Schedule 40 PVC and Connect to 4-IN Existing Sanitary Sewer	20	LF	\$ 35.00	\$ 700.00	\$ 45.00	\$ 900.00	\$ 34.00	\$ 680.00	\$ 40.00	\$ 800.00	\$ 52.00	\$ 1,040.00	\$ 37.50	\$ 750.00	\$ 40.00	\$ 800.00
14.	Tie-In to Existing MH	1	EA	\$ 100.00	\$ 100.00	\$ 1,500.00	\$ 1,500.00	\$ 1,900.00	\$ 1,900.00	\$ 400.00	\$ 400.00	\$ 850.00	\$ 850.00	\$ 1,850.00	\$ 1,850.00	\$ 500.00	\$ 500.00
15.	Tie-In to Existing Sanitary Sewer Lift Station	1	EA	\$ 850.00	\$ 850.00	\$ 8,500.00	\$ 8,500.00	\$ 5,500.00	\$ 5,500.00	\$ 2,000.00	\$ 2,000.00	\$ 825.00	\$ 825.00	\$ 1,850.00	\$ 1,850.00	\$ 1,500.00	\$ 1,500.00
										\$ -			*\$3,200.00				
16.	Install 10-IN by 6-IN Service Saddle	3	EA	\$ 500.00	\$ 1,500.00	\$ 750.00	\$ 2,250.00	\$ 549.00	\$ 1,647.00	\$ 400.00	\$ 1,200.00	\$ 800.00	\$ 2,400.00	\$ 500.00	\$ 1,500.00	\$ 550.00	\$ 1,650.00
										\$ -			*\$2,550.00				
17.	Install 10-IN by 4-IN Service Saddle	16	EA	\$ 500.00	\$ 8,000.00	\$ 600.00	\$ 9,600.00	\$ 549.00	\$ 8,784.00	\$ 300.00	\$ 4,800.00	\$ 750.00	\$ 12,000.00	\$ 425.00	\$ 6,800.00	\$ 500.00	\$ 8,000.00
										\$ -			*\$13,200.00				
18.	Install 8-IN by 4-IN Service Saddle	2	EA	\$ 500.00	\$ 1,000.00	\$ 550.00	\$ 1,100.00	\$ 549.00	\$ 1,098.00	\$ 300.00	\$ 600.00	\$ 650.00	\$ 1,300.00	\$ 375.00	\$ 750.00	\$ 450.00	\$ 900.00
										\$ -			*\$1,600.00				
19.	Install 6-IN by 4-IN Service Saddle	25	EA	\$ 500.00	\$ 12,500.00	\$ 480.00	\$ 12,000.00	\$ 490.00	\$ 12,250.00	\$ 300.00	\$ 7,500.00	\$ 450.00	\$ 11,250.00	\$ 200.00	\$ 5,000.00	\$ 450.00	\$ 11,250.00
										\$ -			*\$18,750.00				
20.	Install 6-IN Service Cleanout	3	EA	\$ 250.00	\$ 750.00	\$ 350.00	\$ 1,050.00	\$ 405.00	\$ 1,215.00	\$ 300.00	\$ 900.00	\$ 1,600.00	\$ 4,800.00	\$ 650.00	\$ 1,950.00	\$ 300.00	\$ 900.00
										\$ -			*\$1,950.00				
21.	Install 4-IN Service Cleanout	45	EA	\$ 250.00	\$ 11,250.00	\$ 200.00	\$ 9,000.00	\$ 280.00	\$ 12,600.00	\$ 300.00	\$ 13,500.00	\$ 450.00	\$ 20,250.00	\$ 400.00	\$ 18,000.00	\$ 250.00	\$ 11,250.00
22.	Install Mainline Cleanout	4	EA	\$ 850.00	\$ 3,400.00	\$ 800.00	\$ 3,200.00	\$ 1,500.00	\$ 6,000.00	\$ 1,600.00	\$ 6,400.00	\$ 1,600.00	\$ 6,400.00	\$ 1,600.00	\$ 6,400.00	\$ 950.00	\$ 3,800.00
23.	Install 6-IN PVC Service Line	75	LF	\$ 10.00	\$ 750.00	\$ 25.00	\$ 1,875.00	\$ 22.00	\$ 1,650.00	\$ 40.00	\$ 3,000.00	\$ 30.00	\$ 2,250.00	\$ 45.00	\$ 3,375.00	\$ 25.00	\$ 1,875.00

				Barclays Premier Utility Services, LLC 1630 Gault Road Houston, TX 77039		King Solutions Services, LLC 13221 Chrisman Road Houston, TX 77039		T Construction, LLC 12601 McNair Street Houston, TX 77015		Texas Pride Utilities, LLC 725 Carby Road Houston, TX 77037		Lopez Utilities Contractor, LLC 715 Minnesota Street South Houston, TX 77587		PM Construction & Rehab, LLC dba IPR South Central, LLC 131 North Richey Street Pasadena, TX 77506		Horseshoe Construction, Inc. 2309 South Battleground Road La Porte, TX 77571	
No.	Description	Quantity	Unit	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
24.	Install 4-IN PVC Service Line	1,230	LF	\$ 10.00	\$ 12,300.00	\$ 20.00	\$ 24,600.00	\$ 22.00	\$ 27,060.00	\$ 38.00	\$ 46,740.00	\$ 25.00	\$ 30,750.00	\$ 40.00	\$ 49,200.00	\$ 20.00	\$ 24,600.00
25.	Pavement Repair	550	LF	\$ 3.00	\$ 1,650.00	\$ 13.00	\$ 7,150.00	\$ 19.00	\$ 10,450.00	\$ 46.00	\$ 25,300.00	\$ 80.00	\$ 44,000.00	\$ 25.00	\$ 13,750.00	\$ 110.00	\$ 60,500.00
26.	Trench Safety	800	LF	\$ 0.10	\$ 80.00	\$ 5.00	\$ 4,000.00	\$ 1.00	\$ 800.00	\$ 1.00	\$ 800.00	\$ 1.00	\$ 800.00	\$ 1.00	\$ 800.00	\$ 1.00	\$ 800.00
27.	Clean and TV Lines	4,640	LF	\$ 6.00	\$ 27,840.00	\$ 4.00	\$ 18,560.00	\$ 2.70	\$ 12,528.00	\$ 2.00	\$ 9,280.00	\$ 3.25	\$ 15,080.00	\$ 5.50	\$ 25,520.00	\$ 1.00	\$ 4,640.00
ENGINEER'S COMPUTED TOTAL ITEMS NO. 1 THROUGH 27					\$ 374,765.00		\$406,390.00		\$413,609.00		\$ 418,388.00		\$ 446,589.00		\$ 544,444.00		\$ 544,529.00
CONTRACTOR'S COMPUTED TOTAL ITEMS NO. 1 THROUGH 27					\$ 374,765.00		\$406,390.00		\$413,609.00		\$ 418,388.00		\$ 455,264.00		\$ 544,444.00		\$ 544,529.00

* CONTRACTOR'S COMPUTED TOTAL

Reviewed by Molly Goff



Kelly M. Hajek
4.29.2019

Professional

Engineering

Services

2018 TxCDBG
Sanitary Sewer
Improvements

TxCDBG
Contract
No. 7218019

Contract 1-2018

Project Manual

City of Bastrop, Texas

Issued for Bid

April 9, 2019



PLAN HOLDER: _____

Set No.: _____

PROJECT MANUAL

2018 TXCDBG SANITARY SEWER IMPROVEMENTS
TxCDBG CONTRACT NO. 7218019
CONTRACT 1-2018
CITY OF BASTROP, TEXAS



Prepared by:

STRAND ASSOCIATES, INC.®
1906 Niebuhr Street
Brenham, TX 77833
TBPE No. F-8405
www.strand.com

Issued for Bid
April 9, 2019



SECTION 00010

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END OF SECTION

BIDDING AND CONTRACTING REQUIREMENTS

Construction

City of Bastrop Advertisement and Invitation for Bids

The City of Bastrop will receive bids for 2018 TxCDBG Sanitary Sewer Improvements (TxCDBG Contract #7218019) until 2:00 P.M. on April 24, 2019 at 1209 Linden Street, Bastrop, Texas 78602. The bids will be publicly opened and read aloud at 2:00 P.M. on April 24, 2019 at 1209 Linden Street, Bastrop, Texas 78602. Bids are invited for several items and quantities of work as follows: Install 10", 8", and 6" HDPE sanitary sewer by pipe bursting; Remove and dispose of existing sanitary sewer and install PVC sanitary sewer; Remove and dispose of existing manhole and construct concrete manhole. Prospective bidders are encouraged to obtain all required bid documents by downloading them for no charge at www.civcastusa.com (account setup required). Bid/Contract Documents, including Drawings and Technical Specifications are on file at Strand Associates, Inc.[®], 1906 Niebuhr Street, Brenham, Texas 77833. Copies of the Bid/Contract Documents may be obtained by depositing \$100.00 with Strand Associates, Inc.[®] for each set of documents obtained. The deposit will be refunded if the documents and drawings are returned in good condition within 10 days following the bid opening. A bid bond in the amount of 5 percent of the bid issued by an acceptable surety shall be submitted with each bid. A certified check or bank draft payable to the City of Bastrop or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.

Attention is called to the fact that not less than, the federally determined prevailing (Davis-Bacon and Related Acts) wage rate, as issued by the Texas Department of Agriculture Office of Rural Affairs and contained in the contract documents, must be paid on this project. In addition, the successful bidder must ensure that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual identity, gender identity, or national origin. The City is an Equal Opportunity Employer. The City strives to attain goals for compliance with Federal Section 3 regulations by increasing opportunities for employment and contracting with Section 3 residents and businesses where feasible. The City of Bastrop reserves the right to reject any or all bids or to waive any informalities in the bidding.

Bids may be held by The City of Bastrop for a period not to exceed 90 days from the date of the bid opening for the purpose of reviewing the bids and investigating the bidder's qualifications prior to the contract award.

City of Bastrop

Lynda Humble, City Manager

April 9, 2019

All contractors/subcontractors that are debarred, suspended or otherwise excluded from or ineligible for participation on federal assistance programs may not undertake any activity in part or in full under this project.

INSTRUCTION TO BIDDERS FOR CONSTRUCTION

1. Use of Separate Bid Forms

These contract documents include a complete set of bid and contract forms which are for the convenience of the bidders and are not to be detached from the contract document, completed or executed. Separate bid forms are provided for your use.

2. Interpretations or Addenda

No oral interpretations will be made to any bidder. Each request for clarification shall be made in writing to the Grant Recipient or engineer no less than seven (7) days prior to the bid opening. Each interpretation made will be in the form of an Addendum to the contract documents and will be posted to CivCast, www.civcastusa.com, no less than five (5) days prior to the bid opening. It is, however, the bidder's responsibility to make inquiry as to any addenda issued. All such addenda shall become part of the contract documents and all bidders shall be bound by such addenda, whether or not received by the bidders.

If an addendum to the bid package is necessary, it must be distributed to each potential bidder. The distribution of an addendum shall be verified either by statements of receipt or registered/certified mail receipts, which shall be included in the public works construction file. The addendum shall allow adequate time for consideration in bid preparation (usually at least one week). If adequate time is not available, the bid opening date must be extended and the Grant Recipient must republish the invitation for bids containing the place, time, and date for the new bid opening. Note that any change to the original bid opening date will require republication of the invitation for bids at least once in a locally published newspaper. The republished notice will include the place, time and date for the new bid opening and must be published at least seven days prior to the new bid opening date.

3. Inspection of Site

Each bidder should visit the site of the proposed work and should become acquainted with the existing conditions and facilities, the difficulties and restrictions pertaining to the performance of the contract. The bidder should thoroughly examine and become familiar with the drawings, technical specifications and all other contract documents. The contractor by the execution of the contract shall in no way be relieved of any obligation under it due to failure to receive or examine any form or legal document or to visit the site or the conditions existing. The City will be justified in rejecting any claim based on lack of inspection of the site prior to the bid.

4. Alternate bid items

No alternate bids or bid items will be considered unless they are specifically requested by the technical specifications.

5. Bids

- a. All bids must be submitted on the forms provided and are subject to all requirements of the Contract Documents, including the Drawings.
- b. All bids must be regular in every respect and no interlineation, excisions or special conditions may be made or included by the bidder.
- c. Bid documents, including but not limited to the bid, the bid bond(s), the contractor's certifications, local opportunity plan, and the statement of the bidder's qualifications, shall be sealed in an envelope and clearly labeled with the words "Bid Documents", the project number, name of bidder and the date and time of bid opening.
- d. The City may consider as irregular any bid on which there is an alteration of or departure from the bid form and, at its option, may reject any irregular bid.
- e. If a contract is awarded, it will be awarded to a responsible bidder on the basis of the lowest/best bid and the selected alternate bid items, if any. The contract will require the completion of the work in accordance with the contract documents.

6. Bid Modifications Prior to Bid Opening

- a. Any bidder may modify its bid by submitting a modification or supplemental bid at any time prior to the scheduled closing time for receipt of bids, provided such modification or supplemental bid is received by the locality prior to the closing time. The modification or supplemental bid should not reveal the original bid price but should provide only the addition, subtractions or other modifications to the original bid so that the final prices or terms will not be known by the locality until the sealed bid is open.

7. Bid Bond
 - a. A bid bond in the amount of 5% of the bid issued by an acceptable surety shall be submitted with each bid [for contracts greater than \$100, 000,]. A certified check or bank draft payable to the locality or negotiable U.S. Government Bonds (as par value) may be submitted in lieu of the Bid Bond.
 - b. The bid bond or its comparable will be returned to the bidder as soon as practical after the opening of the bids.
8. Statement of Bidders Qualifications

Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The Grant Recipient shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform its obligations under the contract, and the bidder shall furnish the Grant Recipient all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available data does not satisfy the Grant Recipient that the bidder is qualified to carry out properly the terms of the contract.
9. Unit Price

The unit price for each of the several items in the bid shall include its pro rata share of overhead so that the sum of the products obtained by multiplying the quantity shown for each item by the unit price bid represents the total bid. Any bid not conforming to this requirement may be rejected as informal. Special attention is drawn to this condition, as the unit prices will be used to determine the amount of any change orders resulting from an increase or decrease in quantities.
10. Corrections

Erasures or other corrections in the bid must be noted over the signature of the bidder.
11. Time for Receiving Bids

Bids received prior to the advertised hour of opening shall be kept securely sealed. The officer appointed to open the bids shall decide when the specified time has arrived and no bid received thereafter will be considered; except that when a bid arrives by mail after the time fixed for opening, but before the reading of all other bids is completed, and it is shown to the satisfaction of the Grant Recipient that the late arrival of the bid was solely due to delay in the mail for which the bidder was not responsible, such bid will be received and considered.
12. Opening of Bids

The City/County shall, at the time and place fixed for the opening of bids, open each bid and publicly read it aloud, irrespective of any irregularities therein. Bidders and other interested individuals may be present.
13. Withdrawal of Bids

Bidder may withdraw the bid before the time fixed for the opening of bids, by communicating its purpose in writing to the Grant Recipient. Upon receipt of such notice, the unopened bid will be returned to the bidder. The bid guaranty of any bidder withdrawing his bid will be returned promptly.
14. Award of Contract/Rejection of Bids
 - a. The contract will be awarded to the responsive, responsible Bidder submitting the lowest/best bid. The bidder selected will be notified at the earliest possible date. The locality reserves the right to reject any or all bids and to waive any informality in bids received where such rejection or waiver is in its interest.
 - b. The Grant Recipient reserves the right to consider as unqualified to do the work any bidder who does not habitually perform with his own forces the major portions of the work involved in construction of the improvements embraced in this contract.
15. Execution of Agreement/Performance and Payment Bonds
 - a. Performance Bonds - Requires all prime contractors which enter into a formal contract in excess of \$100,000 with the State, a county, or a municipality; a department, board, or agency of the state, a county, or a municipality; and a school district or a subdivision thereof, to obtain a Performance Bond in the amount of the contract before commencing with work
 - b. Payment Bonds- Requires all prime contractors which enter into a formal contract with the State, a county, or a municipality; a department, board, or agency of the state, a county, or a municipality; and a school district or a subdivision thereof, to furnish to the governmental entity a payment bond in the amount of the contract. The payment bond must be filed within 30 days from the date of the Notice of Award:
 - o Municipalities: If the contract is in excess of \$50,000, a payment bond is required.

- o Counties: If the contract is in excess of \$25,000, a payment bond is required.
- c. The failure of the successful bidder to execute the agreement and supply the required bonds within fifteen (15) days from the date of the notice of award-or within such extended period as the locality may grant, shall constitute a default and the locality may, at its option, either award the contract to the next lowest responsible bidder, or re-advertise for bids. In either case, the locality may charge against the bidder the difference between the amount of the bid, and the amount for which a contract is subsequently executed irrespective of whether this difference exceeds the amount of the bid bond. If a more favorable bid is received through re-advertisement, the defaulting bidder shall have no claim against the locality for a refund.

16. Wages and Salaries

Attention is particularly called to the requirement of paying not less than the prevailing Davis Bacon Related Acts (DBRA) wage rates specified in the Contract Documents. These rates are minimums to be paid during the life of the contract. It is therefore the responsibility of the Bidder to inform themselves as to local labor conditions.

17. Equal Employment Opportunity

Attention is called to the requirements for ensuring that employees and applicants for employment are not discriminated against because of race, color, religion, sex, sexual identity, gender identity, or national origin, and other civil rights requirements.

18. Certification Regarding Lobbying –

Contractors who apply or bid for an award of \$100,000 or more shall provide the required certification that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 USC § 1352.

Equal Opportunity Guidelines for Construction Contractors

Note: To be included in bid packet and distributed at the preconstruction conference (optional)

1. **What are the responsibilities of the offeror or bidder to ensure equal employment opportunity?**
For contracts over \$ 10,000, the offeror or bidder must comply with the "Equal Opportunity Clause" and the "Standard Federal Equal Opportunity Construction Contract Specifications."
2. **Are construction contractors required to ensure a legal working environment for all employees?**
Yes, it is the construction contractor's responsibility to provide an environment free of harassment, intimidation, and coercion to all employees and to notify all foremen and supervisors to carry out this obligation, with specific attention to minority or female individuals.
3. **To alleviate developing separate facilities for men and women on all sites, can a construction contractor place all women employees on one site?**
No, two or more women should be assigned to each site when possible.
4. **Are construction contractors required to make special outreach efforts to Section 3 or minority and female recruitment sources?**
Yes, construction contractors must establish a current list of Section 3, minority and female recruitment sources. Notification of employment opportunities, including the availability of on-the-job training and apprenticeship programs, should be given to these sources. The efforts of the construction contractors should be kept in file.
5. **Should records be maintained on the number of Section 3 residents, minority and females applying for positions with construction contractors?**
Yes, records must be maintained to include a current list of names, addresses and telephone numbers of all Section 3, minority and female applicants. The documentation should also include the results of the applications submitted.
6. **What happens if a woman or minority is sent to the union by the Contractor and is not referred back to the Contractor for employment?**
If the unions impede the construction contractor's responsibility to provide equal employment opportunity, a written notice should be submitted to TDA.
7. **What efforts are made by construction contractors to create entry-level positions for Section 3 residents, women and minorities?**
Construction contractors are required to develop on-the-job training programs, or participate in training programs, especially those funded by the Department of Labor, to create positions for Section 3 residents, women and minorities and to meet employment needs.
8. **Are any efforts made by the Contractor to publicize their Equal Employment Opportunity (EEO) policy?**
Yes, the construction contractor is responsible for notifying unions and sources of training programs of their equal employment opportunity policy. Unions should be requested to cooperate in the effort of equal opportunity. The policy should be included in any appropriate manuals, or collective bargaining agreements. The construction contractor is encouraged to publicize the equal employment opportunity policy in the company newspaper and annual report. The Contractor is also responsible to include the EEO policy in all media advertisement.
9. **Are any in-service training programs provided for staff to update the EEO policy?**
At least annually a review of the EEO policy and the affirmative action obligations are required of all personnel employees of a decision-making status. A record of the meeting including date, time, location, persons present, subject matter discussed, and disposition of the subject matter should be maintained.
10. **What recruitment efforts are made for Section 3 residents, minorities and women?**
The construction contractor must notify both orally and in writing, Section 3, minority and female recruitment sources one month prior to the date of acceptance for apprenticeship or other training programs.
11. **Are any measures taken to encourage promotions for minorities and women?**
Yes, an annual evaluation should be conducted for all minority and female personnel to encourage these employees to seek higher positions.

12. **What efforts are taken to insure that personnel policies are in accordance with the EEO policy?**
Personnel policies in regard to job practices, work assignments, etc. should be continually monitored to insure that the EEO policy is carried out.
13. **Can women be excluded from utilizing any facilities available to men?**
No, all facilities and company activities are non-segregated except for bathrooms or changing facilities to ensure privacy.
14. **What efforts should be utilized to include minority and female contractors and suppliers?**
Take affirmative steps to ensure that small, minority, and women owned businesses are included on all lists for contractors/service providers. Solicit these businesses when issuing RFPs and RFQs and soliciting construction bids. Divide project activities into small tasks to allow participation. Keep records of all offers to minority and female construction contractors.
15. **If a construction contractor participates in a business related association that does not comply with equal opportunity affirmative action standards, does that show his/her failure to comply?**
No, the construction contractor is responsible for its own compliance.
16. **Can a construction contractor hire a subcontractor who has been debarred from government contracts pursuant to EEO?**
No. The construction contractor must suspend, terminate or cancel its contract with any Subcontractor who is in violation of the EEO policy.
17. **What effort has been taken by the construction contractor to monitor all employment to insure the company EEO policy is being carried out?**

The construction contractor must designate a responsible individual to keep accurate records of all employees that includes specific information required by the government

Section 3 Policy

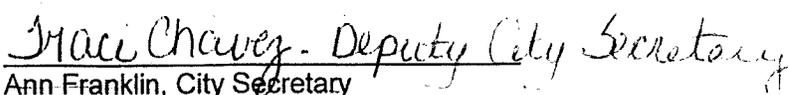
In accordance with 12 U.S.C. 1701u the City of Bastrop agrees to implement the following steps, which, to *the greatest extent feasible*, will provide job training, employment and contracting opportunities for Section 3 residents and Section 3 businesses of the areas in which the program/project is being carried out.

1. Strive to attain goals for compliance to Section 3 regulations by increasing opportunities for employment and contracting for Section 3 residents and businesses.
2. Assign duties related to implementation of this plan to the designated Civil Rights Officer.
3. Notify Section 3 residents and business concerns of potential new employment and contracting opportunities as they are triggered by TxCDBG grant awards through the use of: Public Hearings and related advertisements; public notices; bidding advertisements and bid documents; notification to local business organizations such as the Chamber(s) of Commerce or the Urban League; local advertising media including public signage; project area committees and citizen advisory boards; local HUD offices; regional planning agencies; and all other appropriate referral sources. Include Section 3 clauses in all covered solicitations and contracts.
4. Maintain a list of those businesses that have identified themselves as Section 3 businesses for utilization in TxCDBG funded procurements, notify those businesses of pending contractual opportunities, and make this list available for general Grant Recipient procurement needs.
5. Maintain a list of those persons who have identified themselves as Section 3 residents and contact those persons when hiring/training opportunities are available through either the Grant Recipient or contractors.
6. Require that all Prime contractors and subcontractors with contracts over \$100,000 commit to this plan as part of their contract work. Monitor the contractors' performance with respect to meeting Section 3 requirements and require that they submit reports as may be required by HUD or TDA to the Grant Recipient.
7. Submit reports as required by HUD or TDA regarding contracting with Section 3 businesses and/or employment as they occur; and submit reports within 20 days of the calendar year end which identify and quantify Section 3 businesses and employees.
8. Maintain records for the TxCDBG program, including copies of correspondence, memoranda, etc., which document all actions taken to comply with Section 3 regulations.

Passed and adopted by the City Council of the City of Bastrop, Texas, on the 12th day of February 2019.


Connie Schroeder, Mayor

Attest:


Ann Franklin, City Secretary

SECTION 00 41 00

BID

2018 TXCDBG SANITARY SEWER IMPROVEMENTS
TxCDBG CONTRACT NO. 7218019
CONTRACT 1-2018
CITY OF BASTROP, TEXAS

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- ARTICLE 7. ATTACHMENTS TO THIS BID
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- ARTICLE 9. COMMUNICATIONS
- ARTICLE 10. BID SUBMITTAL

ARTICLE 1–BID RECIPIENT

1.01 Bids to be received until 2:00 P.M. local time, April 24, 2019.

1.02 This Bid is submitted to: City of Bastrop
1209 Linden Street
Bastrop, TX 78602

1.03 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2–BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 130 days after the Bid opening or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

2.02 Bidder will sign and deliver the required number of counterparts of the Agreement with the bonds, insurance certificates and other documents required by the Bidding Requirements within 15 days after the date of OWNER's Notice of Award.

ARTICLE 3–BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following addenda:

Date:

Addendum Number:

B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance of the Work for which this Bid is submitted.

J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4–FURTHER REPRESENTATIONS

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and,

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. “corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the Bidding process;

2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the Bidding process to the detriment of OWNER, (b) to establish bid prices at artificial noncompetitive levels, or (c) to deprive OWNER of the benefits of free and open competition;

3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of OWNER, a purpose of which is to establish bid prices at artificial noncompetitive levels; and

4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5–BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

The following abbreviations may be used in this Bid:

CIP	-	Complete in Place	LS	-	Lump Sum
CY	-	Cubic Yard	LT	-	Left
DI	-	Ductile Iron	MBF	-	Thousand Board Feet
DIA	-	Diameter	MFOB	-	Thousand Freight-On-Board
EA	-	Each	MH	-	Manhole
EST	-	Estimate(d)	RCP	-	Reinforced Concrete Pipe
EXCL	-	Excluding	RT	-	Right
FT	-	Feet	SF	-	Square Foot
GAL	-	Gallon	STA	-	Station
HERCP	-	Horizontal Elliptical RCP	SY	-	Square Yard
HRS	-	Hours	T	-	Ton
IN	-	Inch	VLF	-	Vertical Linear Foot
INCL	-	Including	W/	-	With
LBS	-	Pounds	W/O	-	Without
LF	-	Linear Foot			

BIDDERS SHOULD NOT ADD ANY CONDITIONS OR QUALIFYING STATEMENTS TO THIS BID OR THE BID MAY BE DECLARED IRREGULAR AS NOT BEING RESPONSIVE TO THE INSTRUCTIONS TO BIDDERS.

BID

2018 TXCDBG SANITARY SEWER IMPROVEMENTS
 TXCDBG CONTRACT NO. 7218019
 CONTRACT 1-2018
 CITY OF BASTROP, TEXAS

The following prices per item shall be for furnishing and installing the various items of material and work as specified and shown on the Drawings. Bidder agrees to perform the Work as shown on the Drawings and described in the Specifications for the following listed prices. Bidder acknowledges that unit prices have been computed in accordance with Paragraph 13.03.B of the General Conditions. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

NOTE: A price must be bid for each item in the Bid, even though the estimated quantity is zero. Unbalanced or unreasonable unit prices may cause rejection of the Bid.

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
1.	Traffic Control	1	LS	\$	\$
2.	Install 10-IN HDPE DR 19 Sanitary Sewer Line by Pipe Bursting	542	LF	\$	\$
3.	Install 10-IN HDPE DR 13.5 Sanitary Sewer Line by Pipe Bursting	973	LF	\$	\$
4.	Install 8-IN HDPE DR 19 Sanitary Sewer Line by Pipe Bursting	480	LF	\$	\$
5.	Install 6-IN HDPE DR 19 Sanitary Sewer Line by Pipe Bursting	1,570	LF	\$	\$
6.	Install 6-IN HDPE DR 13.5 Sanitary Sewer Line by Pipe Bursting	1,075	LF	\$	\$
7.	Remove and Dispose of Existing MH and Install Concrete MH	13	EA	\$	\$
8.	Install Concrete MH	3	EA	\$	\$
9.	Install Extra Depth for MH	45	VLF	\$	\$
10.	Remove and Dispose of Existing 10-IN Sanitary Sewer and Install 10-IN ASTM D 3034 SDR 26 PVC and Connect to Existing 10-IN Sanitary Sewer	10	LF	\$	\$
11.	Remove and Dispose of Existing 8-IN Sanitary Sewer and Install 8-IN ASTM D 3034 SDR 26 PVC and Connect to Existing 8-IN Sanitary Sewer	30	LF	\$	\$
12.	Remove and Dispose of Existing 6-IN Sanitary Sewer and Install 6-IN ASTM D 3034 SDR 26 PVC and Connect to Existing 6-IN Sanitary Sewer	50	LF	\$	\$

Item No.	Description	Estimated Quantity	Unit	Bid Unit Price	Bid Price
13.	Remove and Dispose of Existing 4-IN Sanitary Sewer and Install 4-IN Schedule 40 PVC and Connect to 4-IN Existing Sanitary Sewer	20	LF	\$	\$
14.	Tie-In to Existing MH	1	EA	\$	\$
15.	Tie-In to Existing Sanitary Sewer Lift Station	1	EA	\$	\$
16.	Install 10-IN by 6-IN Service Saddle	3	EA	\$	\$
17.	Install 10-IN by 4-IN Service Saddle	16	EA	\$	\$
18.	Install 8-IN by 4-IN Service Saddle	2	EA	\$	\$
19.	Install 6-IN by 4-IN Service Saddle	25	EA	\$	\$
20.	Install 6-IN Service Cleanout	3	EA	\$	\$
21.	Install 4-IN Service Cleanout	45	EA	\$	\$
22.	Install Mainline Cleanout	4	EA	\$	\$
23.	Install 6-IN PVC Service Line	75	LF	\$	\$
24.	Install 4-IN PVC Service Line	1,230	LF	\$	\$
25.	Pavement Repair	550	LF	\$	\$
26.	Trench Safety	800	LF	\$	\$
27.	Clean and TV Lines	4,640	LF	\$	\$

COMPUTED TOTAL BID CONTRACT 1-2018 (ITEMS 1 THROUGH 27)

Dollars \$ _____

(Words) (Numbers)

ARTICLE 9-COMMUNICATIONS

9.01 Communications concerning this Bid shall be addressed to the address of Bidder indicated below:

Name: _____

Street: _____

City, State, Zip Code: _____

Phone No.: _____ Fax No.: _____

E-mail address: _____

ARTICLE 10-BID SUBMITTAL

Submitted on _____

State Contractor License Number _____ (if applicable).

If Bidder is:

An Individual

By: _____
(Individual's signature)

Name (typed or printed): _____

Doing business as: _____
Business address: _____

Phone No.: _____ Fax No.: _____

E-mail address: _____

A Partnership

Partnership Name: _____(SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ Fax No.: _____

E-mail address: _____

A Corporation

Corporation Name: _____(SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____(CORPORATE SEAL)

Attest _____
(Signature of Corporate Secretary)

Business address: _____

Phone No.: _____ Fax No.: _____

E-mail address: _____

Date of Qualification to do business in (State where the Project is located) is _____

Sworn and subscribed to before me this
_____ day of _____, _____

Notary Public or Other Officer
Authorized to Administer Oaths.
My Commission expires: _____

A *Limited Liability Company* (Note: If member-managed, an authorized member must sign; if manager-managed, the authorized manager must sign. Attach evidence of authority to sign on behalf of LLC).

(Fill in complete name of LLC)

State of Formation: _____

By: _____
(Signature)

_____, [Member] [Manager]
(Print Name)

Business Address: _____

Telephone.: _____

Email: _____

Fax: _____

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____(SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ Fax No.: _____

E-mail address: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ Fax No.: _____

E-mail address: _____

Phone No., Fax No., and postal and E-mail address for receipt of official communications:

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Sworn and subscribed to before me this
_____ day of _____, _____

Notary Public or Other Officer
Authorized to Administer Oaths.
My Commission expires: _____

END OF SECTION

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, _____, as PRINCIPAL, and _____, as SURETY are held and firmly bound unto (City/County) hereinafter called the "Local Public Agency", in the penal sum of _____ Dollars, (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the Accompanying Bid, dated _____, for _____

NOW, THEREFORE, the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within thirty (30) days after the said opening, and shall within the period specified therefor, or if no period be specified, within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the Local Public Agency in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the Local Public Agency the difference between the amount specified in said Bid and the amount for which the local Public Agency may procure the required work or supplies or both, if the latter be in ~~excess of~~ the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and ~~virtue.~~
IN WITNESS THEREOF, the above parties have executed this instrument this _____ day of _____, the name and corporate seal of each corporate party being hereto affixed and these present signed by its undersigned representative, pursuant to authority of its governing body.

(SEAL)

(SEAL)

Attest:

By: _____

Affix
Corporate
Seal

Attest:

By: _____

Affix
Corporate
Seal

Attest:

By: _____

Countersigned

By _____
* Attorney-in-Fact, State of Texas

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as Principal in the bid bond; that _____, who signed the said bond on behalf of the Principal was then _____ of said corporation; that I know his/her signature, and his/her signature thereto is genuine; and that said bond was duly signed, sealed, and attested to, on behalf of said corporation by authority of its governing body.

Corporate
Seal

Title: _____

* Power-of-attorney for person signing for Surety Company must be attached to bond.

PROHIBITION ON BOYCOTTING ISRAEL VERIFICATION

This Verification is hereby incorporated into the terms of the contract by and between
_ [OWNER] _____ and
_ [CONTRACTOR] _____ entered
into this the ____ day of _____, 2019.

1. ___ [CONTRACTOR] _____, in conjunction with the execution of the above referenced contract and in accordance with Chapter 2270 of the Texas Government Code, effective September 1, 2017, does hereby agree, confirm, and verify that it:
 - A. Does not Boycott Israel; and
 - B. Will not Boycott Israel during the term of the contract.

"Boycott Israel" has the meaning given to it in Chapter 808 of Subtitle A, Title 8 of the Texas Government Code. As of the effective date of the statute, the term means "refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action make for ordinary business purposes."

2. CONTRACTOR hereby acknowledges and agrees that this verification is a material term of the contract and OWNER is expressly relying on this verification in agreeing to enter into the contract with CONTRACTOR.
3. **TO THE MAXIMUM EXTENT PERMITTED BY LAW, CONTRACTOR AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS OWNER FROM ALL CLAIMS, CAUSES OF ACTION, LEGAL PROCEEDINGS, DAMAGES, COSTS, FEES AND EXPENSES ARISING OUT OF OR RELATED TO AN ACTUAL OR ALLEGED MISREPRESENTATION BY CONTRACTOR PROVIDED HEREUNDER.**

[Signatures on Following Page]

Prohibition on Boycotting Israel Verification [Continued]

CONTRACTOR

State of Texas
County of _____

Before me, a notary public, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing document and, being by me first duly sworn, declared that the statements therein contained in Paragraph 1A and B are true and correct.

(Personalized Seal)

Notary Public's Signature

Receipt and incorporation into the above referenced contract hereby agreed to and acknowledged by:

OWNER

SB 252 CHAPTER 2252 CERTIFICATION

I, _____, the undersigned representative of

(Company or Business Name)

being an adult over the age of eighteen (18) years of age, pursuant to Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153, certify that the company named above is not listed on the website of the Comptroller of the State of Texas concerning the list of companies that are identified under Section 806.051, Section 807.051, or Section 2253.153.

I further certify that should the above-named company enter into a contract that is on said listing of companies on the website of the Comptroller of the State of Texas which do business with Iran, Sudan, or any Foreign Terrorist Organization, I will immediately notify the City of Bastrop Purchasing Department.

Name of Company Representative (Print)

Signature of Company Representative

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

Yes No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

Yes No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signature of vendor doing business with the governmental entity

Date

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed;
- or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
 Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party.

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

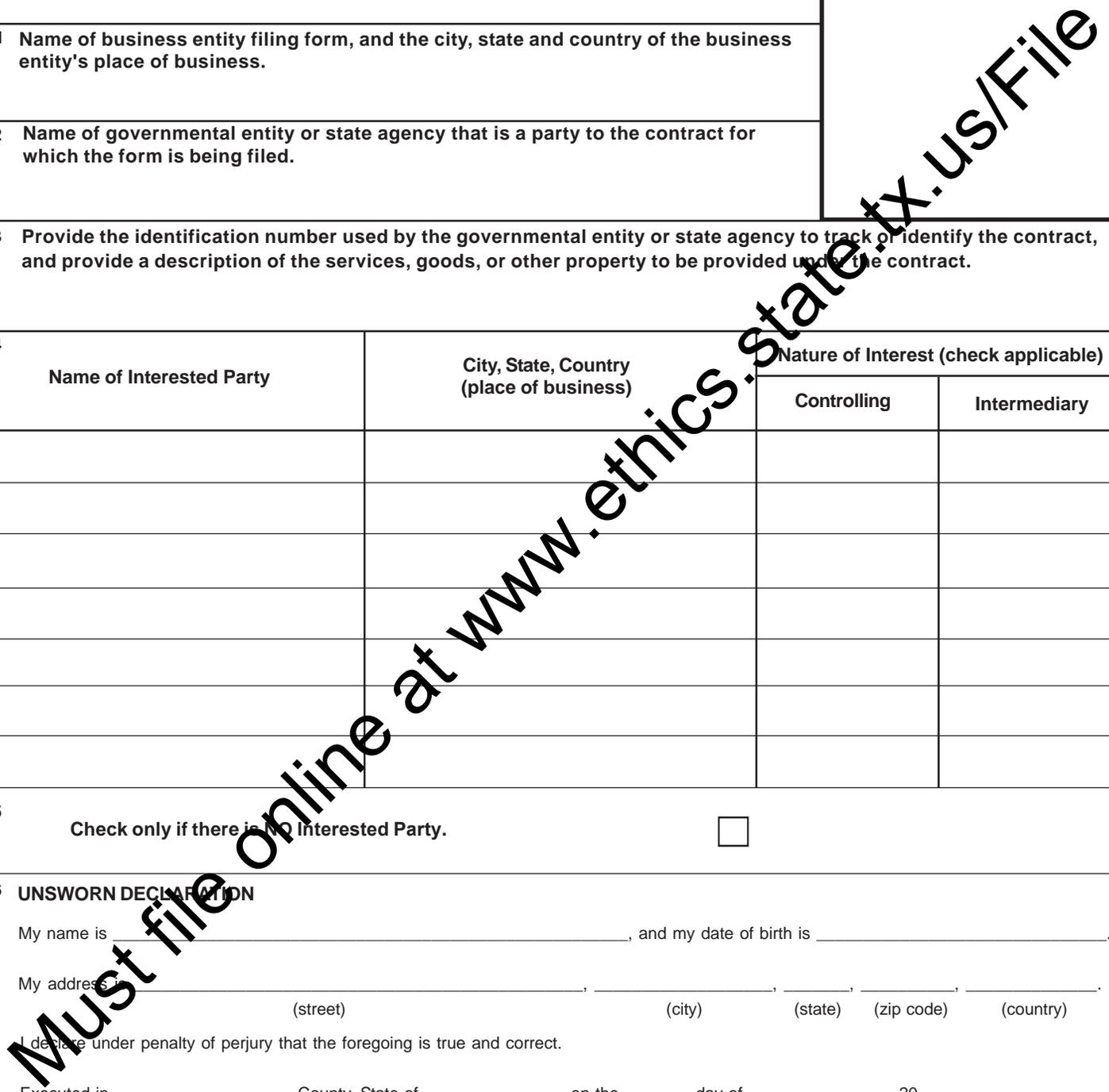
My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20____.
(month) (year)

 Signature of authorized agent of contracting business entity
 (Declarant)

ADD ADDITIONAL PAGES AS NECESSARY



Applicability

The Project or Program to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

A. 1. (i) Minimum Wages. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible, place where it can be easily seen by the workers.

(ii) (a) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination.

The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(ii)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part

of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

3. (i) Payrolls and basic records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5 (a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been

communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017.)

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i) except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149.)

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5 (a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph A. 3. (ii)(b).

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under subparagraph A.3.(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and Trainees.

(i) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who

is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification.

If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by

the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract

6. Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs 1 through 11 in this paragraph A and such other clauses as HUD or its designee may by appropriate instructions require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

7. Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

10. (i) Certification of Eligibility. By entering into this contract the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be

awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001. Additionally, U.S. Criminal Code, Section 1 01 0, Title 18, U.S.C., "Federal Housing Administration transactions", provides in part: "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both."

11. Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this Contract are applicable shall be discharged or in any other manner discriminated against by the Contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. Contract Work Hours and Safety Standards Act. The provisions of this paragraph B are applicable where the amount of the prime contract exceeds \$100,000. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in sub paragraph (1) of this paragraph.

Updated to \$27 a day as of 4/1/19. See Policy Issuance 18-02.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety. The provisions of this paragraph C are applicable where the amount of the prime contract exceeds \$100,000.

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The Contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96). 40 USC 3701 et seq.

(3) The contractor shall include the provisions of this paragraph in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

ANTI-LOBBYING CERTIFICATION

Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions
In accordance with the 31 U.S.C. § 1352:

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

(Firm Name)

(Signature)

(Print Name)

(Print Title)

(Date Certified)

NOTE: Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award of \$100,000 or more must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995)..

SECTION 00 61 00

REQUIREMENTS FOR PERFORMANCE AND PAYMENT BONDS

All bid, performance and payment bonds required on this project shall conform to the requirements listed below.

Signature Requirements for Resident Agent of the Surety

The person signing all bonds for the project as the Attorney-in-Fact for the surety shall be one of the following:

1. An agent with an active Texas Department of Insurance (TDI) license that is appointed by the surety to sign the bonds. Proof of the appointment by the surety shall include all of the following:
 - a. A copy of the certified Power-of-Attorney issued by the surety that lists the name of the agent as an Attorney-in-Fact. The name for the agent shown on the Power-of-Attorney document shall be exactly the same as it appears in TDI records.
 - b. The name of the surety company on the list of appointments for the agent in the records of the TDI.
2. An officer, director, principal, or shareholder of the agency. The agency and the person that is an officer, director, principal, or shareholder shall have an active TDI license. The TDI records for the agency must include the name of the officer, director, principal or shareholder that is signing as the Attorney-in-Fact. Proof of the appointment of the agency by the surety shall include all of the following:
 - a. The name of the surety on the list of appointments for the agency in the records of the TDI.
 - b. A copy of the certified Power-of-Attorney issued by the surety that lists the name of the officer, director, principal or shareholder as an Attorney-in-Fact. The name for the officer, director, principal or shareholder shown on the Power-of-Attorney document shall be exactly the same as it appears in TDI records.

Requirements for the Surety

All bonds for the project shall be issued by a surety that:

1. is named on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury,
2. is licensed to conduct business in the State of Texas, and
3. is licensed by the TDI to issue the bonds.

In addition to the above requirements, the informational form on the next page shall also be completed by the Resident Agent of the Surety or the Surety and submitted with the performance and payment bonds.

INFORMATIONAL FORM ON RESIDENT AGENT OF THE SURETY AND SURETY

Instructions: This form must be completed by the Resident Agent of the Surety or the Surety and submitted with the performance and payment bonds. All information requested shall be typed or clearly printed in the spaces provided below and must match the records on file at the Texas Department of Insurance (TDI).

Resident Agent of the Surety:

1. Name of the person signing the bond as Attorney-in-Fact (exactly as it appears in TDI records):

2. Designate the type of person signing the bond as Attorney-in-Fact (check one):

- Agent
 Officer, Director, Principal or Shareholder in the Agency

3. Name of the agency (exactly as it appears in TDI records):

4. TDI license number for the person signing the bonds: _____

5. Applicable TDI license number for the agency: _____

6. FEIN for the agency: _____

7. Address and phone number for the agency: _____

8. Address and phone number for the agent (if different than the agency): _____

Surety:

1. Name of the surety (exactly as it appears in TDI records): _____

2. TDI license number for the surety: _____

3. FEIN for the surety: _____

4. NAIC number for the surety: _____

5. Address and phone number for the surety: _____

END OF SECTION

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that:

(Name of Contractor or Company)

(Address)

a _____ hereinafter called Principal, and

(Name of Surety Company)

(Address)

hereinafter called Surety, are held and firmly bound unto

(Name of Grant Recipient)

(Grant Recipient's Address)

hereinafter called OWNER, in the penal sum of \$ _____ Dollars (\$ _____) in lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, successors, and assigns, jointly and severally, firmly in these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER dated the _____ day of _____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW THEREFORE, if the Principal shall well, truly and faithfully perform its duties in all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____.

ATTEST:

(Principal)
By _____ (s)
(Principal Secretary)

(SEAL)

(Witness as to Principal) _____
(Address) (Address)

ATTEST:

(Surety)
By _____
(Witness as to Surety) (Attorney in Fact)

(Address) (Address)

NOTE: Date of BOND must not be prior to date of Contract. If PRINCIPAL/CONTRACTOR is Partnership, all partners should execute BOND.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that:

(Name of Contractor or Company)

(Address)

a _____, hereinafter called Principal,
(Corporation / Partnership)

and _____
(Name of Surety Company)

(Address)

hereinafter called Surety, are held and firmly bound unto

(Name of Recipient)

(Recipient's Address)

hereinafter called OWNER, in the penal sum of \$ _____
Dollars, \$ _____ in lawful money of the United States, for this payment of
which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally,
firmly by these presents.

THE CONFIDENTIALITY OF THIS OBLIGATION is such that whereas, the Principal entered into a
certain contract with the OWNER, dated the ____ day of _____,
a copy of which is hereto attached and made a part hereof for the construction of:

(Project Name)

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUB-CONTRACTORS, and
corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract,
and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline,
coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such
WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUB-
CONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of
time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS
accompanying the same shall in any way affect its obligation on this BOND, and it does hereby waive notice of any such
change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of
any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counter-parts, each on of _____ (Number) which shall be deemed an original, this the _____ day of _____.

ATTEST:

(Principal)
By _____ (s)

(Principal Secretary)

(SEAL)

(Witness as to Principal) (Address)

(Address)

ATTEST:

(Surety)
By _____
(Attorney in Fact)

(Witness as to Surety)

(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute BOND.

DISCLAIMER: This sample draft document was developed by TDA's Office of Rural Affairs and does not include all applicable provisions. This document has important legal consequences. Please consult with your legal counsel with respect to its completion or modification to insure that it is in compliance with any appropriate local, state and federal laws applicable.

SAMPLE CONSTRUCTION CONTRACT

THIS AGREEMENT made this the _____ day of _____, _____, by and between _____ (a corporation organized and existing under the laws of the State of _____) (a partnership consisting of _____) (an individual trading as _____) [Note 1] hereinafter called the "Contractor", and _____ hereinafter called the "City/County."

WITNESSETH, that the Contractor and the City/County for the considerations stated herein mutually agree as follows:

ARTICLE 1. Statement of Work. The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment and services, including utility and transportation services, and perform and complete all work required for the construction of the Improvements embraced in the Project; namely, _____ [Note 2] for the _____ Texas Community Development Block Grant (TxCDBG) project, all in strict accordance with the contract documents including all addenda thereto, numbered _____, dated _____ and _____, all as prepared by _____ acting and in these contract documents preparation, referred to as the "Engineer".

Special Notes:

Note 1. Strike out the terms not applicable.

Note 2. Identify the principal items of Contract such as grading, paving, water mains, sewer lines, treatment facilities, etc.

ARTICLE 2. The Contract Price. The City/County will pay the Contractor for the performance of the Contract in current funds, for the total quantities of work performed at the *unit prices* stipulated in the Bid for the several respective items of work completed subject to additions and deductions as provided in _____ hereof.

Alternate Pricing Techniques: In the event the statutory provisions require the contract price to be a fixed sum, in the absence of an approved form, the following should be substituted for Article 2 above.

"ARTICLE 2. The Contract Price. The City/County will pay the Contractor for the performance of the Contract, in current funds, subject to additions and deductions as provided in Section 109 hereof, the sum of _____ Dollars (\$_____)."

ARTICLE 3. The Contract. The executed contract documents shall consist of the following components:

- | | |
|------------------------------|---|
| a. This Agreement (pgs. 1-3) | f. General Conditions, Part I |
| b. Addenda | g. Special Conditions |
| c. Invitation for Bids | h. Technical Specifications |
| d. Instructions to Bidders | i. Drawings (as listed in the Schedule of Drawings) |
| e. Signed Copy of Bid | j. [Add any applicable documents] |

ARTICLE 4. Performance. Work, in accordance with the Contract dated _____, _____, shall commence on or before _____, _____, and Contractor shall complete the WORK within _____ consecutive calendar days thereafter. The date of completion of all WORK is therefore _____, _____.

This Agreement, together with other documents enumerated in this ARTICLE 3, which said other documents are as fully a part of the Contract as if hereto attached or herein repeated, forms the Contract between the parties hereto. In the event that any provision in any component part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in this ARTICLE 3 shall govern, except as otherwise specifically stated.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in *triplicate* (Note 3) original copies on the day and year first above written. (Note 3)

(The Contractor)

By _____ [Note 4]

Title _____

(City/County)

By _____

Title _____

Special Notes:

Note 3. The number of copies to be executed by the parties should be stated in the agreement in the space provided. Such additional signed copies shall be prepared as may be required by the surety companies and others.

Note 4. Supply a description of the Contractor (e.g., proprietorship, partnership, and corporation).

Corporate Certifications

I, _____, certify that I am the _____ of the corporation named as Contractor herein; that _____, who signed this Agreement on behalf of the Contractor, was then _____ of said corporation; that said Agreement was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Corporate
Seal

(Corporate Secretary)

GENERAL CONDITIONS - PART I FOR CONSTRUCTION

1. Contract and Contract Documents

- (a) The project to be constructed pursuant to this contract will be financed with assistance from the Texas Department of Agriculture - Office of Rural Affairs through a Community Development Block Grant (TxCDBG) and is subject to all applicable Federal and State laws and regulations.
- (b) The Plans, Specifications and Addenda shall form part of this contract and the provisions thereof shall be binding upon the parties as if they were herein fully set forth.

2. Definitions

Whenever used in any of the Contract Documents, the following meanings shall be given to the terms here in defined:

- (a) The term "Contract" means the Contract executed between the City of Bastrop, hereinafter called the "City/County" and (Name of Construction Co.), hereinafter called "Contractor", of which these GENERAL CONDITIONS, form a part.
- (b) The term "Project Area" means the area within the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.
- (c) The term "Engineer" means Strand Associates, Inc.[®], Engineer in charge, serving the City/County with architectural or engineering services, his successor, or any other person or persons, employed by the City/County for the purpose of directing or having in charge the work embraced in this Contract.
- (d) The term "Contract Documents" means and shall include the following: Executed Contract, Addenda (if any), Invitation for Bids, Instructions to Bidders, Signed Copy of Bid, General Conditions, Special Conditions, Technical Specifications, and Drawings (as listed in the Schedule of Drawings).

3. Supervision by Contractor

- (a) Except where the Contractor is an individual and personally supervises the work, the Contractor shall provide a competent superintendent, satisfactory to the Engineer, on the work at all times during working hours with full authority to act as Contractor's agent. The Contractor shall also provide adequate staff for the proper coordination and expediting of his work.
- (b) The Contractor shall be responsible for all work executed under the Contract. Contractor shall verify all figures and elevations before proceeding with the work and will be held responsible for any error resulting from his failure to do so.

4. Subcontracts

- (a) The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until Contractor has verified the subcontractor is eligible to participate in federally funded contracts.
- (b) No proposed subcontractor shall be disapproved by the City/County except for cause.
- (c) The Contractor shall be as fully responsible to the City/County for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.
- (d) Nothing contained in the Contract shall create any contractual relation between any subcontractor and the City/County.

5. Fitting and Coordination of Work

The Contractor shall be responsible for the proper fitting of all work and for the coordination of the operations of all trades, subcontractors, or material suppliers engaged upon this Contract.

6. Payments to Contractor

(a) Partial Payments

- 1) The Contractor shall prepare the requisition for partial payment as of the last day of the month and submit it, with the required number of copies, to the Engineer for approval. The amount of the payment due the Contractor shall be determined by adding to the total value of work completed to date, the value of materials properly stored on the site and deducting (1) ten percent (10%) of the total amount, to be retained until final payment, and (2) the amount of all previous payments. The total value of work completed to date shall be based on the estimated quantities of work completed and on the unit prices contained in the agreement. The value of materials properly stored on the site shall be based upon the estimated quantities of such materials and the invoice prices. Copies of all invoices shall be available for inspection of the Engineer.
- 2) Monthly or partial payments made by the City/County to the Contractor are advanced for the purpose of assisting the contractor to expedite the work of construction. The Contractor shall be responsible for the care and protection of all materials and work upon which payments have been made until final acceptance of such work and materials by the City/County. Such payments shall not constitute a waiver of the right of the City/County to require the fulfillment of all terms of the Contract and the delivery of all improvements embraced in this Contract complete and satisfactory to the City/County in all details.

(b) Final Payment

- 1) After final inspection and the acceptance by the City/County of all work under the Contract, the Contractor shall prepare the requisition for final payment which shall be based upon the careful inspection of each item of work at the applicable unit prices stipulated in the Contract. The total amount of the final payment due the Contractor under this Contract shall be the amount computed as described above less all previous payments.
- 2) Before paying the final estimate, City/County shall require the Contractor to furnish releases or receipts from all subcontractors having performed any work and all persons having supplied materials, equipment (installed on the Project) and services to the Contractor. The City/County may make payment in part or in full to the Contractor without requiring the furnishing of such releases or receipts and any payments made shall in no way impair the obligations of any surety or sureties furnished under this Contract.
- 3) Any amount due the City/County under Liquidated Damages shall be deducted from the final payment due the contractor.

(c) Payments Subject to Submission of Certificates

Each payment to the Contractor by the City/County shall be made subject to submission by the Contractor of all written certifications required of it and its subcontractors.

(d) Withholding Payments

The City/County may withhold any payment due the Contractor as deemed necessary to protect the City/County, and if so elects, may also withhold any amounts due from the Contractor to any subcontractors or material dealers, for work performed or material furnished by them. The foregoing provisions shall be construed solely for the benefit of the City/County and will not require the City/County to determine or adjust any claims or disputes between the Contractor and its subcontractors or material dealers, or to withhold any moneys for their protection unless the City/County elects to do so. The failure or refusal of the City/County to withhold any moneys from the Contractor shall in no way impair the obligations of any surety or sureties under any bond or bonds furnished under this Contract.

7. Changes in the Work

- (a) The City/County may make changes in the scope of work required to be performed by the Contractor under the Contract without relieving or releasing the Contractor from any obligations under the Contract or any guarantee given pursuant to the Contract provisions, and without affecting the validity of the guaranty bonds, and without relieving or releasing the surety or sureties of said bonds. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise. Additionally, all such change orders must be approved by TxCDBG prior to execution of same.
- (b) Except for the purpose of affording protection against any emergency endangering health, life, limb or property, the Contractor shall make no change in the materials used or in the specified manner of constructing and/or installing the improvements or supply additional labor, services or materials beyond that actually required for the execution of the Contract, unless in pursuance of a written order from the City/County authorizing the Contractor to proceed with the change. No claim for an adjustment of the Contract Price will be valid unless so ordered.
- (c) If applicable unit prices are contained in the Contract, the City/County may order the Contractor to proceed with desired unit prices specified in the Contract; provided that in case of a unit price contract the net value of all changes does not increase the original total amount of the agreement by more than twenty-five percent (25%) or decrease the original the total amount by eighteen percent (18%).
- (d) Each change order shall include in its final form:
 - 1) A detailed description of the change in the work.
 - 2) The Contractor's proposal (if any) or a confirmed copy thereof.
 - 3) A definite statement as to the resulting change in the contract price and/or time.
 - 4) The statement that all work involved in the change shall be performed in accordance with contract requirements except as modified by the change order.
 - 5) The procedures as outlined in this Section for a unit price contract also apply in any lump sum contract.

8. Claims for Extra Cost

- (a) If the Contractor claims that any instructions by Drawings or otherwise involve extra cost or extension of time, he shall, within ten days after the receipt of such instructions, and in any event before proceeding to execute the work, submit his protest thereto in writing to the City/County, stating clearly and in detail the basis of his objections. No such claim will be considered unless so made.
- (b) Claims for additional compensation for extra work, due to alleged errors in ground elevations, contour lines, or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material, or performing more work, than would be reasonably estimated from the Drawings and maps issued.
- (c) Any discrepancies which may be discovered between actual conditions and those represented by the Drawings and maps shall be reported at once to the City/County and work shall not proceed except at the Contractor's risk, until written instructions have been received from the City/County.
- (d) If, on the basis of the available evidence, the City/County determines that an adjustment of the Contract Price and/or time is justifiable, a change order shall be executed.

9. Termination, Delays, and Liquidated Damages

- (a) Right of the City/County to Terminate Contract for Convenience
City/County may at any time and for any reason terminate Contractor's services and work at City/County's convenience

upon providing written notice to the Contractor specifying the extent of termination and the effective date. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue the work and placing of orders for materials, facilities and supplies in connection with the performance of this Agreement. Upon such termination, Contractor shall be entitled to payment only as follows: (1) the actual cost of the work completed in conformity with this Agreement; plus, (2) such other costs actually incurred by Contractor as are permitted by the prime contract and approved by City/County; (3) plus ten percent (10%) of the cost of the work referred to in subparagraph (1) above for overhead and profit. There shall be deducted from such sums as provided in this subparagraph the amount of any payments made to Contractor prior to the date of the termination of this Agreement. Contractor shall not be entitled to any claim or claim of lien against City/County for any additional compensation or damages in the event of such termination and payment.

(b) Right of the City/County to Terminate Contract for Cause

In the event that any of the provisions of this contract are violated by the Contractor, or by any subcontractors, the City/County may serve written notice upon the Contractor and the Surety of its intention to terminate the contract. The notices shall contain the reasons for such intention to terminate the contract, and unless such violation or delay shall cease and satisfactory arrangement of correction be made within ten days, the contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of any such termination, the City/County shall immediately serve notice thereof upon the Surety and the Contractor. The Surety shall have the right to take over and perform the contract. Provided, however, that if the Surety does not commence performance thereof within ten (10) days from the date of the mailing to such Surety of notice of termination, the City/County may take over the work and complete the project by bid/contract or by force account at the expense of the Contractor and his Surety shall be liable to the City/County for any excess cost incurred. In such event the City/County may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefore.

(c) Liquidated Damages for Delays.

If the work is not completed within the time stipulated in the applicable bid for Lump Sum or Unit Price Contract provided, the Contractor shall pay to the City/County as fixed, agreed, and liquidated damages (it being impossible to determine the actual damages occasioned by the delay) the amount of \$250 for each calendar day of delay, until the work is completed. The Contractor and Contractor's sureties shall be liable to the City/County for the amount thereof.

(d) Excusable Delays.

- 1) The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due to:
- 2) Any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, national defense, or any other national emergency;
- 3) Any acts of the City/County;
- 4) Causes not reasonably foreseeable by the parties to this Contract at the time of execution which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God, terrorism, war, acts of another Contractor in the performance of some other contract with the City/County, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.
- 5) Provided, however, that the Contractor promptly notifies the City/County within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the City/County shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract, the delay is properly excusable, the City/County shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

10. Assignment or Novation

The Contractor shall not assign nor transfer, whether by assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the City/County. No assignment or novation of this Contract shall be valid unless the assignment or novation expressly provides that the assignment of any of the

Contractor's rights or benefits under the Contract is subject to a prior lien for labor performed, services rendered, and materials, tools, and equipment supplied for the performance of the work under this Contract in favor of all persons, Contractors, or corporations rendering such labor or services or supplying such materials, tools, or equipment.

11. Technical Specifications and Drawings

Anything mentioned in the Technical Specifications and not shown on the Drawings or vice versa shall be of like effect as if shown on or mentioned in both. In case of difference between Drawings and Technical Specifications, the Technical Specifications shall govern. In case of any discrepancy in Drawings, or Technical Specifications, the matter shall be immediately submitted to the City/County for review. Contractor shall be liable for any issues or expenses in the event the discrepancy is not submitted to the City/County.

12. Shop Drawings

- (a) All required shop drawings, machinery details, layout drawings, etc. shall be submitted to the Engineer in 6 copies for approval sufficiently in advance of requirements to afford ample time for checking, including time for correcting, resubmitting and rechecking if necessary. The Contractor may proceed, only at Contractor's own risk, with manufacture or installation of any equipment or work covered by said shop drawings, etc. until they are approved and no claim, by the Contractor, for extension of the contract time shall be granted by reason of his failure in this respect.
- (b) Any drawings submitted without the Contractor's stamp of approval will not be considered and will be returned to him for proper resubmission. If any drawings show variations from the requirements of the Contract because of standard shop practice or other reason, the Contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment of contract price and/or time, otherwise the Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though the drawings have been approved.
- (c) If a shop drawing is in accordance with the contract or involves only minor adjustment in the interest of the City/County not involving a change in contract price or time, the engineer may approve the drawing. The approval shall not relieve the Contractor from responsibility to adhere to the contract or for any error in the drawing.

13. Requests for Supplementary Information

It shall be the responsibility of the Contractor to make timely requests of the City/County for any additional information which should be furnished by the City/County under the terms of this Contract, and which is required in the planning and execution of the work. Such requests may be submitted from time to time as the need approaches, but each shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay. Each request shall be in writing, and list the various items and the latest date by which each will be required by the Contractor. The first list shall be submitted within two weeks after Contract award and shall be as complete as possible at that time. The Contractor shall, if requested, furnish promptly any assistance and information the Engineer may require in responding to these requests of the Contractor. The Contractor shall be fully responsible for any delay in his work or to others arising from his failure to comply fully with the provision of this section.

14. Materials and Workmanship

- (a) Unless otherwise specifically provided for in the technical specifications, all workmanship, equipment, materials and articles incorporated in the work shall be new and the best grade of the respective kinds for the purpose. Where equipment, materials, articles or workmanship are referred to in the technical specifications as "equal to" any particular standard, the Engineer shall decide the question of equality.
- (b) The Contractor shall furnish to the City/County for approval the manufacturer's detailed specifications for all machinery, mechanical and other special equipment, which he contemplates installing together with full information as to type, performance characteristics, and all other pertinent information as required, and shall likewise submit for approval full information concerning all other materials or articles which he proposes to incorporate.
- (c) Machinery, mechanical and other equipment, materials or articles installed or used without such prior approval shall be at the risk of subsequent rejection.

- (d) Materials specified by reference to the number or symbol of a specific standard, shall comply with requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Invitation for Bids, except as limited to type, class or grade, or modified in the technical specifications shall have full force and effect as though printed therein.
- (e) The City/County may require the Contractor to dismiss from the work such employee or employees as the City/County or the Engineer may deem unqualified.

15. Samples, Certificates and Tests

- (a) The Contractor shall submit all material or equipment samples, certificates, affidavits, etc., as called for in the contract documents or required by the Engineer, promptly after award of the contract and acceptance of the Contractor's bond. No such material or equipment shall be manufactured or delivered to the site, except at the Contractor's own risk, until the required samples or certificates have been approved in writing by the Engineer. Any delay in the work caused by late or improper submission of samples or certificates for approval shall not be considered just cause for an extension of the contract time.
- (b) Each sample submitted by the Contractor shall carry a label giving the name of the Contractor, the project for which it is intended, and the name of the producer. The accompanying certificate or letter from the Contractor shall state that the sample complies with contract requirements, shall give the name and brand of the product, its place of origin, the name and address of the producer and all specifications or other detailed information which will assist the Engineer in making a prompt decision regarding the acceptability of the sample. It shall also include the statement that all materials or equipment furnished for use in the project will comply with the samples and/or certified statements.
- (c) Approval of any materials shall be general only and shall not constitute a waiver of the City/County's right to demand full compliance with Contract requirements. After actual deliveries, the Engineer will have such check tests made as he deems necessary in each instance and may reject materials and equipment and accessories for cause, even though such materials and articles have been given general approval. If materials, equipment or accessories which fail to meet check tests have been incorporated in the work, the Engineer will have the right to cause their removal and replacement by proper materials or to demand and secure such reparation by the Contractor as is equitable.
- (d) Except as otherwise specifically stated in the Contract, the costs of sampling and testing will be divided as follows:
 - 1) The Contractor shall furnish without extra cost, including packing and delivery charges, all samples required for testing purposes, except those samples taken on the project by the Engineer;
 - 2) The Contractor shall assume all costs of re-testing materials which fail to meet contract requirements;
 - 3) The Contractor shall assume all costs of testing materials offered in substitution for those found deficient; 4) The City/County will pay all other expenses.

16. Permits and Codes

- (a) The Contractor shall give all notices required by and comply with all applicable federal and state laws, ordinances, and codes of the Local Government. All construction work and/or utility installations shall comply with all applicable ordinances, and codes including all written waivers. Before installing any work, the Contractor shall examine the drawings and technical specifications for compliance with applicable ordinances and codes and shall immediately report any discrepancy to the City/County. Where the requirements of the drawings and technical specifications fail to comply with such applicable ordinances or codes, the City/County will adjust the Contract by Change Order to conform to such ordinances or codes (unless waivers in writing covering the difference have been granted by the governing body or department) and make appropriate adjustment in the Contract Price or stipulated unit prices.
- (b) Should the Contractor fail to observe the foregoing provisions and proceed with the construction and/or install any utility at variance with any applicable ordinance or code, including any written waivers (notwithstanding the fact that such installation is in compliance with the drawings and technical specifications), the Contractor shall remove such

work without cost to the City/County.

- (c) The Contractor shall at his own expense, secure and pay for all permits for street pavement, sidewalks, shed, removal of abandoned water taps, sealing of house connection drains, pavement cuts, buildings, electrical, plumbing, water, gas and sewer permits required by the local regulatory body or any of its agencies.
- (d) The Contractor shall comply with applicable local laws and ordinances governing the disposal of surplus excavation, materials, debris and rubbish on or off the Project Area and commit no trespass on any public or private property in any operation due to or connected with the Improvements contained in this Contract.
- (e) The Contractor will be required to make arrangements for and pay the water, electrical power, or any other utilities required during construction.
- (f) During construction of this project, the Contractor shall use every means possible to control the amount of dust created by construction. Prior to the close of a day's work, the Contractor, if directed by the City/County, shall moisten the surrounding area to prevent a dusty condition.

17. Care of Work

- (a) The Contractor shall be responsible for all damages to person or property that occur as a result of its fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance.
- (b) In an emergency affecting the safety of life, limb or property, including adjoining property, the Contractor, without special instructions or authorization from the City/County is authorized to act to prevent such threatened loss or injury. Contractor shall follow all instructions of City/County.
- (c) The Contractor shall avoid damage as a result of his operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc., and shall be responsible for completely repairing any damage thereto caused by the operations.
- (d) The Contractor shall shore up, brace, underpin, secure, and protect as maybe necessary, all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the improvements included in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of any work. The Contractor shall indemnify and save harmless the City/County from any damages on account of settlements or the loss of lateral support of adjoining property and from all loss or expense and all damages for which the City/County may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

18. Accident Prevention

- (a) No laborer or mechanic employed in the performance of this Contract shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards promulgated by the Department of Labor.
- (b) The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work.
- (c) The Contractor shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the City/County with reports concerning these matters.
- (d) The Contractor shall indemnify and hold harmless the City/County from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any work conducted under this contract.

- (e) The Contractor shall provide trench safety for all excavations more than five feet deep prior to excavation. All OSHA Standards for trench safety must be adhered to by the Contractor.
- (f) The contractor shall at all time conduct work in such a manner as to ensure the least possible inconvenience to vehicular and pedestrian traffic. At the close of the work each day, all streets where possible in the opinion of the City/County, shall be opened to the public in order that persons living in the area may have access to their homes or businesses by the use of the streets. Barricades, warning signs, and necessary lighting shall be provided to the satisfaction of the City/County at the expense of the Contractor.

19. Sanitary Facilities

The Contractor shall furnish, install and maintain ample sanitary facilities for laborers. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations.

20. Use of Premises

- (a) The Contractor shall confine equipment, storage of materials, and construction operations to the contract limits as shown on the drawings and as prescribed by ordinances or permits, or as may be desired by the City/County, and shall not unreasonably encumber the site or public rights of way with materials and construction equipment.
- (b) The Contractor shall comply with all reasonable instructions of the City/County and all existing federal, state and local regulations regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.

21. Removal of Debris, Cleaning, Etc.

The Contractor shall, periodically or as directed during the progress of the work, remove and legally dispose of all surplus excavated material and debris, and keep the Project Area and public rights of way reasonably clear. Upon completion of the work, he shall remove all temporary construction facilities, debris and unused materials provided for work, and put the whole site of the work and public rights of way in a neat and clean condition.

22. Inspection

- (a) All materials and workmanship shall be subject to inspection, examination, or test by the City/County and Engineer at any and all times during manufacture or construction and at any and all places where such manufacture or construction occurs. The City/County shall have the right to reject defective material and workmanship or require its correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected material shall be promptly segregated and removed from the Project Area and replaced with material of specified quality without charge. If the Contractor fails to proceed at once with the correction of rejected workmanship or defective material, the City/County may by contract or otherwise have the defects remedied or rejected materials removed from the Project Area and charge the cost of the same against any Monies which may be due the Contractor, without prejudice to any other rights or remedies of the City/County.
- (b) The Contractor shall furnish promptly all materials reasonably necessary for any tests which may be required. All tests by the City/County will be performed in such manner as not to delay the work unnecessarily and will be made in accordance with the provisions of the technical specifications.
- (c) The Contractor shall notify the City/County sufficiently in advance of back filling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the City/County, the Contractor shall uncover for inspection and recover such facilities at Contractor's expense, when so requested by the City/County.

- (d) Should it be considered necessary or advisable by the City/County at any time before final acceptance of the entire work to make an examination of work already completed, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any important or essential respect, due to fault of the Contractor or subcontractors, the Contractor shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, shall be reimbursable and if completion of the work of the entire Contract has been delayed, a suitable extension of time will be approved.
- (e) Inspection of materials and appurtenances to be incorporated in the improvements included in this Contract may be made at the place of production, manufacture or shipment, whenever the quantity justifies it, and such inspection and acceptance, unless otherwise stated in the technical specifications, shall be final, except as regards to: (1) latent defects, (2) departures from specific requirements of the Contract, (3) damage or loss in transit, or (4) fraud or such gross mistakes as amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of materials as a whole or in part will be made at the Project Site.
- (f) Neither inspection, testing, approval nor acceptance of the work in whole or in part, by the City/County or its agents shall relieve the Contractor or its sureties of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

23. Review by City/County

The City/County and its authorized representatives and agents shall have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however that all instructions and approval with respect to the work will be given to the Contractor only by the City/County through its authorized representatives or agents.

24. Final Inspection

When the Improvements included in this Contract are substantially completed, the Contractor shall notify the City/County in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The City/County will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

25. Deduction for Uncorrected Work

If the City/County deems it not expedient to require the Contractor to correct work not done in accordance with the Contract Documents, an equitable deduction from the Contract Price will be made by agreement between the Contractor and the City/County and subject to settlement, in case of dispute, as herein provided.

26. Insurance

The Contractor shall not commence work under this contract until all required insurance under this paragraph has been secured and approved by the City/County.

- (a) Worker's Compensation Insurance: The Contractor shall procure and shall maintain during the life of this contract Worker's Compensation Insurance as required by the State of Texas for all of his employees to be engaged in work at the site of the project under this contract and, in case of any such work sublet, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for all of the employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance.
- (b) Contractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance. The Contractor shall procure and shall maintain during the life of this contract Contractor's Public Liability Insurance, Contractor's Property Damage Insurance and Vehicle Liability Insurance in the following amounts: (See Supplemental Conditions).
- (c) Proof of Insurance: The Contractor shall furnish the City/County with certificates showing the type, amount, class of

operations covered, effective dates and date of expiration of policies. Such certificates shall also contain substantially the following statement: "The insurance covered by this certificate will not be canceled or materially altered, except after ten (10) days written notice has been received by the City/County."

27. Warranty of Title

No material, supplies, or equipment to be installed or furnished under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale, lease-purchase or other agreement by which an interest is retained by the seller or supplier. The Contractor shall warrant good title to all materials, supplies, and equipment installed or incorporated in the work and upon completion of all work, shall deliver the same, together with all improvements and appurtenances constructed or placed by Contractor, to the City/County free from any claims, liens, or charges. Neither the Contractor nor any person, firm, or corporation furnishing any material or labor for any work covered by this Contract shall have any right to a lien upon any improvement or appurtenance. Nothing contained in this paragraph, however, shall defeat or impair the right of persons furnishing materials or labor to recover under any law permitting such persons to look to funds due the Contractor. The provisions of this paragraph shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

28. Warranty of Workmanship and Materials

Neither the final certificate of payment nor any provision in the Contract nor partial or entire use of the improvements included in this Contract by the City/County or the public shall constitute an acceptance of work not done in accordance with the Contract or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall promptly remedy any defects in the work and pay for any damage to other work resulting therefrom which shall appear within a period of 12 months from the date of final acceptance of the work.

29. Job Offices

- (a) The Contractor and its subcontractors may maintain such office and storage facilities on the site as are necessary for the proper conduct of the work. These shall be located so as to cause no interference to any work to be performed on the site. The City/County shall be consulted with regard to locations.
- (b) Upon completion of the improvements, or as directed by the City/County, the Contractor shall remove all such temporary structures and facilities from the site, and leave the site of the work in the condition required by the Contract.

30. Partial Use of Site Improvements

The City/County may give notice to the Contractor and place in use those sections of the improvements which have been completed, inspected and can be accepted as complying with the technical specifications and if in its opinion, each such section is reasonably safe, fit, and convenient for the use and accommodation for which it was intended, provided:

- (a) The use of such sections of the Improvements shall in no way impede the completion of the remainder of the work by the Contractor.
- (b) The Contractor shall not be responsible for any damages or maintenance costs due directly to the use of such sections.

31. Local Program Liaison

For purposes of this Agreement, the [*e.g. City Manager*] or equivalent authorized person will serve as the Local Program Liaison and primary point of contact for the Contractor. All required progress reports and communication regarding the project shall be directed to this liaison and other local personnel as appropriate.

32. Access to Information

- (a) The U.S. Department of Housing and Urban Development (HUD), Inspectors General, the Comptroller General of the United States, the Texas Department of Agriculture (TDA), and the City/County, or any of their authorized representatives, shall have access to any documents, papers, or other records of the Contractor which are pertinent to the TxCDBG award, in order to make audits, examinations, excerpts, and transcripts, and to closeout the City's/County's

TxCDBG contract with TDA.

(b) Contractor shall include the substance of this clause in all subcontracts it awards.

33. Records Retention

(a) The Contractor shall retain all required records for three years after the City/County makes its final payment and all pending matters are closed.

(b) Contractor shall include the substance of this clause in all subcontracts it awards.

34. Resolution of Program Non-Compliance and Disallowed Costs

In the event of any dispute, claim, question, or disagreement arising from or relating to this Contract, or the breach thereof, including determination of responsibility for any costs disallowed as a result of non-compliance with federal, state or TxCDBG program requirements, the parties hereto shall use their best efforts to settle the dispute, claim, question or disagreement. To this effect, the parties shall consult and negotiate with each other in good faith within 30 days of receipt of a written notice of the dispute or invitation to negotiate, and attempt to reach a just and equitable solution satisfactory to both parties. If the matter is not resolved by negotiation within 30 days of receipt of written notice or invitation to negotiate, the parties agree first to try in good faith to settle the matter by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration, litigation, or some other dispute resolution procedure. The parties may enter into a written amendment to this Contract and choose a mediator that is not affiliated with the American Arbitration Association. The parties shall bear the costs of such mediation equally. *[This section may also provide for the qualifications of the mediator(s), the locale of meetings, time limits, or any other item of concern to the parties.]* If the matter is not resolved through such mediation within 60 days of the initiation of that procedure, either party may proceed to file suit.

35. Compliance with Davis-Bacon Act

All laborers and mechanics employed upon the work covered by this Contract shall be paid unconditionally and not less often than once each week, and without subsequent deduction or rebate on any account (except such payroll deductions as are made mandatory by law and such other payroll deductions as are permitted by the applicable regulations issued by the Secretary of Labor, United States Department of Labor, pursuant to the Anti-Kickback Act hereinafter identified), the full amount due at time of payment computed at wage rates not less than those contained in the wage determination decision of said Secretary of Labor (a copy of which is attached as Wage Rates and herein incorporated by reference), regardless of any contractual relationship which may be alleged to exist between the Contractor or any subcontractor and such laborers and mechanics. All laborers and mechanics employed upon such work shall be paid in cash, except that payment may be by check if the employer provides or secures satisfactory facilities approved by the City/County for the cashing of the same without cost or expense to the employee. For the purpose of this clause, contributions made or costs reasonably anticipated under Section 1 (b) (2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section 5.5 (a) (1) (iv) of Title 29, Code of Federal Regulations. Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds, or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

The Contractor and its subcontractors shall not, by any means, induce any person employed in the construction, completion, or repair of public work, give up any part of the compensation to which he or she is otherwise entitled. The City/County must report all suspected or reported violations to TDA.

36. Conflicts of interest.

(a) Governing Body. No member of the governing body of the City/County and no other officer, employee, or agent of the City/County, who exercises any functions or responsibilities in connection with administration, construction, engineering, or implementation of TxCDBG award between TDA and the City / County, shall have any personal financial interest, direct or indirect, in the Contractor or this Contract; and the Firm shall take appropriate steps to

assure compliance.

- (b) Other Local Public Officials. No other public official, who exercises any functions or responsibilities in connection with the planning and carrying out of administration, construction, engineering or implementation of the TxCDBG award between TDA and the City/County, shall have any personal financial interest, direct or indirect, in the Contractor or this Contract; and the Contractor shall take appropriate steps to assure compliance.
- (c) The Contractor and Employees. The Contractor warrants and represents that it has no conflict of interest associated with the TxCDBG award between TDA and the City/County or this Contract. The Contractor further warrants and represents that it shall not acquire an interest, direct or indirect, in any geographic area that may benefit from the TxCDBG award between TDA and the City/County or in any business, entity, organization or person that may benefit from the award. The Contractor further agrees that it will not employ an individual with a conflict of interest as described herein.

37. Debarment and Suspension (Executive Orders 12549 and 12689)

The Contractor certifies, by entering into this Contract, that neither it nor its principals are presently debarred, suspended, or otherwise excluded from or ineligible for participation in federally-assisted programs under Executive Orders 12549 (1986) and 12689 (1989). The term "principal" for purposes of this Contract is defined as an officer, director, owner, partner, key employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of the Contractor. The Contractor understands that it must not make any award or permit any award (or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, "Debarment and Suspension."

38. [For Contracts that exceed \$100,000] Anti-Lobbying

Contractor shall file the required certification: The undersigned certifies, to the best of his or her knowledge and belief, that:

- (a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

39. [For Contracts > \$100K] Overtime Requirements

No Contractor or subcontractor contracting for any part of the Contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any laborer or mechanic in any workweek in which he is employed on such work to work in excess of 40 hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of 40 hours in such work week, as the case may be.

40. [For Contracts > \$150K] Clean Air Act and the Federal Water Pollution Control Act

The Contractor or subcontractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251–1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

41. Equal Opportunity Clause [applicable to contracts and subcontracts over \$10,000].

During the performance of this contract, the Contractor agrees as follows:

(a.) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

(b.) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(c.) The Contractor will not discourage or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(d.) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(e.) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, "Equal Employment Opportunity," and of the rules, regulations, and relevant orders of the Secretary of Labor.

(f.) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(g.) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(h.) The Contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to

any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

42. Section 109 of the Housing and Community Development Act of 1974.

The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the ground of race, color, national origin, religion, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

43. Section 504 Rehabilitation Act of 1973, as amended.

The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his/her disability, be denied the benefits of, or be subjected to discrimination, including discrimination in employment, under any program or activity receiving federal financial assistance.

44. Age Discrimination Act of 1975.

The Contractor shall comply with the Age Discrimination Act of 1975 which provides that no person in the United States shall on the basis of age be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

[If this Contract is greater than \$100,000, include the following Section 3 language:]

45. Economic Opportunities for Section 3 Residents and Section 3 Business Concerns.

- (a) The work to be performed under this Contract is subject to the requirements of section 3 of the Housing and Urban Development (HUD) Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- (b) The parties to this Contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this Contract, the parties to this Contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- (c) The Contractor agrees to send to each labor organization or representative of workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- (d) The Contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- (e) The Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the Contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 135.
- (f) Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this Contract for default, and debarment or suspension from future HUD assisted contracts.

- (g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this Contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

46. Contract Documents and Drawings

The City/County will furnish the Contractor without charge 4 copies of the Contract Documents, including Technical Specifications and Drawings. Additional copies requested by the Contractor will be furnished at cost.

47. Contract Period

The work to be performed under this contract shall commence within the time stipulated by the City/County in the Notice to Proceed, and shall be fully completed within 120 calendar days thereafter.

48. Liquidated Damages

Since the actual damages for any delay in completion of the work under this contract are impossible to determine, the Contractor and his Sureties shall be liable for and shall pay to the City/County the sum of Two Hundred Fifty Dollars (\$250) as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated time for completion.

49. Gender Neutral - Gender References

When necessary, unless the context clearly requires otherwise, any gender-specific or gender-neutral term in this Contract (for example, he, she, it, etc.) is to be read as referring to any other gender or to no gender.

SPECIAL CONDITIONS
TxCDBG

SC.1 - GENERAL

The provisions of this section shall govern in the event of any conflict between them and the "General Contract Conditions".

SC. 2 - PERMITS AND RIGHT-OF-WAY

The Owner will provide rights-of-way for the purpose of construction without cost to the Contractor by securing permits in areas of public dedication or by obtaining easement across privately owned property.

It shall be the responsibility of the Contractor, prior to the initiation of construction on easements through private property, to inform the property owner of his intent to begin construction. Before beginning construction in areas of public dedication the Contractor shall inform the agency having jurisdiction in the area forty-eight (48) hours prior to initiation of the work.

SC. 3 - REFERENCE SPECIFICATIONS

Where reference is made in these specifications to specifications compiled with other agencies, organizations or departments, such reference is made for expediency and standardization from the material suppliers' point of view, and such specifications referred to are hereby made a part of these specifications.

Whenever reference is made to the furnishing of materials of testing thereof to conform to the standards of any technical society, organization, or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the time of advertisement for bids, even though reference has been made to an earlier standard, and such standards are made a part hereof to the extent which is indicated or intended.

SC. 4 - RECORD DRAWING DIMENSIONS

Contractor to make daily measurements of facilities constructed and keep neat, accurate records of location (horizontal and vertical) of all facilities. These records shall be maintained at the job site and shall be made promptly available to the Engineer or Owner upon their request. On completion of job, Contractor to furnish Owner with one set of Plans, marked neatly with red pencil, showing dimensions and location (horizontal and vertical) of all work constructed. Drawings will be submitted to the Engineer with Contractor's written notification of completion or substantial completion.

SC. 5 - REFERENCE LINES AND GRADES

Unless otherwise specified, lines and grades shall be furnished by the Engineer or his 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 therefor. The Contractor shall give the Engineer ample notice of the time and place where lines and grades will be needed. All stakes, marks, etc., shall be replaced at the Contractor's expense.

SC. 6 - SALES TAX

If the Owner is a public agency, such as a municipality, district, or other political subdivision of the State of Texas, it is exempt from sales tax, which shall not be included in the contract price.

SC. 7 - CONTRACTOR'S INSURANCE

A. The limits of liability for the insurance required shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations. The types of insurance and the limits of liability indicated are the minimum required. Neither OWNER nor ENGINEER warrant the adequacy of the types of insurance or the limits of liability required. Any policy exclusions shall be indicated on the insurance certificate. CONTRACTOR shall provide verification of all coverages with or on the insurance certificate.

1. Worker's Compensation:
 - (a) State Statutory
 - (b) Applicable Federal
(e.g., Longshoreman's) Statutory
2. Contractor's Liability Insurance which shall also include completed operations and product liability coverages and eliminate any exclusion with respect to property under the care, custody and control of Contractor:
 - (a) General Aggregate
(Except Products-
Completed Operations) \$2,000,000
 - (b) Products - Completed
Operations Aggregate \$1,000,000
 - (c) Personal and Advertising
Injury (Per Person/Organization) \$1,000,000
 - (d) Each Occurrence
(Bodily Injury and Property Damage) \$1,000,000
 - (e) Property Damage Liability Insurance
will provide Explosion. Collapse and
Underground coverages where
applicable.
3. Automobile Liability Insurance:
 - (a) Combined Single Limit
(Bodily Injury and Property Damage):
\$1,000,000 Each Person

B. Additional Insured Endorsements

The Contractor shall purchase and maintain liability insurance, as described above, specifically naming as additional insureds the Owner and the Engineer, using Additional Insurance Endorsement Form CG 20 10 07 04, or equivalent form. General liability policies shall also be endorsed with Form CG 20 37 07 04 to include the "products-completed operations coverage."

C. Endorsements or General Liability policy shall not exclude supervisory or inspection services. The Contractor shall also provide an Additional Insured Endorsement for the automobile policy. Endorsement form shall be CA 20 48, or equal.

D. Pursuant to the Texas Worker's Compensation Commission Rule, TAC § 110.110 the following language is hereby incorporated into this contract:

Workers' Compensation Insurance Coverage:

1. Definitions:

Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a 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.

Duration of the project - includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the owner.

Persons providing services on the project ("subcontractor" in 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 or any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, 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.

2. 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 Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

3. The Contractor must provide a certificate of coverage to the owner prior to being awarded the contract.

4. 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 owner showing that coverage has been extended.

5. The contractor shall obtain from each person providing services on a project, and provide to the owner.

(a) a certificate of coverage, prior to that person beginning work on the project, so the owner will have on file certificate of coverage showing coverage for all persons providing services on the project, and

(b) 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.

6. The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

7. The Contractor shall notify the Owner in writing by certified mail or personal delivery, within 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.

8. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

9. The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(a) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(b) 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;

(c) 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;

(d) obtain from each other person with whom it contracts, and provide to the Contractor;

(1) a certificate of coverage, prior to the other person beginning work on the project; and

(2) 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;

(e) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(f) notify the Owner in writing by certified mail or personal delivery, within 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

(g) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

10. By signing this contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner 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.

11. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the Owner to declare the contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.

SC. 8 - ACCIDENT PREVENTION

The Contractor shall also indemnify the Engineer in the same manner as the City is indemnified under Paragraph 18.01 of the General Conditions.

SC. 9 - ENGINEER

The Engineer's duties during construction consist of the following items:

- 1) Conduct Preconstruction Conference and issue Notice to Proceed.
- 2) Review shop drawings.
- 3) Review and recommend pay requests.
- 4) Make periodic site visits to observe the progress of the Work.
- 5) Conduct the final inspection.
- 6) Prepare Certificate of Construction Completion.
- 7) Prepare "record drawings" based on Contractor's red lines.

Neither the City nor the Engineer is responsible for the Contractor's work or site safety.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

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

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

PRODUCER Insurance Agency	CONTACT NAME:	
	PHONE (A/C. No. Ext):	FAX (A/C. No):
E-MAIL ADDRESS:		
PRODUCER CUSTOMER ID #:		
INSURER(S) AFFORDING COVERAGE		NAIC #
INSURED Contractor	INSURER A : Insurance Company	
	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	X					EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 1,000,000 FIRE DAM. - (ANY ONE FIRE) \$
	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS	X					COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ \$
	UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DEDUCTIBLE RETENTION \$	X					EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y/N If yes, describe under DESCRIPTION OF OPERATIONS below		N/A				<input checked="" type="checkbox"/> WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT \$ Statutory E.L. DISEASE - EA EMPLOYEE \$ Statutory E.L. DISEASE - POLICY LIMIT \$ Statutory
	Installation Floater or Builders Risk Pollution Liability						See SC-6.05

SPECIMEN

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

2018 TxCDBG Sanitary Sewer Improvements, TxCDBG Contract No. 7218019, City of Bastrop
The City of Bastrop and Strand Associates, Inc. are additional insured with respect to General Liability, Automobile Liability, Pollution Liability, and Excess/Umbrella Liability. The City of Bastrop is an insured with respect to Installation Floater or Builder's Risk policies. In addition, see attached Additional Insured Endorsements for the General Liability and Automobile policies.

CERTIFICATE HOLDER**CANCELLATION**

City of Bastrop 1209 Linden Street Bastrop, TX 78602 Strand Associates, Inc. 1906 Niebuhr Street Brenham, TX 77833 (Provide separate certificate to each party.)	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. **This statement must be notarized.** If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

Date: _____

Bidder (Legal Name of Firm): _____

Date Organized: _____

Address : _____
: _____

Date Incorporated _____

Federal ID Number: _____

Number of Years in contracting business under present name _____

List all other names under which your business has operated in the last 10 years:

Work Presently Under Contract:

Contract	Amount \$	Completion Date

Type of work performed by your company: _____

Total Staff employed by Firm (Break down by Managers and Trades on separate sheet):

Have you ever failed to complete any work awarded to you? Yes No
(If yes, please attach summary of details on a separate sheet. Include brief explanation of cause and resolution)

Have you ever defaulted on a contract? Yes No
(If yes, please attach summary of details on a separate sheet.)

Has your organization had any disbarments or suspensions that have been imposed in the past five years or that was still in effect during the five year period or is still in effect? Yes No

(If yes, list and explain; such list must include disbarments and suspensions of officers, principals, partners, members, and employees of your organization.)

List the projects most recently completed by your firm (include project of similar importance):

Project	Amount \$	Mo/Yr Completed
_____	_____	_____
_____	_____	_____
_____	_____	_____

Major equipment available for this contract: _____

Are you in compliance with all applicable EEO requirements? Yes No
(If no, please attach summary of details on a separate sheet.)

Bank References

Address: _____ Contact Name: _____

City & State: _____ Zip: _____ Phone Number: _____

Credit available: \$ _____

Has the firm or predecessor firm been involved in a bankruptcy or reorganization? Yes No
(If yes, please attach summary of details on a separate sheet.)

List on a sheet attached hereto all judgements, claims, arbitration proceedings, or suits pending or outstanding against bidder over the last five (5) years with amount of claim and brief description.

List on a sheet attached hereto all lawsuits or requested arbitration with regard to construction contracts which bidder has initiated within the last five (5) years and brief explanation of claim and outcome.

Attach resume(s) for the principal member(s) of your organization, including the officers as well as the proposed superintendent for the project.

Signed this _____ day of _____, 20____.

Signature

Printed Name and Title

Company Name

Notary Statement:

_____, being duly sworn, says that he/she is the _____ Position/Title _____ of _____ (Firm Name), and hereby swears that the answers to the foregoing questions and all statements therein contained are true and correct. He/she hereby authorizes and requests any person, firm, or corporation to furnish any information requested City/County of _____ in verification of the recitals comprising this Statement of Bidder's Qualifications.

Subscribed and sworn before me this _____ day of _____, 20_____.

Notary Public

Signature

Printed Name

My Commission Expires: _____,

The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of Texas)
County of _____)

_____, being first duly sworn, deposes and says that:

- (1) He/She is _____ of _____, the Bidder that has submitted the attached Bid;
- (2) He/She is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with another Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix an overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the _____ (Local Public Agency) or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

Title

Subscribed and sworn to me this _____ day of _____.

By: _____
Notary Public

My commission expires _____

CONTRACTOR'S LOCAL OPPORTUNITY PLAN

(name of company) agrees to implement the following specific affirmative action steps directed at increasing the utilization of lower income residents and businesses within the (City/County) of Bastrop.

- A. To ascertain from the City/County’s CDBG program official the exact boundaries of the project area and where advantageous, seek the assistance of local officials in preparing and implementing the affirmative action plan.
- B. To attempt to recruit from within the city the necessary number of lower income residents through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within and servicing the project area such as Service Employment and Redevelopment (SER), Opportunities Industrialization Center (OIC), Urban League, Concentrated Employment Program, Hometown Plan, or the U.S. Employment Service.
- C. To maintain a list of all lower income residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and if a vacancy exists.
- D. To insert this plan in all bid documents and to require all bidders on subcontracts to submit an affirmative action plan including utilization goals and the specific steps planned to accomplish these goals.
- E. To ensure that subcontracts (greater than \$10,000), which are typically let on a negotiated rather than a bid basis in areas other than the covered project area, are also let on a negotiated basis, whenever feasible, in a covered project area.
- F. To formally contact unions, subcontractors, and trade associations to secure their cooperation in this effort.
- G. To ensure that all appropriate project area business concerns are notified of pending sub-contractual opportunities.
- H. To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.
- I. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implementation of this plan.
- J. To maintain records concerning the amount and number of contracts, subcontracts, and purchases which contribute to objectives.
- K. To maintain records of all projected work force needs for all phases of the project by occupation, trade, skill level, and number of positions and to update these projections based on the extent to which hiring meets these Local Opportunity objectives.

As officers and representatives of (name of company), we the undersigned have read and fully agree to this Plan, and become a party to the full implementation of the program and its provisions.

Signature

Printed Name

Title

Date

PROPOSED CONTRACTS BREAKDOWN

Type of Contracts	No. of Contracts	Approx. Total Dollar Amount	Estimated No. to local Business	Estimated \$ Amount Local Business

ESTIMATED PROJECT WORKFORCE BREAKDOWN

Work Classifications	Total Estimated Positions	No. of Positions Currently Filled	No. of Positions not Filled	No. of Positions to fill with LM/Residents
Totals				

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
 COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM
 CONTRACTOR'S CERTIFICATION

CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS

TO (appropriate recipient)	DATE
	PROJECT NUMBER (if any)
C/O	PROJECT NAME

1. The undersigned, having executed a contract with _____ for the construction of the above-identified project, acknowledges that:
 (a) The Labor Standards provisions are included in the aforesaid contract,
 (b) ~~Correction of any infractions of the aforesaid conditions, including infractions by any subcontractors and any lower tier subcontractors, is Contractor's responsibility.~~

2. Certifies that:
 (a) Neither Contractor nor any firm, partnership or association in which it has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary of Labor, Part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act, as amended.
 (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated as an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.

3. Contractor agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements executed by the subcontractors.

4. Certifies that:
 (a) The legal name and the business address of the undersigned are:

(b) The undersigned is (choose one):

(1) A SINGLE PROPRIETORSHIP	(3) A CORPORATION ORGANIZED IN THE STATE OF _____
(2) A PARTNERSHIP	(4) OTHER ORGANIZATION (Describe) _____

(c) The name, title and address of the owner, partners or officers of the undersigned are:

NAME	TITLE	ADDRESS

(d) The names and addresses of all other persons having a substantial interest in the undersigned, and the nature of the interest are:

NAME	ADDRESS	NATURE OF INTEREST

(e) The names, addresses and trade classifications of all other building construction contractors in which the undersigned has a substantial interest are:

NAME	ADDRESS	TRADE CLASSIFICATION

_____ (Contractor)

Date _____

By _____

CONTRACTOR CERTIFICATIONS

U.S. Department of Housing and Urban Development

CERTIFICATION OF BIDDER REGARDING CIVIL RIGHTS LAWS AND REGULATIONS

INSTRUCTIONS

CERTIFICATION OF BIDDER REGARDING Executive Order 11246 and Federal Laws Requiring Federal Contractor to adopt and abide by equal employment opportunity and affirmative action in their hiring, firing, and promotion practices. This includes practices related to race, color, gender, religion, national origin, disability, and veterans' rights.

NAME AND ADDRESS OF BIDDER (include ZIP Code)

CERTIFICATION BY BIDDER

Bidder has participated in a previous contract or subcontract subject to Civil Rights Laws and Regulations.

Yes

No

The undersigned hereby certifies that:

- The Provision of Local Training, Employment, and Business Opportunities clause (Section 3 provision) is included in the Contract. A written Section 3 plan (Local Opportunity Plan) was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$100,000).
- The Equal Opportunity clause is included in the Contract (if bid equals or exceeds \$10,000).

Have you ever been or are you being considered for sanction due to violation of Executive Order 11246, as amended?

Yes

No

NAME AND TITLE OF SIGNER (Please type)

SIGNATURE

DATE

SPECIFICATIONS

SECTION 01 11 13

SUMMARY OF WORK

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

City of Bastrop
2018 TxCDBG Sanitary Sewer Improvements
TxCDBG Contract No. 7218019
Strand Project No. 4586.003

- 1.02 The City of Bastrop 2018 TxCDBG Sanitary Sewer Improvements consists of installation of 10", 8", and 6" HDPE sanitary sewer by pipe bursting in various streets in Bastrop, Texas. The project includes remove and dispose of existing sanitary sewer and install PVC sanitary sewer and remove and dispose of existing manhole and construct concrete manhole.

END OF SECTION

SECTION 01 29 00

CONTRACT CONSIDERATIONS

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included: Measurement and Payment–Unit Prices.

1.02 MEASUREMENT AND PAYMENT–UNIT PRICES

- A. Measurement methods are delineated in the individual Specification sections.
- B. CONTRACTOR shall take measurements and compute quantities. ENGINEER will check measurements and quantities.
- C. Incidental Items of Work: Any items of Work shown on the Drawings or called for in the Specifications, but not included in the Bid Form, shall be considered incidental items of Work. The cost of incidental items of Work shall be included in the prices bid for adjacent Work.

PART 2–PRODUCTS

NOT APPLICABLE

PART 3–EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 31 00

COORDINATION, FIELD ENGINEERING, AND MEETINGS

PART 1—GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. Coordination.
 - 2. Field engineering.
 - 3. Progress meetings.
 - 4. Preinstallation meeting.

1.02 COORDINATION

- A. CONTRACTOR shall coordinate scheduling, submittals, and work of the various sections of the work to provide an efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. CONTRACTOR shall verify utility requirements and characteristics of operating equipment are compatible with building utilities and coordinate Work of various sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
- C. CONTRACTOR shall coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on the Drawings and shall follow routing shown for pipes, ducts, and conduit as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas, except as otherwise indicated, CONTRACTOR shall conceal pipes, ducts, and wiring within the construction and coordinate locations of fixtures and outlets with finish elements.
- E. CONTRACTOR shall coordinate completion and cleanup of Work of separate sections in preparation for substantial completion and for portions of Work designated for OWNER's occupancy.
- F. After OWNER occupancy of premises, CONTRACTOR shall coordinate access to Site for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of OWNER's activities.

1.03 FIELD ENGINEERING

- A. CONTRACTOR shall locate and protect property stakes, legal survey monuments, benchmarks, and survey control and reference points. CONTRACTOR shall pay for replacement of disturbed property stakes and legal survey monuments by a Registered Land Surveyor acceptable to OWNER and for replacement of benchmarks and survey control and reference points provided by ENGINEER.

- B. CONTRACTOR shall provide field engineering services as required to establish elevations, lines, and levels utilizing recognized engineering survey practices.
- C. CONTRACTOR shall furnish all required plummets and graduated poles to check all Work.
- D. If stakes and boards have to be reset because of negligence of CONTRACTOR, CONTRACTOR shall bear the cost of such work.
- E. If laser beam is used, CONTRACTOR shall check its Work against intermediate grade stakes provided between manholes. Prior to initial use of the laser, CONTRACTOR shall set up laser on ground surface and check line and gradient controls. Lasers not functioning properly shall be immediately removed.
- F. If existing property stakes not within the limits of the trench are removed or damaged by CONTRACTOR, CONTRACTOR shall bear the cost of replacement. Replacement shall be made by a legal survey performed by a licensed Land Surveyor hired by OWNER. Cost for survey shall be deducted from the Contract Price.
- G. CONTRACTOR shall be responsible for all lines, elevations, and measurements of buildings, structures, piping, utilities, and other work executed by CONTRACTOR under the Contract. CONTRACTOR must exercise proper precaution to verify figures before laying out the Work and will be held responsible for any error resulting from its failure to exercise such precaution.

1.04 PROGRESS MEETINGS

- A. Progress meetings will be held throughout progress of the Work at intervals agreed to by OWNER, ENGINEER, and CONTRACTOR. Interval will generally be monthly.
- B. CONTRACTOR's project manager, job superintendent, major subcontractors, and suppliers shall attend as appropriate to address agenda topics for each meeting. CONTRACTOR's representatives shall have authority to bind CONTRACTOR to decisions at the meetings.
- C. The project schedule shall be updated monthly and shall be reviewed at each progress meeting. CONTRACTOR shall provide the following information in written form at each meeting.
 - 1. Construction progress, including:
 - a. Activities completed this reporting period.
 - b. Activities in progress this reporting period.
 - c. Activities scheduled to commence this reporting period.
 - 2. Description of problem areas.
 - 3. Current and anticipated delays.
 - a. Cause of the delay.
 - b. Corrective action and schedule adjustments to correct the delay.
 - c. Impact of the delay on other activities, on milestones, and on completion dates.
 - 4. Changes in construction sequence.
- D. ENGINEER will prepare and distribute minutes to all attending parties.

1.05 PREINSTALLATION MEETING

- A. When required in individual specification sections, CONTRACTOR shall convene a preinstallation meeting at Work Site prior to commencing Work of the section.
- B. CONTRACTOR shall require attendance of parties directly affecting or affected by work of the specific section.
- C. CONTRACTOR shall notify ENGINEER 7 days in advance of meeting date.
- D. CONTRACTOR shall prepare agenda and preside at meeting:
 - 1. Review conditions of installation, preparation, and installation procedures.
 - 2. Review coordination with related work.
- E. CONTRACTOR shall record minutes and distribute copies to participants within 2 days after meeting; two copies to ENGINEER, participants, and those affected by decisions made.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1—GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. Whenever possible throughout the Contract Documents, the minimum acceptable quality of workmanship and materials has been defined either by manufacturer's name and catalog number or by reference to recognized industry standards.
 - 2. To facilitate CONTRACTOR's understanding of the design intent, procedures have been established for advance submittal of design data and for its review or rejection by ENGINEER.
 - 3. The type of submittal requirements specified in this section include construction progress schedule, submittal schedule, shop drawings, product data, samples, maintenance manuals, and other miscellaneous work related submittals.
- B. Related work described elsewhere: More detailed requirements for submittals are described in other sections of these specifications for some materials and equipment. They are to be considered additional requirements to supplement the requirements specified in this section. Submittals shall conform to Article 7 of the General Conditions.
- C. Definitions: "Electronic Submittal" is defined as any submittal transmitted electronically to ENGINEER for review.

1.02 IDENTIFICATION OF SUBMITTALS

- A. CONTRACTOR shall completely identify each submittal and resubmittal by showing at least the following information:
 - 1. Name and address of submitter, plus name and telephone number of the individual who may be contacted for further information.
 - 2. Name and location of project and identification number.
 - 3. Drawing number and specifications section number to which the submittal applies.
 - 4. Include the date of each submittal or resubmittal.

1.03 GROUPING OF SUBMITTALS

- A. Unless otherwise specifically permitted by ENGINEER, CONTRACTOR shall make all submittals in groups containing all associated items so that information is available for checking each item when it is received.
- B. Partial submittals may be rejected as not complying with the provisions of the Contract Documents.

1.04 TIMING OF SUBMITTALS

- A. CONTRACTOR shall make all submittals far enough in advance of scheduled dates of installation to provide required time for reviews, for securing necessary approval, for possible revision and resubmittal, and for placing orders and securing delivery.

- B. The review period for submittals that are received after 3 P.M. shall commence on the following business day.

1.05 CONSTRUCTION PROGRESS AND SUBMITTAL SCHEDULES

- A. Submit preliminary schedules within 10 days of the effective date of the Agreement.
- B. Revise schedules incorporating any comments provided at the schedule review conference required in GC.2.05 and resubmit.
- C. As a minimum, the construction progress schedule shall consist of a horizontal bar chart with a separate line for each major portion of Work or operation, identifying first workday of each week.
- D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration for each activity. Identify activities that are on the critical path.
- E. Include line items for milestones (if any), Substantial, and Final Completion.
- F. Submit updated schedules with each Application for Payment, identifying changes since previous version.
- G. Indicate estimated percentage of completion for each item of Work at each submission.
- H. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.

1.06 SHOP DRAWINGS

- A. Shop drawings shall include specially prepared technical data for this project including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements, and similar information not in standard printed form for general application to a range of similar projects. Shop drawings shall be submitted for all manufactured or fabricated items. See individual technical sections for special requirements.
- B. CONTRACTOR shall make all shop drawings accurately to scale and sufficiently large to show all pertinent aspects of the item and its method of connection to the work.
- C. Shop drawings shall be checked, approved, and stamped by CONTRACTOR in accordance with the General Conditions before transmittal to ENGINEER for review and approval.
- D. Complete shop drawings and descriptive data shall be submitted on all manufactured or fabricated items prior to 50% completion of the Work. Applications for payment beyond 50% of the Contract amount will not be recommended for payment until all shop drawings are submitted, including the required hard copies, or a revised schedule for any remaining submittals is agreed to by OWNER and ENGINEER.
- E. CONTRACTOR shall submit shop drawings following the procedure described below. Except as noted, six color copies of shop drawings and descriptive data shall be submitted to ENGINEER for approval. Three copies of these will be returned to CONTRACTOR if approved. If shop drawings are not approved or if they are stamped "Approved as

Noted-Resubmit," two corrected copies will be returned to CONTRACTOR for use in resubmittal. If CONTRACTOR desires more than three approved copies, submitted quantity shall be increased accordingly.

- F. Shop drawings submitted to ENGINEER will be reviewed and stamped "Approved," "Approved as Noted," "Approved as Noted-Resubmit," or "Not Approved." CONTRACTOR shall resubmit the above number of corrected shop drawings for all shop drawings stamped "Approved as Noted-Resubmit" and "Not Approved" and will continue this process until shop drawings are stamped "Approved" or "Approved as Noted." If drawings are stamped "Approved as Noted-Resubmit," fabrication may proceed in accordance with the marked-up shop drawings. Installation shall not proceed until shop drawings have been resubmitted and stamped "Approved" or "Approved as Noted."
- G. If shop drawings are stamped "Approved as Noted" or "Approved as Noted-Resubmit" and CONTRACTOR does not agree with revisions or cannot conform with revisions, fabrication shall not proceed and shop drawings shall be resubmitted with explanation of CONTRACTOR's position.
- H. All shop drawings used for construction site activities shall bear the "Approved" or "Approved as Noted" stamp of ENGINEER.
- I. Arrangements may be made between CONTRACTOR and ENGINEER to provide additional copies of "Approved" shop drawings for field activity purposes.

1.07 COLORS AND PATTERNS

- A. Unless the precise color and pattern is specifically described in the Contract Documents, whenever a choice of color or pattern is available in a specified product, CONTRACTOR shall submit accurate color charts and pattern charts to ENGINEER for OWNER's review and selection.
- B. Unless all available colors and patterns have identical wearing capabilities and are identically suited for the installation, CONTRACTOR shall completely describe the relative capabilities of each.

1.08 SAMPLES AND FIELD MOCKUPS

- A. CONTRACTOR shall provide samples and field mockups where noted or specified.
- B. Samples are physical examples which illustrate materials, equipment, or workmanship and establish standards by which the work will be judged.
- C. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product and full range of color, texture, and pattern.
- D. Samples shall have labels firmly attached, bearing the following information:
 - 1. Name of project.
 - 2. Description of product and finish.
 - 3. Name of CONTRACTOR.
 - 4. Trade name and number of product.
 - 5. Standards met by the product.

- E. Approval of samples must be obtained prior to proceeding with any work affected by material requiring sample approval.
- F. Samples, unless otherwise noted, become the property of OWNER.
- G. In situations specifically approved by ENGINEER, the retained sample may be used in the construction as one of the installed items.
- H. Field Mockups:
 - 1. CONTRACTOR shall erect field mockups at the project site in a location acceptable to ENGINEER and OWNER.
 - 2. When accepted by ENGINEER, the mockup will become the basis for comparison of the actual work.
 - 3. Remove mockup at conclusion of the work if it was not incorporated into the work.

1.09 PRODUCT DATA

- A. CONTRACTOR shall provide product data as required to supplement shop drawings.
- B. Product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by CONTRACTOR to illustrate a material, product, or system for some portion of the work.
- C. CONTRACTOR shall collect required product data into one submittal for each unit of work or system.
- D. CONTRACTOR shall include manufacturer's standard printed recommendations for application and use, compliance with standards, performance characteristics, wiring and piping diagrams and controls, component parts, finishes, dimensions, required clearances, and other special coordination requirements.
- E. CONTRACTOR shall mark each copy of standard printed data to identify pertinent products, models, options, and other data.
- F. CONTRACTOR shall supplement manufacturer's standard data to provide information unique to the work.

1.10 RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by ENGINEER.
- B. Shop Drawings and Product Data:
 - 1. Revise initial drawings or data and resubmit as specified for initial submittal.
 - 2. Itemize in a cover letter any changes which have been made other than those requested by ENGINEER.
- C. See SC-7.16 for additional information regarding resubmittals.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 41 00
REGULATORY REQUIREMENTS

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. OSHA requirements.
 - 2. Roadway limits.
 - 3. Permits.
 - 4. Wage rates.

1.02 OSHA REQUIREMENTS

- A. All work including site safety, equipment, materials, and fabricated items provided under the Contract shall comply with the provisions of the “Occupational Safety and Health Act.”

1.03 ROADWAY LIMITS

- A. CONTRACTOR shall comply with roadway weight restrictions including seasonal weight restrictions.

1.04 PERMITS

- A. No permits were obtained by OWNER for this Project. CONTRACTOR shall obtain required permits. Where the requirements of any permit are more restrictive than the Drawings or the Specifications, the permit requirements shall govern.

1.05 WAGE RATES

- A. Wage rates not less than these rates must be paid on this Project, including fringe benefits. CONTRACTOR shall post the Prevailing Wage Rate Determination in a prominent and easily accessible location at the project site and shall abide by all associated laws and regulations pertaining thereto.
- B. CONTRACTOR shall also comply with the attached Federal Wage Rates.
- C. Not less than the prevailing wage rates for this area shall be paid to the workers employed to do the Work under this Contract.
- D. See Wage Rate Forms bound at the end of Division 1.

PART 2–PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 42 00

REFERENCE STANDARDS AND DEFINITIONS

PART 1—GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. Reference Standards:
 - a. Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.
 - b. Where materials or workmanship are required by these Contract Documents to meet or exceed the specifically named code or standard, it is CONTRACTOR's responsibility to provide materials and workmanship which meet or exceed that specifically named code or standard.
 - c. It is also CONTRACTOR's responsibility, when so required by the Contract Documents, to deliver to ENGINEER all required proof that the material or workmanship, or both, meet or exceed the requirements of the specifically named code or standard.
 - 2. Definitions:
 - a. A substantial amount of specification language constitutes definitions for terms found in other Contract Documents, including the Drawings which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon.
 - b. Certain terms used in the Contract Documents are defined generally in this section to supplement definitions of the Agreement, General Conditions, Supplementary Conditions, and other general contract documents.
 - c. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the Work.
- B. Related Work Described Elsewhere: The specific naming of codes or standards occurs on the Drawings and in other sections of these Specifications.

1.02 QUALITY ASSURANCE

- A. Familiarity with Pertinent Codes and Standards:
 - 1. It is CONTRACTOR's responsibility to verify the requirements of the specifically named codes and standards and to verify that the items procured for use in this Work meet or exceed the specified requirements.
 - 2. When required by individual sections of these specifications, CONTRACTOR shall obtain a copy of each pertinent code or standard and maintain the copies at the job site during submittals, planning, and progress of the Work until Substantial Completion of the Work is attained.
- B. Overlapping or Conflicting Requirements:
 - 1. Where compliance with two or more industry standards or sets of requirements are specified, and the overlapping of those standards or requirements establishes different or conflicting minimums or levels of quality, the most stringent requirement (which is

generally recognized to be also most costly) is intended and will be enforced, unless more detailed language written directly into Contract Documents clearly indicates that a less stringent requirement is acceptable.

2. Refer all uncertainties to ENGINEER for decision before proceeding.

1.03 REFERENCE STANDARDS

- A. Applicable standards of the construction industry are made a part of the Contract Documents by reference as if copied directly into the Contract Documents, or as if published copies were bound herewith. See Article 3.02 of the General Conditions for additional provisions regarding references.
- B. Standards referenced directly in the Contract Documents or by governing regulation, have precedence over nonreferenced standards which are recognized in industry for applicability to the Work.
- C. Nonreference standards are hereby defined to have no particular applicability to the work except as a general measurement of whether the Work complies with standards recognized in the construction industry.
- D. Reference standards and codes listed in these specifications may include, but are not necessarily limited to, standards or codes published by the following agencies and organizations:

1. AA Aluminum Association
1525 Wilson Boulevard, Arlington, VA 22209
2. AAMA American Architectural Manufacturer's Association
1827 Walden Office Square Suite 550, Schaumburg, IL 60173-4268
3. AASHTO American Association of State Highway & Transportation Officials
444 North Capitol Street NW Suite 249, Washington, DC 20001
4. ACI American Concrete Institute
38800 Country Club Drive, Farmington Hills, MI 48331-3439
5. AI Asphalt Institute
2696 Research Park Drive, Lexington, KY 40511-8480
6. AISC American Institute of Steel Construction
One East Wacker Drive Suite 700, Chicago, IL 60601-1802
7. AISI American Iron and Steel Institute
25 Massachusetts Avenue NW Suite 800, Washington, DC 20001
8. ANSI American National Standards Institute
25 West 43rd Street, New York, NY 10036
9. APA American Plywood Association
7011 South 19th, Tacoma, WA 98466-5333

10. API American Petroleum Institute
1220 L Street NW, Washington, DC 20005-4070
11. ARI Air-Conditioning & Refrigeration Institute
4100 North Fairfax Drive Suite 200, Arlington, VA 22203
12. ASHRAE American Society of Heating, Refrigerating, and Air Conditioning Engineers
1791 Tullie Circle NE, Atlanta, GA 30329
13. ASME American Society of Mechanical Engineers
Two Park Avenue, New York, NY 10016-5990
14. ASSE American Society of Sanitary Engineering
901 Canterbury Suite A, Westlake, OH 44145
15. ASTM ASTM International
100 Barr Harbor Drive, West Conshohocken, PA 19428-2959
16. AWI Architectural Woodwork Institute
46179 Westlake Drive Suite 120, Potomac Falls, VA 20165-5874
17. AWPA American Wood Protection Association
P.O. Box 361784, Birmingham, AL 35236-1784
18. AWS American Welding Society
8669 Doral Boulevard Suite 130, Doral, FL 33166
19. AWWA American Water Works Association
6666 West Quincy Avenue, Denver, CO 80235
20. BHMA Builder's Hardware Manufacturers Association
355 Lexington Avenue 15th floor, New York, NY 10017
21. BIA Brick Industry Association
1850 Centennial Park Drive Suite 301, Reston, VA 20191
22. CRSI Concrete Reinforcing Steel Institute
9333 North Plum Grove Road, Schaumburg, IL 60173
23. EJMA Expansion Joint Manufacturers Association
25 North Broadway, Tarrytown, NY 10591
24. FM FM Global
FM Global Corporate Offices, 270 Central Avenue, Johnston, RI 02919
25. FTI Facing Tile Institute
Box 8880, Canton, OH 44711

26. GA Gypsum Association
6525 Belcrest Road Suite 480, Hyattsville, MD 20782
27. GANA Glass Association of North America
800 SW Jackson Street Suite 1500, Topeka, KS 66612-1200
28. ICC International Code Council
500 New Jersey Avenue NW 6th Floor, Washington, DC 20001
29. IES Illuminating Engineering Society
120 Wall Street, Floor 17, New York, NY 10005-4001
30. MIL Military Specifications
Naval Publications and Forms Center
5801 Tabor Avenue, Philadelphia, PA 19120
31. NAAMM National Association of Architectural Metal Manufacturers
800 Roosevelt Road Building C Suite 312, Glen Ellyn, IL 60137
32. NCMA National Concrete Masonry Association
13750 Sunrise Valley Drive, Herndon, VA 20171-4662
33. NECA NECA
National Electrical Contractors Association
3 Bethesda Metro Center Suite 1100, Bethesda, MD 20814
34. NEMA National Electrical Manufacturers Association
1300 North 17th Street Suite 1752, Rosslyn, VA 22209
35. NFPA National Fire Protection Association
1 Batterymarch Park, Quincy, MA 02169-7471
36. NIST National Institute of Standards and Technology
(U.S. Department of Commerce), 100 Bureau Drive, Stop 1070
Gaithersburg, MD 20899-1070
37. NRCA National Roofing Contractors Association
10255 West Higgins Road Suite 600, Rosemont, IL 60018-5607
38. NSF National Sanitation Foundation International
P.O. Box 130140, 789 North Dixboro Road, Ann Arbor, MI 48113-0140
39. OSHA Occupational Safety & Health Administration
200 Constitution Avenue NW, Washington, DC 20210
40. PCA Portland Cement Association
5420 Old Orchard Road, Skokie, IL 60077
41. PCI Prestressed Concrete Institute
200 West Adams Street Suite 2100, Chicago, IL 60606

- 42. SAE Society of Automotive Engineers
SAE World Headquarters
400 Commonwealth Drive, Warrendale, PA 15096-0001
- 43. SDI Steel Deck Institute
P.O. Box 25, Fox River Grove, IL 60021
- 44. SDI Steel Door Institute
30200 Detroit Road, Westlake, OH 44145-1987
- 45. SIGMA Sealed Insulating Glass Manufacturers Assoc.
401 North Michigan Avenue Suite 2400, Chicago, IL 60611
- 46. SJI Steel Joist Institute
234 Cheves Street, Florence, SC 29501
- 47. SMACNA Sheet Metal and Air Conditioning
Contractor's National Association
4201 Lafayette Center Drive, Chantilly, VA 20151-1219
- 48. SSPC Society for Protective Coatings
40 24th Street 6th Floor, Pittsburgh, PA 15222-4656
- 49. TCA Tile Council of America
100 Clemson Research Boulevard, Anderson, SC 29625
- 50. UL Underwriters Laboratories
333 Pfingston Road; Northbrook, IL 60062

1.04 SUBMITTALS

- A. For OWNER's records, CONTRACTOR shall submit copies of permits, licenses, certifications, inspection reports, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

1.05 DEFINITIONS

- A. Indicated:
 - 1. The term "indicated" is a cross-reference to details, notes, or schedules on the drawings, to other paragraphs or schedules in the specifications and to similar means of recording requirements in the Contract Documents.
 - 2. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader locate cross-reference, and no limitation is intended except as specifically noted.
- B. Approve (or Words of Similar Nature):
 - 1. Where used in conjunction with ENGINEER's response to submittals, requests, applications, inquiries, reports, and claims by CONTRACTOR, the meaning of the term "approve" will be held to the limitation of ENGINEER's responsibilities and duties as specified in Paragraph 1.02.B.1. of the General Conditions.

2. In no case will “approval” by ENGINEER be interpreted as a release of CONTRACTOR from responsibility to fulfill requirements of the Contract Documents.
- C. Minimum Requirements:
1. Indicated requirements are for a specific minimum acceptable level of quality or quantity, as recognized in the industry.
 2. Actual work must comply with (or within specified tolerances) or exceed minimums.
 3. CONTRACTOR shall refer uncertainties to ENGINEER before proceeding.
- D. Abbreviations: Abbreviations, where not defined in the Contract Documents, will be interpreted to mean the normal construction industry terminology.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1–GENERAL

1.01 SUMMARY

- A. Work Includes:
 - 1. Quality Assurance–Control of Installation.
 - 2. Tolerances.
 - 3. Manufacturers' Field Services and Reports.

1.02 QUALITY ASSURANCE–CONTROL OF INSTALLATION

- A. CONTRACTOR shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.
- B. CONTRACTOR shall comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, CONTRACTOR shall request clarification from ENGINEER before proceeding.
- D. CONTRACTOR shall comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Work shall be performed by persons qualified to produce workmanship of specified quality.
- F. CONTRACTOR shall secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03 TOLERANCES

- A. CONTRACTOR shall monitor tolerance control of installed products to produce acceptable work and shall not permit tolerances to accumulate.
- B. CONTRACTOR shall comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, CONTRACTOR shall request clarification from ENGINEER before proceeding.
- C. CONTRACTOR shall adjust products to appropriate dimensions; position before securing products in place.

1.04 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections or when requested by ENGINEER, CONTRACTOR shall require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, and quality of workmanship.

- B. CONTRACTOR shall submit qualifications of observer to ENGINEER 30 days in advance of required observations.
- C. CONTRACTOR shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. CONTRACTOR shall submit report in duplicate within 30 days of observation to ENGINEER for information.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. Temporary utilities.
 - 2. Temporary stairs and access.
 - 3. Temporary support facilities.
 - 4. Construction sign.
 - 5. Removal of temporary facilities.
- B. CONTRACTOR shall arrange for and provide temporary facilities as required for proper and expeditious prosecution of the Work.
- C. CONTRACTOR shall pay all costs, except as otherwise specified, until final acceptance of the Work unless OWNER makes arrangements for use of completed portions of the Work after substantial completion in accordance with the provisions of the General Conditions.
- D. CONTRACTOR shall make all temporary connections to utilities and services in locations acceptable to OWNER and local authorities having appropriate jurisdiction.
 - 1. Furnish all necessary labor and materials.
 - 2. Make all installations in a manner subject to the acceptance of such authorities and OWNER.
 - 3. Maintain such connections.
 - 4. Remove temporary installation and connection when no longer required.
 - 5. Restore services and sources of supply to proper operating conditions.

1.02 TEMPORARY UTILITIES

- A. Temporary Toilets: CONTRACTOR shall provide and maintain sanitary temporary chemical toilets located where approved by OWNER and in sufficient number required for the work force employed by CONTRACTOR.
- B. Temporary Electrical Services:
 - 1. CONTRACTOR shall make all necessary arrangements, furnish, install, and maintain necessary temporary electrical services at the Site. Services shall be a minimum of 200 amperes, 1 phase, 3 wire, 120/240 volt temporary power and lighting system adequate for the construction of this Project and in accordance with OSHA Requirements for Construction Projects. Installation of the temporary power and lighting system is to begin upon notification to proceed and shall be installed and routed in a manner so as not to interfere with construction of the Project. CONTRACTOR shall remove all temporary services when Project is complete.
 - 2. The temporary light and power system shall include temporary service poles, metering facilities, driven ground, fused main disconnect switch, panelboards, branch circuits, outlets and lamps, and the maintenance thereof.

3. Construction areas, aisles, stairs, and ramps shall be illuminated to 5 fc. Construction shops, storerooms, mechanical, and electrical rooms shall be illuminated to 10 fc. Offices illuminated to 30 fc.
 4. Temporary lights shall be equipped with heavy-duty electric cords and lamp guards. They must not be suspended by the power supply cord unless it is designed for this use.
 5. Provide one general purpose, 20 ampere, 120 volt, single phase, grounding type receptacle outlet for every 1,000 feet of floor space and tank area. The maximum length of a 20 ampere, 120 volt lighting or power circuit shall not be greater than 200 feet from panelboard to farthest outlet. All single phase receptacle outlet circuits shall have approved ground-fault circuit interrupter protection.
 6. All utility charges for installation of the temporary services shall be paid for by CONTRACTOR. All metering installation charges and all energy charges for electric current used for temporary lighting and power are to be paid by CONTRACTOR.
 7. No permanent electrical equipment or wiring shall be used without express written permission of OWNER. Such approval, if given, shall not affect guarantee period. If OWNER authorizes use of permanent service facilities, CONTRACTOR shall pay all metering costs until acceptance or occupancy (whichever occurs first) of building by OWNER.
- C. Weather Protection and Temporary Heat:
1. CONTRACTOR shall provide weather protection to protect the Work from damage because of freezing, rain, snow, and other inclement weather.
 2. CONTRACTOR shall provide temporary heat within buildings, without cost to OWNER, from the time the buildings or portions thereof are enclosed until the Project is accepted or occupied by OWNER, whichever occurs first. The building work is to be heated during construction so a minimum temperature of 50°F is maintained at all times. Temporary heating equipment shall be properly vented.
 3. Tanks that are constructed and existing tanks taken out of service as part of the Work shall be protected by CONTRACTOR from damage because of frost by insulating, enclosure, heating, or a combination of methods as required.
 4. No permanent heating equipment shall be used on a temporary basis without express written permission by OWNER. Such approval, if given, shall not affect the guarantee period. If OWNER authorizes use of permanent heating equipment, CONTRACTOR shall pay all related energy costs until acceptance or occupancy (whichever occurs first) of the building by OWNER.
- D. Temporary Telephone Service: CONTRACTOR shall provide, without extra cost to OWNER, telephone services at the Site for phones and computer modems specified in Section 01590–Field Offices and Sheds for the duration of the Work at the Site. Also provide service as required for CONTRACTOR’s use. Party making toll calls shall pay for same.
- E. Temporary Water: CONTRACTOR shall supply its own water during construction. CONTRACTOR shall also provide its own piping, valves, and appurtenances for its requirements. Connection to the existing water system shall be coordinated with OWNER and shall meet all code requirements including disinfection and backflow prevention.
- F. Temporary Fire Protection: CONTRACTOR and Subcontractor(s) who maintain or provide an enclosed shed or trailer shall provide and maintain in operating order in each shed or trailer a minimum of one fire extinguisher. More extinguishers shall be provided as necessary. Fire extinguishers shall be minimum dry chemical, nonfreezing-type, UL rating 2A-30BC, with 10-pound capacity for Class A, B, and C fires.

- G. CONTRACTOR's and Subcontractor(s)' personnel shall refrain from smoking during excavation, laying pipe, backfilling, and other work at the Site which may involve potential contact with explosive vapors or gasoline products.

1.03 TEMPORARY STAIRS AND ACCESS

- A. CONTRACTOR shall provide and maintain all equipment such as temporary stairs, ladders, ramps, runways, chutes, and so on as required for proper execution of the Work. CONTRACTOR shall be responsible for providing its own scaffolds, hoists, etc.
- B. All such apparatus, equipment, and construction shall meet all requirements of OSHA, the labor laws, and other applicable State and local laws. Provide stairs with handrails. As soon as possible and where applicable, permanent stairs shall be installed.
- C. As soon as permanent stairs are created, provide temporary protective treads, handrails, and shaft protection.
- D. Provide barricades at hazardous locations, complete with signs, temporary general lighting, warning lights, and similar devices as required.

1.04 TEMPORARY SUPPORT FACILITIES

- A. CONTRACTOR shall provide whatever facilities and services which may be needed to properly support primary construction process and meet compliance requirements and governing regulations.
- B. CONTRACTOR shall not use permanent facilities except as otherwise indicated, unless authorized by OWNER.

1.05 CONSTRUCTION SIGN

- A. Construction sign provided by Grant Consultant shall be maintained and kept in place until completion of the Contract.

1.06 REMOVAL OF TEMPORARY FACILITIES

- A. Remove temporary materials, equipment, services, and construction as soon as practicable but no later than just prior to substantial **OR** final completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities and restore existing facilities used during construction to specified, or to original, condition.
- C. Minor temporary facilities which interfere with OWNER's operations shall be removed at the end of each Work period.

PART 2--PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 57 00

TEMPORARY CONTROLS

PART 1–GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. Dust Control.
 - 2. Water, Erosion, and Sediment Control.
 - 3. Noise Control.
 - 4. Traffic Control.
 - 5. Site Security.
 - 6. Daily Cleanup.

PART 2–PRODUCTS

NOT APPLICABLE

PART 3–EXECUTION

3.01 DUST CONTROL

- A. CONTRACTOR shall execute the Work by methods to minimize raising dust from construction operations.
- B. CONTRACTOR shall provide positive means to prevent airborne dust from dispersing into atmosphere.
- C. CONTRACTOR shall provide partitions, enclosures, etc., within buildings as necessary to confine dust and protect adjacent areas.

3.02 WATER, EROSION, AND SEDIMENT CONTROL

- A. CONTRACTOR shall grade site to drain and shall maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. CONTRACTOR shall protect Site from puddling or running water.
- C. CONTRACTOR shall provide erosion control measures as necessary to control discharge of sediment laden water to surface waters and wetlands.
- D. Except as provided for in the document, overland discharge of water from dewatering operations shall not be allowed. Depending on water quality, such water shall either be piped directly to the surface water or shall be directed to sedimentation basins or other such structures or features prior to discharge to surface waters so as not to cause damage to existing ground and improvements, erosion, or deposition in the discharge area.

- E. CONTRACTOR shall use jute or synthetic netting, silt fences, straw bales, dikes, channels, and other applicable measures to prevent erosion of soils disturbed by its construction operation.
- F. Restoration of the Site shall proceed concurrently with the construction operation. See Drawings and Specifications for erosion control measures in addition to that which may be required above.

3.03 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

3.04 TRAFFIC CONTROL

- A. CONTRACTOR shall be responsible for providing all signs, barricades, flagmen, and other traffic control devices in the construction zone.
- B. Conduct operations with minimum interference to roadways.
- C. Do not close or obstruct roadways without approval of OWNER.
- D. Maintain two-way traffic on streets at all times.

3.05 SITE SECURITY

- A. CONTRACTOR shall have the sole responsibility of safeguarding the Site perimeter to prevent unauthorized entry to the Site throughout the duration of the Project. CONTRACTOR shall at all times provide such permanent and temporary fencing or barricades or other measures as may be necessary to restrict unauthorized entry to its construction area including construction in public rights-of-way or easements. Site security measures shall include safeguards against attractive nuisance hazards as a result of construction activity.
- B. CONTRACTOR shall at all times be responsible for the security of the Work including materials and equipment. OWNER will not take any responsibility for missing or damaged equipment, tools, or personal belongings. CONTRACTOR shall have the sole responsibility of safeguarding the Work and the Site throughout the duration of the Project.

3.06 DAILY CLEANUP

- A. CONTRACTOR shall clean up the Site and remove all rubbish on a daily basis.
- B. CONTRACTOR shall clean up public streets and highways and remove any dirt, mud, or other materials due to project traffic on daily basis and shall comply with all local and state ordinances and permit requirements.

END OF SECTION

SECTION 01 60 00

MATERIALS AND EQUIPMENT

PART 1—GENERAL

1.01 SUMMARY

- A. Work Included: CONTRACTOR shall be responsible for the delivery, handling, storage and protection of all material and equipment required to complete the Work as specified herein.
- B. Related Sections and Divisions: Specific requirements for the handling and storage of material and equipment are described in other sections of these Specifications.

1.02 PRODUCTS

- A. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.
- B. CONTRACTOR shall not use materials and equipment removed from existing construction, except as specifically required, or allowed, by the Contract Documents.
- C. When any construction deviations from the Drawings and/or Specifications necessary to accommodate equipment supplied by CONTRACTOR, result in additional costs to CONTRACTOR or other contractors, such additional costs shall be borne by CONTRACTOR. CONTRACTOR shall also pay any additional costs necessary for revisions of Drawings and/or Specifications by ENGINEER.
- D. Each major component of equipment shall bear a nameplate giving the name and address of the manufacturer and the catalogue number or designation.

1.03 TRANSPORTATION AND HANDLING

- A. Materials, products and equipment shall be properly containerized, packaged, boxed, and protected to prevent damage during transportation and handling.
- B. CONTRACTOR shall not overload any portion of the structure in the transporting or storage of materials.
- C. CONTRACTOR shall not damage other construction by careless transportation, handling, spillage, staining or impact of materials.
- D. CONTRACTOR shall provide equipment and personnel to handle products, including those provided by OWNER, by methods to prevent soiling and damage.
- E. CONTRACTOR shall provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.
- F. CONTRACTOR shall handle product by methods to avoid bending or overstressing. Lift large and heavy components only at designated lift points.

1.04 DELIVERY AND RECEIVING

- A. CONTRACTOR shall arrange deliveries of products in accordance with the Progress Schedule, allowing time for observation prior to installation.
- B. CONTRACTOR shall coordinate deliveries to avoid conflict with the Work and conditions at the Site; work activities of other contractors or OWNER; limitations on storage space; availability of personnel and handling equipment and OWNER's use of premises.
- C. CONTRACTOR shall deliver products in undamaged, dry condition, in original unopened containers or packaging with identifying labels intact and legible.
- D. CONTRACTOR shall clearly mark partial deliveries of component parts of equipment to identify equipment and contents to permit easy accumulation of parts and to facilitate assembly.
- E. Immediately on delivery, CONTRACTOR shall inspect shipment to review that:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Accessories and installation hardware are correct.
 - 4. Containers and packages are intact and labels legible.
 - 5. Products are protected and undamaged.

1.05 STORAGE AND PROTECTION

- A. General:
 - 1. CONTRACTOR shall store products, immediately on delivery, in accordance with manufacturer's instructions, with all seals and labels intact and legible.
 - 2. Any additional off-site space required shall be arranged by CONTRACTOR.
 - 3. CONTRACTOR shall allocate the available storage areas and coordinate their use by the trades on the job.
 - 4. CONTRACTOR shall arrange storage in a manner to provide access for maintenance of stored items and for observation.
- B. In enclosed storage, CONTRACTOR shall:
 - 1. Provide suitable temporary weather tight storage facilities as may be required for materials that will be damaged by storage in the open.
 - 2. Maintain temperature and humidity within ranges stated in manufacturer's instructions.
 - 3. Provide ventilation for sensitive products as required by manufacturer's instructions.
 - 4. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
 - 5. Store solid materials such as insulation, tile, mechanical and electrical equipment, fittings, and fixtures under shelter, in original packages, away from dampness and other hazards.
 - 6. Store liquid materials away from fire or intense heat and protect from freezing.
- C. At exterior storage, CONTRACTOR shall:
 - 1. Store unit materials such as concrete block, brick, steel, pipe, conduit, door frames, and lumber off ground, out of reach of dirt, water, mud and splashing.
 - 2. Store tools or equipment that carry dirt outside.
 - 3. Store large equipment so as not to damage the Work or present a fire hazard.
 - 4. Cover products subject to discoloration or deterioration from exposure to the elements, with impervious sheet material and provide ventilation to avoid condensation.

5. Completely cover and protect any equipment or material which is prime coated or finish painted with secured plastic or cloth tarps. Store out of reach of dirt, water, mud and splashing.
6. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
7. Provide surface drainage to prevent erosion and ponding of water.
8. Prevent mixing of refuse or chemically injurious materials or liquids.
9. Cover aggregates such as sand and gravel in cold wet weather.
10. Remove all traces of piled bulk materials at completion of work and return site to original or indicated condition.

1.06 MAINTENANCE OF STORAGE

- A. CONTRACTOR shall periodically inspect stored products on a scheduled basis.
- B. CONTRACTOR shall verify that storage facilities comply with manufacturer's product storage requirements, and verify that manufacturer required environmental conditions are maintained continually.
- C. CONTRACTOR shall verify that surfaces of products exposed to the elements are not adversely affected and that any weathering of finishes is acceptable under requirements of Contract Documents.
- D. CONTRACTOR shall perform scheduled maintenance of equipment in storage as recommended by the manufacturer. A record of the maintenance shall be kept and turned over to ENGINEER when the equipment is installed.

1.07 INSTALLATION REQUIREMENTS

- A. Manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the respective manufacturers, unless otherwise specified.
- B. After installation, CONTRACTOR shall protect all materials and equipment against weather, dust, moisture, and mechanical damage.
- C. CONTRACTOR shall be responsible for all damages that occur in connection with the care and protection of all materials and equipment until completion and final acceptance of the Work by OWNER. Damaged material and equipment shall be immediately removed from the Site.

1.08 EQUIPMENT WARRANTIES

- A. Warranties shall be nonprorated, include all parts and labor, and be in written form. Warranties shall specifically exclude buyer's indemnification language. Warranty language shall not eliminate manufacturer's responsibility for sizing of the equipment. During warranty period, manufacturer shall be responsible for any travel expenses, outside contractor fees, and rental equipment fees associated with providing warranty service. Manufacturer shall pay expenses incurred for repairs and parts replacement not made by manufacturer if manufacturer's response is not within 72 hours of notification by OWNER. Warranty language shall be provided with the shop drawings.

1.09 CONCRETE EQUIPMENT BASE

- A. Cast-in-place concrete equipment bases shall be provided for all new and relocated equipment including electrical control panels, motor control centers, switchgear, etc. Concrete equipment bases shall be provided by CONTRACTOR except where specifically noted to be provided by others. Bases shall be 3 1/2-inch minimum height and shall be a minimum of 3 inches larger than equipment being supported. Grouting of equipment bases shall be as recommended by equipment manufacturer.
- B. Concrete and grout shall meet applicable sections of the specifications.
- C. Provide all anchor bolts, metal shapes and templates to be cast in concrete or used to form concrete for support of equipment.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 01 74 23

FINAL CLEANUP

PART 1 GENERAL

1.01 SUMMARY

This section describes the final cleanup and seeding requirements before the project is turned over to the Owner. For project areas within Texas Department of Transportation (TxDOT) rights-of-way, establish vegetation in accordance with TxDOT requirements if those requirements are more stringent than the requirements of this section.

1.02 RELATED SECTIONS

Section 32 92 19 – Seeding

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form.

1.04 PROJECT / SITE CONDITIONS

Final grading shall be completed as shown on the plans if a grading plan is included.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.01 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

- A. **Project Site.** Following the completion of all construction, all debris, surplus materials, and equipment shall be removed from the site. The site shall be fine graded to provide proper drainage from all structures and from the site. When a grading plan is provided, grade the site in accordance with the grading plan. When completed, the entire area shall properly drain and shall be left in a smooth condition suitable for mowing with standard mowing equipment.
- B. **Seeding.** Seeding for areas other than TxDOT right-of-way shall be in accordance with the seeding specification. Establishment of vegetation in TxDOT right-of-way shall be in accordance with TxDOT requirements if those requirements are more stringent than the requirements of this section of the specifications.
- C. **Surface.** All concrete, steel, and equipment surfaces shall be cleaned.

END OF SECTION

SECTION 01 77 00

CONTRACT CLOSEOUT

PART 1—GENERAL

1.01 SUMMARY

- A. Work Included:
 - 1. Closeout procedures.
 - 2. Final cleaning.
 - 3. Adjusting.
 - 4. Project record documents.
 - 5. Warranties.

1.02 CLOSEOUT PROCEDURES

- A. CONTRACTOR shall provide submittals to ENGINEER that are required by governing or other authorities.
- B. CONTRACTOR shall comply with General Conditions and Supplementary Conditions and complete the following before requesting ENGINEER's observation of the Work or designated portion thereof for substantial completion.
 - 1. Submit executed warranties, workmanship bonds, maintenance agreements, inspection certificates, and similar required documentation for specific units of Work, enabling OWNER's unrestricted occupancy and use.
 - 2. Submit record documentation, maintenance manuals, tools, spare parts, keys, and similar operational items.
 - 3. Submit consent of surety (if surety required in Contract).
 - 4. Complete final cleaning, touch-up work of marred surfaces, and remove temporary facilities and tools.

1.03 FINAL CLEANING

- A. It is CONTRACTOR's responsibility to completely clean up the construction site at the completion of the Work.
- B. CONTRACTOR shall clean areas of the building in which painting and finishing work is to be performed just prior to the start of this work and maintain these areas in satisfactory condition for painting and finishing. This cleaning includes:
 - 1. Removal of trash and rubbish from these areas.
 - 2. Broom cleaning of floors.
 - 3. Removal of any plaster, mortar, dust, and other extraneous materials from finish surfaces, including but not limited to exposed structural steel, miscellaneous metal, masonry, concrete, mechanical equipment, piping, and electrical equipment.
- C. In addition to the cleaning specified above and the more specific cleaning that may be required in various technical sections of the Specifications, CONTRACTOR shall prepare the Project for occupancy by a thorough cleaning throughout, which shall include the following:

1. Clean interior and exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
2. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
3. Replace filters of operating equipment.
4. Clean debris from roofs, gutters, downspouts, and drainage systems.
5. Clean site; sweep paved areas, rake clean landscaped surfaces.
6. Remove waste and surplus materials, rubbish, and construction facilities from the Site.

1.04 ADJUSTING

- A. CONTRACTOR shall adjust operating products and equipment to provide smooth and unhindered operation.

1.05 PROJECT RECORD DOCUMENTS

- A. CONTRACTOR shall maintain on Site one set of the following record documents to record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change orders and other modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. CONTRACTOR shall make entries that are complete and accurate, enabling future reference by OWNER.
- C. CONTRACTOR shall store record documents separate from documents used for construction.
- D. CONTRACTOR shall record information concurrent with construction progress.
- E. Specifications: CONTRACTOR shall legibly mark and record at each Product section description of actual products installed, including the following:
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by addenda and modifications.
- F. Record Drawings: CONTRACTOR shall legibly mark each item to record actual construction including:
 1. Measured depths of foundations in relation to finish floor datum.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
 3. Measured locations of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of the work.
 4. Field changes of dimension and detail.
 5. Details not on original Contract drawings.

1.06 WARRANTIES

- A. CONTRACTOR shall provide warranties beyond project one-year warranty as required by technical sections and as follows.
- B. Submit warranty information as follows:
 - 1. Provide notarized copies.
 - 2. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers, and provide Table of Contents and assemble in three-ring binder with durable cover.
 - 3. Submit with request for certificate of Substantial Completion.
 - 4. For items of work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance listing date of acceptance as start of warranty period.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

NOT APPLICABLE

END OF SECTION

FEDERAL WAGE RATES

Structures).....	\$ 12.56
ELECTRICIAN.....	\$ 26.35
FORM BUILDER/FORM SETTER	
Paving & Curb.....	\$ 12.94
Structures.....	\$ 12.87
LABORER	
Asphalt Raker.....	\$ 12.12
Flagger.....	\$ 9.45
Laborer, Common.....	\$ 10.50
Laborer, Utility.....	\$ 12.27
Pipelayer.....	\$ 12.79
Work Zone Barricade Servicer.....	\$ 11.85
PAINTER (Structures).....	\$ 18.34
POWER EQUIPMENT OPERATOR:	
Agricultural Tractor.....	\$ 12.69
Asphalt Distributor.....	\$ 15.55
Asphalt Paving Machine.....	\$ 14.36
Boom Truck.....	\$ 18.36
Broom or Sweeper.....	\$ 11.04
Concrete Pavement Finishing Machine.....	\$ 15.48
Crane, Hydraulic 80 tons or less.....	\$ 18.36
Crane, Lattice Boom 80 tons or less.....	\$ 15.87
Crane, Lattice Boom over 80 tons.....	\$ 19.38
Crawler Tractor.....	\$ 15.67
Directional Drilling Locator.....	\$ 11.67
Directional Drilling Operator.....	\$ 17.24
Excavator 50,000 lbs or Less.....	\$ 12.88
Excavator over 50,000 lbs...	\$ 17.71
Foundation Drill, Truck Mounted.....	\$ 16.93
Front End Loader, 3 CY or Less.....	\$ 13.04
Front End Loader, Over 3 CY.	\$ 13.21
Loader/Backhoe.....	\$ 14.12
Mechanic.....	\$ 17.10
Milling Machine.....	\$ 14.18
Motor Grader, Fine Grade....	\$ 18.51
Motor Grader, Rough.....	\$ 14.63
Pavement Marking Machine....	\$ 19.17
Reclaimer/Pulverizer.....	\$ 12.88
Roller, Asphalt.....	\$ 12.78
Roller, Other.....	\$ 10.50
Scraper.....	\$ 12.27
Spreader Box.....	\$ 14.04

Trenching Machine, Heavy....\$ 18.48

Servicer.....\$ 14.51

Steel Worker

 Reinforcing.....\$ 14.00

 Structural.....\$ 19.29

TRAFFIC SIGNAL INSTALLER

 Traffic Signal/Light Pole

 Worker.....\$ 16.00

TRUCK DRIVER

 Lowboy-Float.....\$ 15.66

 Off Road Hauler.....\$ 11.88

 Single Axle.....\$ 11.79

 Single or Tandem Axle Dump

 Truck.....\$ 11.68

 Tandem Axle Tractor w/Semi

 Trailer.....\$ 12.81

WELDER.....\$ 15.97

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification

and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage

determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an

interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SECTION 03 11 13

CONCRETE FORMWORK

PART 1 GENERAL

1.01 SUMMARY

This section defines the requirements and limitations for the design, construction, erection, and removal of concrete formwork.

1.02 RELATED SECTIONS

Section 03 30 53 - Cast-In-Place Concrete

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ACI 347 American Concrete Institute, " Recommended Practice for
Concrete Formwork"

1.05 SYSTEM DESCRIPTION

All formwork shall be designed for the loads, lateral pressure, and allowable stresses described in the reference standard (ACI 347) and the applicable requirements of local building codes. The maximum allowable deflection for concrete surfaces exposed to view is 1/240 of the span between structural members.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. Forms. Full size, moisture resistant, three-fourths (3/4) inch thick, 5-ply Douglas fir form plywood shall be used as form lumber. Joints in forms shall be horizontal or vertical. Metal or other types of forms are allowed only with the prior approval of the Engineer and shall produce surfaces equal to those by the specified wood forms.
 - 1. Exposed Surfaces. Form lumber for exposed surfaces shall meet the above size and type requirements and be faced Grade B, or better, plywood. Do not use material with raised grain, torn surfaces, patches, dents, warps, knots, or other defects.

2. Unexposed Surfaces. Undressed lumber may be used for forming unexposed surfaces.
- B. Form Ties. Form ties for exposed surfaces shall be threaded rod type or snap ties and shall be of sufficient strength to withstand the pressure resulting from the placement of the concrete. Threaded rod type form ties shall be at least one and one-half (1-1/2) inches shorter than the wall thickness. Form ties shall be such that when forms are removed, no metal is closer than three-quarters (3/4) inch from the surface and shall leave a small, clean hole to be grouted. Securing forms with wire is strictly prohibited.
 - C. Form Coating. Use commercial formulation of form oil or form-release agent having proven satisfactory performance. Coating must not bond with, stain, or adversely effect the concrete surfaces and shall not impair the use of bonding agents and curing compounds. If form oil is used, all excess oil shall be wiped off leaving the surface just oily to the touch.
 - D. Chamfer Strips. Provide chamfer strips in corners of forms to produce beveled edges on permanently exposed surfaces. Size of chamfer shall be three-quarters (3/4) inch unless shown otherwise on the plans. Interior corners and edges of formed joints do not require any beveling unless shown otherwise on the plans.
 - E. Earth Cuts for Forms. Use earth cut forms for beams under slabs on grade when the beam has sloped sides and is integral with the slab. Earth cut forms are allowable for sides of footings if the sides of the excavation are stable such that there is no caving or sloughing.
 - F. Slip Forms. Slip forming is not permitted.

PART 3 EXECUTION

3.01 PREPARATION

- A. General. At least 24 hours prior to scheduled concrete placement, notify the Engineer that formwork may be observed. Do not place concrete until forms have been observed and acceptable to the Engineer.
- B. Preparation of Form Surfaces. Clean all surfaces of forms and embedded objects before placement of concrete. Remove accumulated mortar, grout, rust, debris and any other foreign material. Coat forms for exposed or painted surfaces with form oil or other form-release agent before placing concrete. Form oil, or other form-release agent, shall be used in strict accordance with the manufacturer's printed instructions. Do not allow excess form coating material to accumulate in forms or come in to contact with previously placed hardened concrete against which fresh concrete will be placed. No form coating material shall be placed on the reinforcement. Other than retained-in-place metal forms, forms for unexposed concrete surfaces may be wetted with water immediately prior to placement of concrete in lieu of using a form coating material. Such wetting of forms with water is not allowed when the possibility of freezing temperatures exists.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

- A. General. Construct forms to the shape, lines and dimensions of the members as shown on the plans. Forms shall be sufficiently tight to prevent the leakage of mortar. Temporary openings shall be provided at the base of column and wall forms or at other required points to facilitate the cleaning and inspection immediately before placement of concrete.
- B. Facing Material. Facing material for exposed surfaces shall be placed in an orderly and symmetrical fashion. Full size pieces shall be used except where small pieces will cover an entire area. Facing material shall be adequately supported to prevent deflection. Facing material for exposed surfaces shall be installed in such a manner that will allow the Engineer access to observe the exposed surface forms before the back form is in place.
- C. Bracing of Forms. Anchor, brace, and tie all formwork to shores, members, or other supporting surfaces to prevent the upward movement of the forms during the placement of concrete. Tighten forms to close joints and provide conformance to the specified lines and shapes. All forms that cannot be properly tightened shall be removed and rebuilt. All forms shall be securely braced to prevent lateral deflections during placement of concrete. Use wedges or jacks to provide positive adjustment of shores and struts. For wall openings, construct wood forms that facilitate loosening to counteract swelling of forms.
- D. Shoring of Forms. When shoring is permitted or required, construction shall follow a planned sequenced. Such plan shall be provided by the Contractor and shall be approved by the Engineer prior to construction.
- E. Removal of Forms. Forms for structural slabs and beam bottoms shall remain in place for a period of fourteen (14) days or until cylinder tests have shown that the concrete has reached eighty (80) percent of 28-day design strength as evidenced by laboratory test reports. In no case shall forms be removed in less than four (4) days.
- F. Form Reuse. Do not reuse forms that are worn or damaged beyond repair. Thoroughly clean and recoat forms before reuse. For wood forms to be used for exposed surfaces, sand or otherwise dress the surface to be in contact with the concrete to the original condition or provide form liner facing material. Before reusing metal forms, straighten, remove dents and clean such that the forms are returned to original condition.

END OF SECTION

SECTION 03 15 16

CONCRETE JOINTS AND EMBEDDED ITEMS

PART 1 GENERAL

1.01 SUMMARY

This section specifies requirements for construction joints, expansion joints and embedded items for concrete. Review drawings and specifications for additional requirements for joints and embedded items.

1.02 RELATED SECTIONS

Section 03 30 53 - Cast-In-Place Concrete

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

- A. American Society for Testing and Materials (ASTM).
 - 1. ASTM A-120, "Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses."
 - 2. ASTM A-306, "Carbon Steel Bars Subject to Mechanical Property Requirements."
 - 3. ASTM D-994, "Preformed Expansion Joint Filler for Concrete (Bituminous Type)."
 - 4. ASTM D-1751, "Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextending and Resilient Bituminous Types)."
 - 5. ASTM D-1752, "Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction."

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. Expansion Joint Filler. Use 3/4-inch thick asphalt impregnated fiberboard or redwood in accordance with ASTM D-1751.
- B. Expansion Joint Sealer. Use joint sealing compound conforming to ASTM C920, Type S, Grade P or NS.
- C. Expansion Joint Dowels. Use plain steel bars conforming to ASTM A-306, grade 70. Cut Dowels to length at shop or mill before delivery to the site. Dowels must be straight and clean, free of rust and scale.
- D. Sleeves. Provide sleeves which are 26-gauge steel or PVC tubes and are capped at one end. Sleeves shall be in accordance with ASTM A-120.
- E. Waterstops. Unless otherwise shown on the plan details waterstops shall be polyvinylchloride and be Seal-Tight, Type No. 6DS, as manufactured by W.R. Meadows, Inc.; Type No. 6, wide flange (PVC), as manufactured by Duro-Wal; Type CB 1-1/8, as manufactured by Williams Products; or a preapproved equal.

PART 3 EXECUTION

3.01 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

- A. General. Place embedded items as shown on the plan details and in such a manner that will not impair the strength of the structure. Should locations of embedded items conflict with reinforcement or be detrimental to strength of the structure, notify the Engineer so the items can be relocated. Notification shall be such that the scheduled concrete placement is not delayed and there is adequate time to relocate the embedded items. Adequately secure all embedded items to prevent displacement during concrete placement.
- B. Conflicts with Reinforcement. Do not cut or reposition reinforcing steel to facilitate the installation of inserts, conduits, sleeves, anchor bolts, mechanical openings and similar items without the knowledge of the Engineer.
- C. Construction Joints. Make construction joints only at locations shown the plan details or as specified in these specifications. Relocation of construction joints is strictly prohibited without the prior approval of the Engineer. Install construction joints in compliance with the following procedures:
 - 1. Locate joints in such a manner that will least impair the strength of the structure being constructed.
 - 2. Place all joints perpendicular to main reinforcement. Reinforcing shall be extended through all joints unless otherwise shown.

3. Prepare joints by removing loosened particles of aggregates or damaged concrete at the surface.
 4. Install any joint filler on expansion joints to full depth of the concrete section with the top held down 3/4-inch to provide recess for sealant.
- D. Waterstops. Install waterstops in the locations shown and in a manner that will develop effective watertightness. Position and support waterstops against any displacement during placement of concrete.

END OF SECTION

SECTION 03 21 00

CONCRETE REINFORCEMENT

PART 1 GENERAL

1.01 SUMMARY

This section gives the requirements for the concrete reinforcement to be used in cast-in-place concrete.

1.02 RELATED SECTIONS

Section 03 30 53 - Cast-In-Place Concrete

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

A. American Society for Testing and Materials.

ASTM A-615, "Deformed and Plain Billet-Steel Bars for Concrete Reinforcement"

ASTM A-185, "Specification for Welded Steel Wire Fabric for Concrete Reinforcement"

ASTM A-306, "Specification for Carbon Steel Bars Subject to Mechanical Property Requirements"

B. American Concrete Institute.

ACI 315, "Manual of Standard Practice for Detailing Reinforced Concrete Structures"

ACI 318, "Building Code Requirements for Reinforced Concrete"

C. Concrete Reinforcing Steel Institute.

CRSI 163, "Recommended Practice for Placing Reinforcing Bars"

CRSI 165, "Recommended Practice for Placing Bar Supports, Specifications and Nomenclature"

1.05 SUBMITTALS

When required by the Engineer, submit detailed shop drawings showing the bar locations, splices, sizes, length, type and spacing. The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed. Detailing of reinforcement shall be in accordance with the applicable American Concrete Institute (ACI) reference standard.

1.06 QUALITY ASSURANCE

When required by the Engineer, submit the manufacturer's certificates showing the properties of the steel proposed for use. The certificates shall show the manufacturer's test and heat number, chemical analysis, yield point, tensile strength and percent elongation.

1.07 DELIVERY, STORAGE, AND HANDLING

All steel reinforcement shall be stored above the ground on platforms, skids or other supports as approved by the Engineer. Reinforcement shall be stored in a location such that it is protected from mechanical injury and rust. When placed in the work, steel reinforcement shall be free from dirt, scale, dust, oil, paint and other material. Store steel reinforcement in an orderly fashion so that bars may be easily identified.

1.08 SCHEDULING

Schedule the delivery of materials to the site and the installation of the reinforcement such that a minimum time of site storage is maintained for the reinforcement during the entire duration of the project.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. Steel Reinforcing Bars. All steel reinforcing bars shall be open hearth new billet steel conforming to ASTM A615. All bars shall be deformed and be Grade 60 with a minimum yield strength of 60,000 psi.
- B. Welded Wire Fabric. Wire for fabric reinforcement shall be cold drawn from rods hot rolled from open hearth billets and shall conform to ASTM A82 and be fabricated in accordance with ASTM A185. Wire for fabric reinforcement shall be #4 gauge or have a nominal diameter of 0.2253-inch. Welded wire fabric shall be supplied in flat mats. Rolled fabric will not be accepted.
- C. Supports. Supports for reinforcing bars shall be the correct type as intended and represented by the manufacturer. Bar supports shall be uniform high density polyethylene or fiberglass reinforced plastic and conform to CRSI Class 1, Maximum Protection.
- D. Spacers. Reinforcing bars shall be spaced the proper distance from the face of the forms by means of approved galvanized metal spacers or approved mortar or concrete blocks. Precast mortar or concrete blocks shall be cast in individual molds, in the form of a

frustrum of a cone or pyramid, with suitable tie wire to be used for anchoring the block to the steel. The precast blocks shall be properly cured and aged before use in spacing the steel.

- E. Tie Wire. Use 18-gauge annealed steel for tie wire.
- F. Bar Splices. Splicing of bars will not be permitted without the written approval of the Engineer. When splicing of bars is unavoidable, the number of splices shall be kept to a minimum and shall be located at points of minimum stress. When practicable, splices in adjacent bars shall be staggered. Lap splices shall have a minimum splice length of not less than twenty-four (24) bar diameters when being used in 3,000 psi concrete and shall be in accordance with ACI 318. Mechanical splices shall be installed in strict accordance with the manufacturer's instructions and recommendations and shall be as follows:
 - 1. Mechanical Bar Splices. Use Cadweld splices manufactured by Erico Products, Inc., or preapproved equal. Splices must develop a minimum of 125% of specified yield strength of the spliced bars.
 - 2. Threaded Bar Splices. Use a metal coupling sleeve with internal threads which receive the threaded ends of the bars to be splice. Splices must develop a minimum of 125% of specified yield strength of the spliced bars.

2.02 FABRICATION

Reinforcement shall be bent cold to the shapes indicated on the plan details. Bends shall be true to the shapes indicated and any irregularities shall be cause for rejection. Unless otherwise shown, bends for stirrups or ties shall be made around a pin having a diameter of not less than two (2) times the bar size. Hooks shall be a complete semi-circular turn of a diameter equal to six (6) times the bar diameter, plus an extension of at least four (4) bar diameters at the free end of the bar.

PART 3 EXECUTION

3.01 PREPARATION

Notify the Engineer at least 24-hours before concrete placement so that reinforcement may be observed and errors corrected without delaying the work.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

- A. General. Carefully and accurately place the reinforcement in the positions indicated on the plan details. All reinforcing steel shall be securely wired together at all intersections and be held securely in place during the pouring of concrete.
- B. Vertical Stirrups. Vertical stirrups shall always pass around the main tension members and be securely attached thereto.
- C. Spacers. No galvanized spacers shall be installed in concrete which will be exposed to the weather.

- D. Welded Wire Fabric. Where welded wire fabric is used as reinforcement, the mesh shall be placed in the longest practical lengths and shall be overlapped and securely fastened at the ends to maintain a uniform strength. A minimum of one (1) mesh overlap is required.
- E. Construction Joints. Reinforcing shall extend through construction joints.
- F. Welding of Reinforcing. No welding of reinforcing steel or splices shall be allowed without the knowledge of the Engineer.
- G. Conflicts with the Reinforcement. Where there are conflicts between the location of reinforcing steel and other concrete embedded items, the Contractor shall immediately notify the Engineer so that revisions can be made before placing the concrete. Cutting of any reinforcement is strictly prohibited without the knowledge of the Engineer.

3.03 FIELD QUALITY CONTROL

Place all reinforcing steel within the specified tolerances as outlined in the referenced standards. Variations from these tolerances will be cause for rejection of the work.

END OF SECTION

SECTION 03 30 53

CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SUMMARY

This section gives requirements for normal weight structural concrete, concrete riprap, and pneumatically placed concrete.

1.02 RELATED SECTIONS

Section 03 11 13 - Concrete Formwork
Section 03 21 00 - Concrete Reinforcement
Section 03 15 16 - Concrete Joints and Embedded Items

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ACI American Concrete Institute
ASTM American Society for Testing and Materials

1.05 SYSTEM DESCRIPTION

Four (4) classes of concrete designated by the minimum seven (7) day and twenty-eight (28) day compressive strength in pounds per square inch (psi) are covered by this specification and are as follows:

<u>Class</u>	<u>Compressive Strength (psi)</u>	
	<u>7 days</u>	<u>28 days</u>
A	1,350	2,000
B	1,700	2,500
C	2,000	3,000
D	2,350	3,500

Unless shown otherwise on the plans, concrete shall be Class "D".

1.06 SUBMITTALS

The Contractor shall submit four (4) copies of each submittal, which will be retained by the

Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed.

The Contractor is required to submit each of the following:

- A. Cement. Submit certified test reports for the cement to be used on the project.
- B. Aggregate. Submit certified test reports for the aggregate to be used on the project. Testing of aggregate shall be conformance with ASTM C33.
- C. Admixtures. Submit brochures, manufacturers instructions for use, and performance data on all proposed admixtures.
- D. Design Mix. Submit test data on proposed design mixes for each class of concrete to be used on the project. Test data shall include both the 7-day and 28-day compressive strength tests results to establish a quality control standard for use during the construction period. No concrete shall be placed before the design mix is submitted and approved. An analysis showing the relationship between the water-cement ratio and the compressive strength of the concrete mix shall be submitted with the design mix.

1.07 QUALITY ASSURANCE

It shall be the responsibility of the Contractor to produce concrete of the strength, durability, workability and specified finish; furnish representative materials for specimens in quantities required by the testing laboratory; take samples of materials for testing; check proportions of mix and immediately notify the Engineer if proportions appear improper in any respect. The Contractor shall comply with all testing laboratory findings and the Engineer's decisions in reference to these findings. The Contractor shall pay for the redesign of the concrete mix due to a change in the source of materials.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Cement. Store cement in weathertight buildings, bins or silos to provide protection from dampness and contamination and to minimize warehouse set.
- B. Aggregate. Arrange and use aggregate stockpiles to avoid excessive segregation or contamination with other materials or with other sizes of like aggregates. Do not use frozen or partially frozen aggregates.
- C. Sand. Sand shall be stored such that it maintains a uniform moisture content.
- D. Admixtures. Store and handle admixtures in accordance with manufacturer's instructions.
- E. Batch Tickets. Batch tickets shall be delivered with each load of concrete and shall include the weights of each ingredient for the batched load of concrete and the date and time the load was batched. The testing agency representative shall keep at least one (1) copy of the batch ticket.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. Portland Cement. Portland cement shall be Type I or Type III and be in accordance with the current specifications for Portland cement in ASTM C150. Type IA or Type IIIA Portland cement shall be used when air entrainment is specified and shall conform to the current specifications for Portland cement in ASTM C175.
- B. Fly Ash. When fly ash is used, “cement” shall be defined as “cement plus fly ash”. Fly ash shall be Type C or Type F from a source approved by the Texas Department of Transportation and shall not exceed 25% of the absolute volume of the “cement plus fly ash”. Fly ash is not permitted when white Portland cement is required.
- C. Water. Water used for mixing in concrete shall be clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances that may be deleterious to concrete or reinforcement. Water which is suitable for drinking or ordinary household uses is acceptable. Nonpotable water shall not be used for mixing in concrete. The maximum water/cement ratio shall be 0.50.
- D. Admixtures. Calcium chloride or admixtures containing chloride are strictly prohibited. Provide admixtures in accordance with the following:
 - 1. Air-entraining Admixtures. Use admixture which conforms to the requirements of ASTM C260.
 - 2. Chemical Admixtures. Chemical admixtures used as retarders, accelerators, water-reducing agents, or a combination of these, shall conform to the applicable provisions of ASTM C494 and/or ASTM C1017.
 - 3. Admixtures shall be charged into the mixer as solutions and shall be measured accurately. The liquid shall be considered a part of the mixing water.
- E. Aggregates. Use coarse aggregate from only one (1) source and fine aggregate from only one (1) source for all exposed concrete in a single structure. Use of pit run gravel as an aggregate will not be permitted. Both fine and coarse aggregates in normal weight concrete shall conform to the requirements of ASTM C33 and shall be as follows:
 - 1. Coarse Aggregate. Coarse aggregates shall consist of crushed stone, gravel, crushed gravel or a combination of these. Gravel and crushed gravel shall consist of clean, hard, durable particles, free from adherent coating, thin or elongated pieces, soft or disintegrated particles, dirt, organic or injurious matter. Crushed stone shall consist of the clean, dustless product resulting from crushing stone. There shall be no adherent coatings, clay, loam, organic or injurious matter.
 - 2. Fine Aggregate. Fine aggregate shall consist of a sand or mixture of sand with or without a mineral filler. The sand or mixture of sand in fine aggregate shall be clean, hard, durable, uncoated grains which are free from lumps.

- F. Curing Compound. When required, provide commercial curing compound which will not permanently discolor the concrete and is in accordance with the provisions set forth in ASTM C309.
- G. Sheet Material for Curing Concrete. When required, provide waterproof paper, polyethylene film or white burlap-polyethylene sheeting in accordance with provisions set forth in ASTM C171.
- H. Patching Grout. Provide a non-shrink, non-slump, quick-setting patching mortar to repair small defects in concrete work. Master Builders' "Embeco 153," or preapproved equal, is acceptable for use as a patching grout. Sand used in patching grout shall be in accordance with the provisions set forth in ASTM C144.
- I. Proportioning and Mixing of Concrete. Proportion and mix ingredients in a manner that will produce a concrete having the proper placability, durability, strength, appearance, and other specified properties. Proportion ingredients to produce a homogenous mixture which will readily work into corners and angles of forms and around reinforcement when placed and consolidated and will not segregate or have excessive water collect on the surface. Proportion materials in accordance with the procedures outlined in ACI 613, "Recommended Practice for Selecting Proportions for Concrete." All materials will be proportioned and mixed with the intention of producing a concrete with the minimum specified twenty-eight (28) day compressive strength, or greater.
1. Normal Weight Structural Concrete. In addition to the above requirements for proportioning and mixing concrete, normal weight structural concrete shall be mixed in accordance with the provisions of ASTM C94, "Standard Specification for Ready-Mixed Concrete." The use of an on site batch plant is strictly prohibited without the prior approval of the Engineer. Any specified or approved admixtures shall be mixed and proportioned in the concrete in accordance with the manufacturer's instructions and the applicable reference standards.
 2. Concrete Riprap. Concrete riprap shall be proportioned and mixed in accordance with the provisions for normal weight concrete.
 3. Pneumatically Placed Concrete. In addition to any of the following requirements, the cement, sand, admixtures, and water to be used for pneumatically place concrete shall conform to the requirements previously outlined in this specification. Pneumatically placed concrete shall be proportioned as follows:
 - a. Type I. One (1) part cement (minimum) to four (4) parts sand (by volume).
 - b. Type II. One (1) part cement (minimum) to five (5) parts sand (by volume).

The type to be used shall be designated on the plans. At the time of mixing, the sand shall contain from three (3) to six (6) percent moisture. When visual observation indicates that lumps or oversized particles are going into the

machine, all materials shall be thoroughly mixed and passed through a 1/4-inch sieve before being placed in the machine. The minimum mixing time for each batch shall not be less than 1-1/2 minutes after the sand and cement are in the drum when the drum rotates at a peripheral speed of two-hundred (200) feet per minute. Completely discharge each batch before recharging. Clean the mixer at regular intervals to remove all adherent material from the mixing vanes and from the drum. No water shall be added to the mix after mixing and before application. Discard any mixed material which has exceeded the forty-five (45) minute maximum time to placement.

PART 3 EXECUTION

3.01 PREPARATION

- A. General. Mix concrete only in quantities for immediate use and discard any concrete which has set or is not completely discharged at the site within the maximum time allowed for placement. Retempering of any set concrete is strictly prohibited. When concrete arrived at the project with a slump below that specified, water may be added only if neither the maximum permissible water-cement ratio or the maximum slump is exceeded. The water shall be incorporated by additional mixing equal to at least half of the total mixing required.
- B. Notification. The placement of concrete without the knowledge of the Engineer is strictly prohibited. The Contractor shall notify the Engineer a minimum of twenty-four (24) hours before placing concrete.
- C. Protection from Adverse Weather. Unless adequate protection is provided, do not place concrete during rain, sleet, snow or freezing weather. Do not permit rainwater to increase the amount of mixing water or to damage the surface finish. If rainfall occurs after placing operations begin, provide adequate covering to protect the work from any adverse damage.
- D. Placing Temperatures. All concrete shall be placed in accordance with the following provisions:
 - 1. Cold Weather Placement. Unless special provisions are made for heating the concrete mix and the concrete in forms, do not place any concrete when the air temperature is below 40° F or is predicted to be below 40° F within forty-eight (48) hours of placement.
 - 2. Hot Weather Placement. When the air temperature is above 85°F, use an approved retarding agent in all concrete. Concrete temperature prior to placement shall not exceed 95° F.
- E. Maximum Time to Placement. Any concrete that has attained its initial set or has contained its mixing water or cement for more than forty-five (45) minutes shall not be placed in the work. The addition of an approved retarding agent may be proposed by the Contractor to increase the maximum time to placement. The increase of time to

placement shall be proposed the Contractor and approved by the Engineer when the design mix is submitted for approval.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

A. Placement of Concrete. The placement of concrete shall be in accordance with the following procedures:

1. Normal Weight Structural Concrete. Place concrete only upon a subgrade or surface acceptable to the Engineer. All forms shall be clean of dirt, and other construction debris, and all water shall be removed or drained from the forms before concrete is placed. Concrete shall be handled from mixer to transport vehicle to final place of deposition in a continuous manner and as rapidly as possible without segregation or loss of ingredients until the unit of operation is completed. Placing will not be permitted when, in the opinion of the Engineer, the sun, heat, wind, or limitations of facilities furnished by the Contractor prevent proper finishing and curing of the concrete. Forms or reinforcement shall not be splashed with concrete in advance of pouring. Concrete shall be deposited in uniform layers and as close as practicable to its final position. Immediately after placing, concrete shall be compacted and consolidated by vibration, spading, rodding, or forking such that the concrete is worked around reinforcement, embedded items and into the corners of the forms. The method used to consolidate and compact concrete shall be done so as not to cause segregation of the concrete. Special care shall be taken in placing and spading concrete against forms and all the joints to prevent the formation of voids and honeycombs. Tapping or other external vibration of forms will not be permitted. Vibrators shall not be used to move concrete in the forms. Concrete shall not be placed on concrete which is sufficiently hard to cause the formation of seams and planes of weakness within the section. Concrete shall not be allowed to drop freely more than five (5) feet in unexposed work nor more than three (3) feet in exposed work. Where greater drops are required, a tremie or other means shall be employed. The discharge of the tremies shall be controlled so that the concrete may be effectively compacted into horizontal layers not more than twelve (12) inches thick and the spacing of the tremies shall be such that cavities do not occur. Concrete to receive other construction shall be screeded to proper level to avoid excessive shimming or grouting.
2. Concrete Riprap. Place concrete on the slopes and other areas to be protected as shown on the plan details and as acceptable to the Engineer. All surfaces shall be moist when the concrete is placed. If the surfaces are dry and not consolidated properly, the Engineer may require the entire area to be sprinkled or sprinkled and consolidated before the concrete is placed. After the concrete has been placed, compacted and shaped to conform to the dimensions shown on the plans and after it has set sufficiently to avoid slumping, the surface shall be finished with a wooden float to secure a reasonably smooth surface. Concrete riprap which is pneumatically placed shall conform to the requirements of subparagraph 3 "Pneumatically Placed Concrete."
3. Pneumatically Placed Concrete. The compressor or blower used to supply air for placing concrete shall be capable of delivering a sufficient volume at a pressure

range of thirty (30) to sixty (60) pounds per square inch (psi) as required by the size of the nozzle being used. When a hose length of one-hundred (100) feet is used, the pneumatic pressure at the nozzle shall be forty-five (45) pounds per square inch (psi), or more, as necessary to efficiently prosecute the work. For lengths over one-hundred (100) feet, the pressure shall be increased five (5) pounds per square inch (psi) for each additional fifty (50) feet of hose required. Steady pressure must be maintained throughout the placing process. The water pump shall be of sufficient size and capacity to deliver the water to the nozzle at a pressure of not less than fifteen (15) pounds per square inch (psi) in excess of the required air pressure. Proper consistency of the concrete shall be controlled at the nozzle valve by the operator and a low water-cement ratio must be maintained. The mix shall be sufficiently wet to properly adhere and sufficiently dry so that it will not sag or fall from vertical or inclined surfaces or separate in horizontal work. In covering vertical or inclined surfaces, placing of the concrete shall begin at the bottom and be completed at the top. The nozzle shall be held at such distance (2 to 4 feet) and position that the stream of flowing concrete shall impinge as nearly as possible at right angles to the surface being covered. Any deposit of loose sand shall be removed prior to placing any original or succeeding layers of pneumatically placed concrete. Should any deposit of loose sand be covered with pneumatically placed concrete, the concrete shall be removed and replaced with a new coat of pneumatically placed concrete after the receiving surface has been properly cleaned. Before channel lining or riprap is placed, the slopes shall be thoroughly and uniformly consolidated and moistened. Sprinkling or sprinkling and consolidation may be required by the Engineer before placement of concrete. The subgrade for lining shall be excavated and fine graded to the required section. The use of forms for lining will not be required. The surfaces of pneumatically placed concrete for both channel lining and riprap shall be accurately finished by hand floating methods before the concrete has attained its initial set. The original surface and each surface which is permitted to harden before applying succeeding layers shall be washed with water and blasted with air, or a stiff hose stream, and all loosened material removed. Sand which rebounds and does not fall clear of the work or which collects on horizontal surfaces shall be blown off from time to time to avoid leaving sand pockets. Rebound which is recovered and is clean and free of foreign matter may be reused as sand in a quantity not to exceed twenty (20) percent of the total sand requirement. Pneumatically placed concrete shall not be applied to a surface containing frost or ice. Where standing or running water is encountered, it shall be removed before pneumatically applying the concrete. Only experienced foremen, gunmen, nozzle men, and rodmen shall be employed and satisfactory written evidence of such experience shall be furnished to the Engineer upon request.

B. Surface Finish on Concrete.

1. Monolithic Slab Finishes.

- a. Trowel Finish: Apply a trowel finish to monolithic slab surfaces exposed to view and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint, or another thin film-finish coating system.

- b. Nonslip Broom Finish: Apply a nonslip broom finish to exterior concrete sidewalks, platforms, steps, and elsewhere as indicated.
 - (1) Immediately after float finishing, slightly roughen concrete surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Engineer before application.
 - 2. Concrete Surface Uniformity: The concrete surface shall not vary from the design slope by more than 0.5% in any 4-foot-long segment.
 - 3. Finishing Formed Surfaces.
 - a. Rough-Formed Finish: Provide a rough-formed finish on formed concrete surfaces not exposed to view in the finished Work or concealed by other construction. This is the concrete surface having texture imparted by form-facing material used, with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch (6 mm) in height rubbed down or chipped off.
 - b. Smooth-Formed Finish: Provide a smooth-formed finish on formed concrete surfaces exposed to view or if it is specified to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, painting, or another similar system. This is an as-cast concrete surface obtained with selected form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch defective areas with fins and other projections completely removed and smoothed.
 - c. Smooth-Rubbed Finish: Not later than one day after form removal, provide smooth-rubbed finish on concrete surfaces that have received smooth-formed surface but are not specified to be coated or covered.
 - (1) Moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
- C. Saw cut contraction joints shall be made using a diamond tipped blade to the depth shown on the plans as soon as sawing can be done without damage to the pavement, regardless of time of day or weather. Saw joints must be completed within 8 hours of concrete placement. Use a chalk line, string line, sawing template, or other approved method to provide a true joint alignment. Provide enough saws, including back-ups, to match the paving production rate to provide sawing completion at the earliest possible time to avoid uncontrolled cracking. Reduce paving production if necessary to provide timely sawing of joints. Promptly restore membrane cure damaged within the first 72 hr. of curing.

D. Curing of Concrete.

1. Moist Curing. All freshly placed concrete shall be cured by keeping the exposed surfaces, edges and corners continuously moist for a minimum duration of seven (7) days by spraying, ponding or covering with waterproof paper, polyethylene film or wet burlap. The temperature of the concrete shall maintained above 50° F for the seven (7) day curing period. All materials for protecting and curing the concrete shall be on hand and ready for use before concreting begins. Wood forms left in place will not be considered adequate for moist curing. Ceilings and inside walls may be cured by leaving the forms on for at least four (4) days.
2. Curing Compound. In lieu of moist curing, a curing compound which is acceptable to the Engineer as to color, quality, and moisture retention, may be used. Apply curing compound in accordance with manufacturer's instructions.

3.03 FIELD QUALITY CONTROL

- A. General. The Owner shall obtain the services of an independent qualified testing laboratory to perform the required testing and observation of the concrete. All construction materials necessary for tests shall be provided by the Contractor at no additional expense to the Owner or the testing laboratory.
- B. Slump Test. Contractor shall perform slump tests on each batch of concrete delivered to the job site. Slump tests shall be performed under the guidance and supervision of the testing laboratory representative and/or Engineer. The maximum permissible slump for concrete prior to addition of water reducing agents shall be as follows:

<u>Location of Concrete</u>	<u>Maximum Slump (in.)</u>
Reinforced foundation walls and footings	5"
Plain footings and piers	5"
Slabs, beams and reinforced walls	5"
Pavements	4"

Water reducing admixtures (plasticizer) may be added as allowed by the concrete producer after the initial slump test. The maximum slump after adding water reducing admixtures shall be 8".

- C. Field Test Cylinders. The testing laboratory shall prepare one (1) set of concrete test cylinders, consisting of a minimum of three (3) cylinders, for each one-hundred (100) cubic yards (CY) of concrete pour or major fraction thereof. If the quantity of concrete poured in a day is less than one-hundred (100) cubic yards (CY), one (1) set of concrete tests cylinders is required. Each concrete test cylinder shall be made in accordance with the provisions outlined in ASTM C31. Test cylinders shall be cured under laboratory conditions except when, in the opinion of the Engineer, prevailing job site conditions necessitate cylinders be cured under job conditions. Testing of concrete test cylinders shall be done by the testing laboratory in accordance with the provisions outlined in ASTM C39. One (1) cylinder shall be tested for compressive strength at the age of seven (7) days and a minimum of one (1) cylinder shall be tested for compressive strength at the age of twenty-eight (28) days. If any cylinder test is below the specified strength requirements, the Engineer shall have the right to require changes in the mix design,

require additional curing time, change the batching process, or take other necessary actions including rejection, so that the concrete being placed in the work will meet the specified strength requirements.

3.04 ADJUSTING / CLEANING

All tie holes and other surface defects shall be repaired immediately after form removal. Approved patching grout shall be used to fill the minor voids left by form ties and all protruding defects left by forms shall be removed with a rubbing stone.

END OF SECTION

SECTION 31 23 16.19

EXCAVATING, BACKFILLING, AND COMPACTING FOR PAVEMENT

PART 1 GENERAL

1.01 SUMMARY

This section describes the requirements for the excavation, backfilling, embankment, and compacting for all types of pavement including, but not limited to, concrete pavement and hot mix asphalt concrete pavement. Also included in this specification are the requirements for clearing and grubbing for roadway construction and the requirements for traffic control in the construction of a roadway.

1.02 RELATED SECTIONS

Section 31 50 00 – Excavation Safety

1.03 MEASUREMENT AND PAYMENT

Roadway excavation shall be paid for by the cubic yard as measured in its original undisturbed position. Roadway embankment and backfill shall be paid for by the cubic yard as measured in its final compacted in place position. The unit price bid per cubic yard shall be full compensation for removing, transporting, placing, compacting and shaping the material including all incidentals necessary to complete the work.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ASTM	American Society of Testing and Materials
AASHTO	American Association of State Highway and Transportation Officials
OSHA	Occupational Safety and Health Administration

1.05 DEFINITIONS

- A. Embankment. Embankment is hereby defined as any additional placement and compaction of material required to construct a designated roadway section, a roadway embankment, levee and/or dike.
- B. Backfill. Backfill is hereby defined as any additional placement and compaction of material required to install all structures associated with the construction of a designated roadway section such as curb and gutters, storm sewer inlets, guardrail or other similar roadway structures.
- C. Excavation. Excavation is hereby defined as the removal and subsequent handling of all materials excavated or otherwise removed in the performance of the work, regardless of type, character, composition or condition thereof. All excavation shall be unclassified

and includes the removal of all material regardless of the nature of the material unless otherwise indicated in the bid form.

- D. Borrow. Borrow is hereby defined as the material which is stripped, excavated, transported and properly utilized as backfill or embankment material and is obtained only from an approved and/or designated source.

1.06 SUBMITTALS

The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed. Submit suitable sample quantities of embankment, backfill, and/or subgrade materials.

1.07 COMPLIANCE WITH REGULATORY AGENCIES

The Contractor shall comply with the requirements of all pertinent regulatory agencies as applicable to the project. The Contractor shall meet the requirements of the EPA Clean Water Act as it applies to pollution from stormwater runoff. When the construction site is five or more acres, the Contractor will be the Operator of the site as defined by the EPA, and Contractor shall prepare and implement a Stormwater Pollution Prevention Plan, according to EPA requirements including the notifications required by the EPA.

1.08 DELIVERY, STORAGE, AND HANDLING

All material used for embankment or backfill shall be delivered, stored, and handled in a manner that will prevent any harmful contamination of the material or damage to any adjacent property or structures. The delivery, storage, and handling of embankment and backfill materials is subject to the approval of the Engineer.

1.09 PROJECT / SITE CONDITIONS

Contractor shall be responsible for locating all underground utilities which are in conflict with the proposed work.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. Embankment. Furnish embankment material which is obtained from roadway, borrow, channel and structural excavations. Embankment material shall be obtained only from an approved source and shall meet the approval of the Engineer. In general, embankment material shall consist of earth which is free from rocks, clods, vegetation or other foreign material. Each layer of embankment shall be uniform as to material, density and moisture content and shall be suitable for forming a stable embankment. Other requirements for embankment material shall be as shown on the plans.
- B. Backfill. Furnish backfill material in accordance with the requirements as shown on the plans. Backfill material shall be obtained only from an approved source and shall meet

the approval of the Engineer. Obtain approved backfill material from roadway, borrow, channel and structural excavations.

- C. Subgrade Material. Use existing subgrade material, or when necessary furnish subgrade material, which contains sufficient fines to form a firm subgrade capable of being shaped and compacted to the lines, grades and densities shown on the plans.
 - 1. Cement Stabilization. If required, cement stabilization of subgrade shall be in accordance with applicable section.
- D. Topsoil. Furnish topsoil material which is capable of sustaining vegetation. All topsoil material and the source from which it comes shall meet with the approval of the Engineer and shall be obtained from roadway, borrow, channel and structural excavations. When acceptable to the Engineer, the top four (4) inches of roadway, channel and structural excavations shall be stripped and separately stockpiled for later use as topsoil. When the top four (4) inches of roadway, channel or structural excavations do not, in the Engineer's opinion, provide the necessary material for sustaining vegetation, or there does not exist enough of this material, topsoil shall be obtained from an approved borrow source. All existing large vegetation or other unsuitable material shall be removed from topsoil before it is stockpiled or transported.

PART 3 EXECUTION

3.01 PREPARATION

- A. Rights-of-Way. The necessary rights of way for the work will be provided by the Owner. The Contractor shall confine his construction operations to the immediate vicinity of the location shown on the plans, and shall use due care in placing construction tools, equipment, excavated materials, and paving materials and supplies, so as to cause the least possible damage and interference with traffic.
- B. Work Within Highway Right-of-Way. All work performed, and all operations of the Contractor, his employees, or his subcontractors, within the limits of highway right-of-way shall be in conformity with the requirements of the highway authority owning, or having jurisdiction over, the right-of-way in each case.
- C. Bench Marks, Stakes, and Monuments. No work shall be performed that will destroy or disturb any bench marks or property line monuments. In the event that it becomes necessary to remove any bench mark or property line monument in the performance of the work, the Contractor shall notify the Engineer prior to removal so that such points may be referenced in preparation for replacement. All costs to reestablish disturbed or destroyed bench marks and property line monuments shall be the responsibility of the Contractor.
- D. Clearing and Grubbing. All trees and vegetation, except such trees and vegetation that are to remain in place as designated by the Engineer, shall be removed from the site. Trees and other vegetation to be left standing shall be protected from damage by the erection of barriers or by such other means as the circumstances require. Clearing operations shall be conducted so as to prevent damage by falling trees to trees that are to

be left standing, to existing structures and equipment, and to structures which are under construction. Perform clearing operations so as to provide safety for employees and other bystanders. All roots, stumps and other debris shall be removed to a depth of two (2) feet below the lowest elevation of an excavation or below the existing surface in area to receive embankment. All depressions resulting from these removals shall be filled with suitable materials and compacted to make the surface conform to the surrounding grounds.

- E. Protection and Maintenance of Public and Private Property. The Contractor shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground facilities uncovered or otherwise affected by the construction work performed by him. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, and other surface structures affected by the construction operations in connection with the performance of the contract, together with all sod and shrubs in yards and parking areas removed or otherwise damaged, shall be restored to the original condition thereof. All replacements of such underground construction and surface structures, or parts thereof, shall be made with new materials conforming to the requirements of these specifications or, if not specified, as acceptable to the Engineer. Utility poles and fire hydrants will be relocated by others. The Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property facilities, regardless of location or character, which may be caused by moving, hauling, or otherwise transporting equipment, materials or men to or from the work or any part or site thereof, whether by him or his subcontractor(s). The Contractor shall make satisfactory and acceptable arrangements with the owner of, or the agency or authority having jurisdiction over, the damaged property or facility concerning its repair or replacement or payment of costs incurred with said damage. All fire hydrants and water control valves shall be kept free from obstructions and available for use at all times.
- F. Erosion Control. Employ measures and construction practices to prevent erosion at, or adjacent to, the project site. Adequacy of erosion control is subject to the review of the Engineer and includes, but shall not be limited to, filter fabric fences, rock dams and berms. Erosion control shall begin at the onset of the project and be maintained throughout the duration of the work until final acceptance.
- G. Traffic Control. Provide and maintain traffic control in conformity with the applicable statutory requirements and, within highway right-of-way, as required by the authority having jurisdiction thereover. Adequate traffic control devices shall be in place prior to removal of any existing control devices, construction equipment move-in or any work within public right-of-way. Traffic control shall be in accordance with the Texas Manual on Uniform Traffic Control Devices. The Contractor shall notify all required emergency service providers in the event of a road closure or other activity that may impair the emergency travel of the provider.
 - 1. Maintenance of Traffic. Conduct work in a manner that will interfere as little as possible with public travel, whether vehicular or pedestrian, whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, whether public or private. The Contractor shall, at his own expense, provide and maintain suitable and safe bridges, detours, or other temporary structures for the accommodation of public and private travel and shall give reasonable notice to

owners of private drives before interfering with them; provided however, that such maintenance of traffic will not be required at any point where the Contractor has obtained permission from the owner and tenant of the private property involved, to obstruct traffic at any designated point thereon and for the duration of whatever period of time as may be agreed on.

2. Barricades, Lights, and Signs. All streets, roads, highways and other public thoroughfares which are closed to traffic shall be protected by means of effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersection, public highway or street on each side of the blocked section. All open trenches or other excavations shall be provided with suitable barriers, signs, and lights to the extent that adequate protection is provided to the public. Obstructions, such as material piles and equipment, shall be provided with similar warning lights and signs. All barricades and obstructions shall be illuminated by means of warning lights. Materials stored upon or alongside public streets and highways shall be so placed, and the work conducted at all times, as to cause minimum obstruction and inconvenience to the traveling public.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

- A. General. Perform all excavations, construction of embankments, backfilling, compacting and subgrade preparation to the lines, grades, and densities shown on the plans. All work performed under this specification shall be completed in strict accordance to the rules and regulations of the Federal Occupational Safety and Health Act.
- B. Excavation. All excavations for pavement and associated structures shall be held to the minimum required for the proper performance of the work. Blasting is hereby strictly prohibited to aid in the performance of the excavation work. The Contractor is expected to familiarize himself completely with the type of excavation to be performed and the type of materials to be handled. There will be no consideration of claims for extra compensation due to encountering difficult or unstable material in the excavations to be made.
- C. Subgrade Preparation. Uniformly place and spread approved subgrade material which has been obtained from a borrow source and compact to the required thickness using approved compacting equipment. Subgrade material which is existing or is hauled in from another source, and is not to be cement or lime stabilized, shall be within 2% of optimum moisture content and shall be compacted to a minimum 95% Standard Proctor as determined by ASTM D698. Compaction of subgrade which is to be cement stabilized shall be in accordance with applicable section. Compaction of subgrade which is to be lime stabilized shall be in accordance with applicable section.
- D. Embankments. No embankment work shall be performed without the Engineer's approval of the embankment material. Unless otherwise shown on the plans, embankments shall be constructed in successive layers for the full width of the cross section and in appropriate lengths which are suitable for the sprinkling and compaction methods being used. Maximum depth of layers before compaction shall be six (6) inches. Form each successive layer of embankment by utilizing equipment which will evenly spread and distribute the piles or windrows of material which have been placed from

excavations or hauling equipment. All embankment material shall be placed by blading or some other similar method. All clods and lumps shall either be removed or broken and then subsequently blended into the embankment material by blading, harrowing or other method such that each layer is of uniform density. When necessary, the Contractor shall evenly sprinkle each layer of embankment material to obtain the required moisture content that will allow for maximum compaction. Contractor shall be responsible for obtaining a uniform moisture content within 2% of optimum moisture throughout each successive layer of embankment material by using such methods as may be necessary. Each layer of embankment shall be compacted to a minimum 92% Standard Proctor as determined by ASTM D698.

- E. Backfilling and Compacting. No backfilling and compacting around any pavement or associated structures shall be done without the knowledge of the Engineer. Place and compact approved backfill at all required locations including behind curbs and around inlets when necessary. Unless otherwise shown on the plans, backfill shall be placed and compacted in maximum eight (8) inch layers to the density of the surrounding earth or the density shown on the plans.
- F. Grading. Upon the completion of the pavement, grade the surrounding earth and ditches to the finished line and grade as shown on the plans. Evenly spread the stockpiled topsoil over all embankments, berms, slopes and surrounding grounds. The topsoil shall be harrowed and dragged so as to break up all lumps in preparation of sodding or seeding. Unless specifically shown on the plans, drainage shall be away from all structures and slabs.

3.03 REPAIR / RESTORATION

The Contractor shall correct any erosion of embankments or other areas during the progress of construction and up to the final acceptance of the entire project.

3.04 FIELD QUALITY CONTROL

Placement of any backfill or embankment materials shall not be done without the prior approval of the Engineer. Contractor is responsible for notifying the Engineer prior to starting backfill operations. Notification will be such that it will allow the Engineer sufficient time to observe the excavated areas prior to the beginning of backfill operations.

3.05 ADJUSTING / CLEANING

Dispose of excess or unsuitable excavated materials at a location away from the project site limits and in a legal manner. If acceptable to the Engineer, disposal of such materials may be within the site limits.

END OF SECTION

SECTION 31 23 23.46

CEMENT STABILIZED SAND

PART 1 GENERAL

1.01 SUMMARY

This section provides for the use of cement stabilized sand as a utility bedding or backfill material or for structural backfill.

1.02 RELATED SECTIONS

Section 31 23 33 - Excavation, Trenching and Backfilling for Utilities

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form..

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ASTM American Society of Testing Materials

1.05 SYSTEM DESCRIPTION

Provide sand-cement mixture that will produce a minimum unconfined compressive strength of 100 pounds per square inch (psi) in 48 hours.

1.06 QUALITY ASSURANCE

Upon request of the Engineer, the Contractor or his supplier will furnish samples of the sand and cement for testing before and/or during project construction. Samples shall be submitted two (2) days prior to stabilized sand being delivered to the project site. If the material source is changed during project construction, new samples shall be submitted.

1.07 DELIVERY, STORAGE AND HANDLING

Material not in place within three (3) hours of mixing will be rejected.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

A. Sand. Use clean durable sand containing not more than the following:

1. Deleterious Materials.
 - a. Clay lumps, ASTM C-142; less than 0.5 percent (0.5%).
 - b. Lightweight pieces, ASTM C-123; less than five percent (5.0%).
 - c. Organic impurities, ASTM C-40; shall not show a color darker than the standard color.
 - d. Other deleterious materials such as coal, shale, coated grains of soft flaky particles; less than two percent (2.0%).
2. Plasticity index shall be four (4) or less when tested in accordance with ASTM D-43 and ASTM D-424.

3. Gradation Requirements.

	<u>% Retained</u>
3/8-inch sieve	0%
1/4-inch sieve	0% - 5%
10-mesh sieve	5% - 35%
20-mesh sieve	15% - 55%
40-mesh sieve	35% - 85%
60-mesh sieve	60% - 95%
100-mesh sieve	80% - 97.5%
200-mesh sieve	95% - 100%
270-mesh sieve	100%

4. Color test ASTM C40. Color not darker than standard color.

B. Portland Cement. Furnish Portland cement to conform with ASTM C-150, Type 1.

C. Water. Water shall be reasonably clean and free from injurious amounts of oil, acid, alkalies, salt, organic matter, or other deleterious material.

PART 3 EXECUTION

3.01 PREPARATION

Add not less than 1 1/2 sacks of Portland cement to stabilize one (1) cubic yard of sand mixture. Mix thoroughly in an approved pug-mill type mixer. Stamp batch ticket with the time of loading.

3.02 ERECTION/INSTALLATION/APPLICATION AND/OR CONSTRUCTION

A. Bedding

1. Place cement-sand in a trench or excavation prepared for utility pipe to the depth shown on the drawings.
2. After bedding material is in place, set pipes in position to grade.

3. Add additional cement-sand material around pipe, filling to at least twelve inches (12") above pipe crown. Place cement-sand material at optimum moisture content, and in layers not to exceed six-inches (6") measured loose.
4. Compact with mechanical hand tamps to at least 95 percent (95%) of Standard Proctor Density, ASTM D-698.

B. Foundations

Use cement stabilized sand for stabilizing below the foundation for precast manholes, inlets or concrete structures.

C. Backfill

1. When required, place cement-sand in utility trenches as backfill for lines under existing or future pavement.
2. Place cement-sand material at optimum moisture content in layers not to exceed twelve inches (12"), measured loose.
3. Compact with mechanical hand tamps to at least 95 percent (95%) of Standard Proctor Density, ASTM D-698.

3.03 FIELD QUALITY CONTROL

Allow access to completed portions of bedding or backfill for field density testing by nuclear method.

END OF SECTION

SECTION 31 23 33

EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES

PART 1 GENERAL

1.01 SUMMARY

This section covers the requirements for the excavation, trenching and backfilling of the following utilities and their respective appurtenances:

1. Storm sewers,
2. Sanitary sewers,
3. Water lines,
4. Gas lines,
5. Electrical cables and ducts.

1.02 RELATED SECTIONS

Section 31 23 23.46 - Cement Stabilized Sand
Section 31 50 00 - Excavation Safety

1.03 MEASUREMENT AND PAYMENT

Unless otherwise stated in the bid form, no separate payment will be made for work performed under this specification. Unless otherwise stated in the bid form, all costs shall be included in the related items of work listed in the bid form.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ASTM	American Society for Testing of Materials
OSHA	Occupational Safety and Health Administration
AASHTO	American Association of State Highway and Transportation Officials

1.05 SUBMITTALS

When requested, submit adequate amounts of backfill material for evaluation by the Engineer. The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed.

1.06 SCHEDULING

No open excavation or trenches shall be left overnight without proper lighting, barricades, and pedestrian fencing.

Schedule backfilling such that there is a minimum of excavations and trenches that are left open during hours of no work.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. Cement Stabilized Sand. When required, provide cement-stabilized sand backfill material in accordance with applicable section.
- B. Bank Sand. When required, provide clean bank sand from an approved source which is free of clay, organic material or other foreign substances. The bank sand shall be such that not more than 12 percent by weight passes the 200 mesh sieve and the plasticity index (P.I.) shall not exceed 4.0.
- C. Select Material. Select material shall be excavated trench material or imported material which is free from rock fragments and clods that will not break down when compacted unless the rocks or clods are 1-1/2 inches or smaller and scattered in the spoil. Select material shall be free of organic materials and free of sharp or angular materials which could damage the utility being installed or any coating/cover on the utility being installed.
- D. Common Backfill. Common backfill shall be excavated trench material free of organic, soft, or spongy materials.
- E. Soil Embedment Materials. Soils to be used for embedment material shall be classified according to the Unified Soils Classification System (USCS) in ASTM D2487, Standard Method for Classification of Soils for Engineering Purposes. Install embedment material in accordance with ASTM D-2321. The following USCS Soils Classifications correspond to the soil classifications required for the various types of embedments shown on the plan details and/or listed in other sections of these specifications:
 - 1. Class I Soils. Manufactured angular, granular material, 1/4 to 1-1/2 inches size, including materials having regional significance such as crushed stone or rock, broken coral, crushed slag, cinders, or crushed shells. Class I soils are not defined in ASTM D2487 and are subject to approval before being used.
 - 2. Class II Soils. In accordance with ASTM D2487, less than 5% pass No. 200 sieve.
 - a. GW Soil Type: Well-graded gravels and gravel-sand mixtures, little or no fines. 50% or more retained on No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
 - b. GP Soil Type: Poorly graded gravels and gravel-sand mixtures, little or no fines. 50% or more retained on No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
 - c. SW Soil Type: Well-graded sands and gravelly sands, little or no fines.

- More than 50% passes No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
- d. SP Soil Type: Poorly graded sands and gravelly sands, little or no fines. More than 50% passes No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
3. Class III Soils. In accordance with ASTM D2487, more than 12% pass No. 200 sieve. Soils with 5% to 12% pass No. 200 sieve fall in borderline classification, for example, GP-GC.
- a. GM Soil Type: Silty gravels, gravel-sand-silt mixtures. 50% or more retained on No. 4 sieve. More than 50% retained on No. 200 sieve.
- b. GC Soil Type: Clayey gravels, gravel-sand-clay mixtures. 50% or more retained on No. 4 sieve. More than 50% retained on No. 200 sieve.
- c. SM Soil Type: Silty sands, sand-silt mixtures. More than 50% passes No. 4 sieve. More than 50% retained on No. 200 sieve.
- d. SC Soil Type: Clayey sands, sand-clay mixtures. More than 50% passes No. 4 sieve. More than 50% retained on No. 200 sieve.
4. Class IV Soils.
- a. ML Soil Type: Inorganic silts, very fine sands, rock flour, silty or clayey fine sands. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
- b. CL Soil Type: Inorganic clays of low to medium plasticity, gravel clays, sandy clays, silty clays, lean clays. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
- c. MH Soil Type: Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.
- d. CH Soil Type: Inorganic clays of high plasticity, fat clays. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.
5. Class V Soils.
- a. OL Soil Type: Organic silts and organic silty clays of low plasticity. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
- b. OH Soil Type: Organic clays of medium to high plasticity. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.
- c. PT Soil Type: Peat, muck and other highly organic soils.

- F. Concrete Embedment. Concrete used for utility embedment shall have minimum strength of 3,000 psi at twenty-eight (28) days. Dry mix will not be permitted. The concrete cushion portion of the embedment or encasement shall be mixed moist or damp such that a slump of not more than 1-inch is achieved. Concrete for the sides and top, if required, shall be mixed such that a slump of not less than 1-inch, and not more than 3-inches, is obtained.

PART 3 EXECUTION

3.01 PREPARATION

- A. Location of Existing Utilities. Contractor shall verify the existence and location of all existing underground utilities along the route of the work.
- B. Protection of Existing Utilities. Contractor shall take the necessary precautions to protect all existing utilities from damage due to his operations. Any damage to the existing utilities will be repaired at the Contractor's expense by qualified personnel. In order to protect existing utilities that are required to be exposed, Contractor's operation shall be such that a sufficient distance back from the edge of the excavation is maintained to avoid overloading and to prevent slides or caving. No unnecessary excavation or exposing of existing underground utilities will be allowed.
- C. Convenience to Public. All trenching and excavating shall be performed in a manner that will cause as little inconvenience to the public as possible. All excavated material shall be kept trimmed such that minimum inconvenience is caused to the public or adjoining property owners. At street crossings, sidewalks and other points deemed necessary by the Engineer, trenches and excavations shall be bridged in a secure manner so as to prevent serious interruption of travel and to provide access to fire hydrants, public property, and private property.
- D. Erosion Control: Employ measures and construction practices to prevent erosion at, or adjacent to, the project site. Adequacy of erosion control is subject to the approval of the Engineer and includes, but shall not be limited to, filter fabric fences, rock dams and berms. Erosion control shall begin at the onset of the project and be maintained throughout the duration of the work until final acceptance.
- E. Traffic Control: Provide and maintain traffic control in conformity with the applicable statutory requirements and within highway right-of-way as required by the authority having jurisdiction thereover. Adequate traffic control devices shall be in place prior to removal of any existing control devices, construction equipment move in or any work within public right-of-way. Traffic control shall be in accordance with the Texas Manual on Uniform Traffic Control Devices. The Contractor shall notify all required emergency service providers in the event of a road closure or other activity that may impair the emergency travel of the provider.
 - 1. Maintenance of Traffic. Conduct work in a manner that will interfere as little as possible with public travel, whether vehicular or pedestrian, whenever it is necessary to cross, obstruct, or close roads, driveways, and walks, whether public or private. The Contractor shall, at his own expense, provide and

maintain suitable and safe bridges, detours, or other temporary structures for the accommodation of public and private travel and shall give reasonable notice to owners of private drives before interfering with them; provided however, that such maintenance of traffic will not be required at any point where the Contractor has obtained permission from the owner and tenant of the private property involved, to obstruct traffic at any designated point thereon and for the duration of whatever period of time as may be agreed on.

2. Barricades, Lights, and Signs. All streets, roads, highways, and other public thoroughfares which are closed to traffic shall be protected by means of effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersection, public highway or street on each side of the blocked section. All open trenches or other excavations shall be provided with suitable barriers, signs, and lights to the extent that adequate protection is provided to the public. Obstructions, such as material piles and equipment, shall be provided with similar warning lights and signs. All barricades and obstructions shall be illuminated by means of warning lights. Materials stored upon or alongside public streets and highways shall be so placed, and the work conducted at all times, as to cause minimum obstruction and inconvenience to the traveling public.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

A. EXCAVATION.

1. General: Excavation shall include the removal of any trees, stumps, brush, debris or other obstacles that may obstruct the line of work, and the excavation and removal of all earth, rock or other material to the extent necessary to install the utility and all appurtenances in conformance with the line and grades shown on the plans or as specified herein.
2. Trench Width: The sides of all trenches shall be cut as near vertical as possible. Whenever the prescribed maximum trench width is exceeded for pipe utilities, except as such excess may be required for compliance with plans or specifications, the pipe shall be cradled with 2,000 psi concrete at the expense of the Contractor. Unless shown or specified otherwise, the maximum and minimum trench widths for the associated utility shall be measured at 12-inches above the top of the utility line and shall be as follows:
 - a. Storm sewers.

Minimum width:	16-inches plus O.D. of Pipe.
Maximum width:	24-inches plus O.D. of Pipe.
 - b. Sanitary sewers.

Minimum width:	16-inches plus O.D. of Pipe.
Maximum width:	24-inches plus O.D. of Pipe.
 - c. Water lines.

Minimum width:	16-inches plus O.D. of Pipe.
Maximum width:	24-inches plus O.D. of Pipe.

d. Gas lines.
Minimum width: 6-inches plus O.D. of Pipe.
Maximum width: 12-inches plus O.D. of Pipe.

e. Electric cables and ducts.
Minimum width: 6-inches plus O.D. of Cable / Duct.
Maximum width: 12-inches plus O.D. of Cable / Duct.

3. Trench Depth. Unless shown or specified otherwise, trenches shall be excavated to a depth such that the following minimum depths of cover are maintained on the associated utility (as measured from final grade):

a. Water mains: 42-inches of cover.

b. Sewage force mains: 42-inches of cover.

c. Gas mains: 36-inches of cover. Gas Services 1-1/4" and Smaller: 18 inches of cover.

d. Electric cables and ducts: 30-inches of cover, except as shown otherwise on the plans or in specific specifications relating to buried electrical lines, or as otherwise required by the National Electrical Code and local electrical codes.

4. Trench Bottom. Accurately grade trench bottom such that uniform bearing and support is provided for the utility being installed. Trench bottom shall be such that the utility is supported along its entire length by undisturbed soil except where bell holes or depressions are required. When bell holes or depressions are required for the proper installation of a utility, the trench bottom shall be completely graded before the bell hole or depression is excavated. Bell holes or depressions shall be no larger than required for the proper installation of the utility. The following procedures shall be used when various types of trench subgrades are encountered:

a. Earth Subgrade. Where a firm and stable foundation for the utility being installed can be obtained in the natural soil and where special embedment is not shown on the plan details or specified herein, the bottom of the trench shall be carefully trimmed to fit the lower portion of the utility line. Should the excavation be carried below grade, except when otherwise detailed on the plans or specified herein, the Contractor shall refill it with Class I embedment material and tamp it until it is compacted such that the bottom of the trench is firm and unyielding. This procedure shall be accomplished at the expense of the Contractor.

b. Rock Subgrade. Where the bottom of the excavation for the utility line is in rock or other hard material, the rock or other hard material shall be removed to a depth not less than four (4") inches below subgrade and the bottom of the trench brought to true subgrade elevation by filling with Class I embedment or other suitable materials as approved by the Engineer. The fill

shall be compacted by means of tamping until a firm and uniformly unyielding foundation is established for the utility line being installed.

- c. Soft Subgrade. Where a soft or spongy material is encountered in the excavation at subgrade level, it shall be removed if requested by the Engineer. Remove the soft material and replace it with Class I embedment or other suitable materials as approved by the Engineer. The fill replacing the soft material shall be compacted by means of tamping and shall be to a depth that will result in a true trench subgrade that provides a firm and uniformly unyielding foundation for the utility being installed.
5. Sheeting, Shoring, and Bracing. Shore all excavations in accordance with OSHA Standards and the applicable section, or sections, of these specifications. When excavations are made adjacent to existing buildings or other structures, or in paved roadways, particular care shall be taken to adequately sheet, shore, and brace the sides of the excavation to prevent undermining of, or the settlement beneath, the structures or pavements. Underpinning of adjacent structures or pavement, and the costs associated with it, shall be the responsibility of the Contractor. All sheeting, shoring, and bracing shall be done in such a manner that will not cause any caving or sliding of banks and will not endanger any human life or damage any existing structures or property. Fill and compact all holes or voids left by the removal of sheeting, shoring or bracing with suitable materials. If for any reason, the Contractor, with the knowledge of the Engineer, elects to leave in place the sheeting, shoring or bracing, no payment will be allowed for such material left in place.
 6. Dewatering Excavations. Immediately remove all surface water, ground water or seepage water from sewers, drains, ditches, or other sources which may accumulate in the excavation during construction. Removal of water shall be done by pumping, bailing, draining, well pointing, or other methods. The Contractor shall have available, at all times, sufficient equipment in proper working order for dewatering excavations. Disposal of all water from excavations shall be in a legal and safe manner. All dewatering of excavations including pumping, bailing, draining, ditching, well pointing, underdrain, etc., is incidental work and will not be paid for separately.
 7. Open Cut Excavations. Except where otherwise shown on the plans, all utility installations shall be accomplished by open cut. In all cases where open cuts are allowed through pavements, the methods of construction must meet the requirements of the appropriate regulating agency in all respects including deviations from these specifications or plans. Open cut excavations crossing paved or unpaved public roadways and driveways shall be done such that inconvenience to users is minimized. Repair all open cut pavements in accordance with the plan details or to the original condition, whichever is more stringent. Repair all open cut pavements in a timely fashion. Where a utility line is to be installed across a paved roadway by open cut, the Contractor, with the knowledge of the Engineer, may elect to install the utility by boring and in such case will be paid for the corresponding pavement repair if provided for in the bid form.

8. Boring, Jacking or Drilling. When shown on the plans, the utility line shall be installed by boring, jacking or drilling under roadways, streets or railroads, or the line shall be installed in a casing that has been placed by boring, jacking or drilling in accordance with requirements of all regulating agencies.
9. Excavation of Appurtenances. Excavate as required for appurtenances of the utility being installed. For manholes and other similar structures leave at least two (2) feet clear between the outer surfaces and the embankment or timber that may be used to hold or protect the banks. Any over excavating below appurtenances is not allowed. If over excavating of appurtenances occurs, the excavation will be refilled with cement stabilized sand or concrete. The cost for this refilling shall be the responsibility of the Contractor.
10. Explosives. The use of explosives to aid excavation work is strictly prohibited.

B. EMBEDMENT

All embedment for utilities shall be in accordance with the plan details and shall use the materials outlined in this specification. In general, the embedment zone of a utility line is 4-inches below the bottom of the utility to 12-inches above the top of the utility. All materials for the embedment of a utility being installed shall be placed in layers or lifts that do not exceed 6-inches in thickness. Compaction of embedment zone material shall be in strict accordance with the plan details.

C. BACKFILLING

1. General. The four (4) types of backfill that may be used include: cement stabilized sand, bank sand, select fill having a PI between 5 and 20 and common backfill. Install the various types of backfill material in accordance with and at the locations detailed on the plans. Backfilling shall include the refilling and consolidation of the required fill in trenches and excavations from the top of the embedment zone of the utility being installed to the surrounding ground surface or to the bottom limits of a required pavement repair as detailed on the plans.
 - a. Bank Sand or select fill. Install approved bank sand or select fill backfill in accordance with and in the locations shown on the plan details. Place backfill in maximum 8-inch loose lifts above the embedment zone and compact each layer to 95% Standard Proctor.
 - b. Common Backfill. Unless specified or shown otherwise on the plan details, backfill all trenches with approved common backfill material from the trench excavation. Place common backfill in 12-inch layers above the embedment zone and compact each layer to 92% Standard Proctor.
2. Compaction and Consolidation of Backfill. Compact each layer of backfill with mechanical equipment to the required density. As an option, the Contractor may elect to consolidate the backfill by jetting and flooding until full settlement has been reached. Jetting and flooding will not be allowed in any areas where the utility system is being installed under a paved section. If used, jetting shall be

accomplished by pumping water through a pipe that is slowly inserted vertically into the backfill. The end of the pipe shall be lowered to a point near the top of the embedment zone, taking care not to disturb the bedding or cause the utility to float. The trench shall then be flooded in puddles until no more appreciable absorption of water into the backfill occurs.

3. Excess Material: Excavated material unsuitable for backfilling and excess material shall be disposed of.

3.03 REPAIR / RESTORATION

Restore surfaces at construction sites to a condition equal to condition prior to construction.

3.04 ADJUSTING / CLEANING

All premises shall be left in an "as found" condition.

END OF SECTION

SECTION 31 50 00

EXCAVATION SAFETY

PART 1–GENERAL

1.01 SUMMARY

- A. This section covers the minimum requirements and responsibilities of CONTRACTOR for excavations and shoring/safety of same.

1.02 MEASUREMENT AND PAYMENT

- A. The cost for performing the safety requirements set forth herein shall be paid for on a linear foot basis according to the depth of cut as set forth in the Bid or as otherwise provided for in the Bid and shall include all labor, materials, services and equipment to perform this item of work.

1.03 REFERENCES

- A. OSHA–Occupational Safety and Health Administration, 29CFR, Part 1926

1.04 SYSTEM DESCRIPTION

- A. CONTRACTOR shall shore or otherwise protect excavations from cave-ins, protect employees from exposure to vehicular traffic, falling loads, hazardous atmospheres, water accumulation and unstable structures in and adjacent to excavations and provide acceptable means of access to and egress from excavations. Notwithstanding these suggestions, CONTRACTOR is solely responsible for the safety of his employees and the general public as they interface with this construction project.

1.05 SUBMITTALS

- A. CONTRACTOR shall furnish an excavation or trench safety plan for any excavation exceeding 20-foot depth. The safety plan must be signed and sealed by a Texas licensed professional engineer.
- B. The design calculation and design drawings are not shop drawings, but shall be submitted to ENGINEER separately from any other shop drawings for any system, material, or equipment specified. These calculations will be forwarded to OWNER for their records.

1.06 QUALITY ASSURANCE

- A. Excavation safety system shall meet the current standards established by OSHA, 29CFR, Part 1926, Subpart P-Excavations.
- B. Any construction not in accordance with OSHA regulations may not be eligible for payment and delays in construction to bring the project into OSHA regulations will not be the responsibility of OWNER or ENGINEER.

1.07 PROJECT/SITE CONDITIONS

- A. CONTRACTOR shall develop and implement an excavation safety program based on the actual conditions encountered on the project.

PART 2-PRODUCTS

NOT APPLICABLE

PART 3-EXECUTION

3.01 GENERAL

- A. CONTRACTOR has the sole responsibility for providing an adequate excavation safety system. CONTRACTOR agrees that neither OWNER nor ENGINEER has such responsibility and CONTRACTOR shall not rely on OWNER or ENGINEER or any of their representatives for inspection, design, supervision, construction or any other aspect of excavation safety.

END OF SECTION

SECTION 32 11 00

FLEXIBLE BASE

PART 1 GENERAL

1.01 SUMMARY

This section covers construction of a foundation course composed of flexible base. The base shall be constructed in one or more courses to the lines and grades shown on the plans. All construction procedures and materials shall be in accordance with TxDOT Item 247.

1.02 RELATED SECTIONS

Section 31 23 16.19 - Excavation, Backfilling and Compacting for Pavement

1.03 MEASUREMENT AND PAYMENT

The accepted materials and work for this item will be measured and paid for in accordance with Section 32 12 16.13. Flexible base shall be considered a part of the asphaltic concrete surface course and no separate payment will be made for this work and materials. The cost of this item shall be included with the cost of backfilling and asphalt replacement per linear foot of trench as detailed on the plans.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

TxDOT Texas Department of Transportation Standard Specifications for
Construction of Highways, Streets and Bridges

1.05 SUBMITTALS

Submit certification from supplier or manufacturer that base material meets the requirements of this section. The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed.

1.06 QUALITY ASSURANCE

Provide samples of flexible base material delivered for incorporation into the project for testing by Owner. Failed tests shall be paid for by Contractor.

1.07 DELIVERY, STORAGE, AND HANDLING

Handle and store base material to prevent segregation of aggregate.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

Materials shall consist of uncontaminated crushed or uncrushed coarse aggregate mixed with any approved binding material necessary to meet the specified requirements, resulting in uniform quality material. The Engineer may sample and test project materials at any time before compaction throughout the project duration to assure specification compliance.

- A. Material Types. Do not use fillers or binders unless approved. Furnish the type specified on the plans in accordance with the following.
- 1) Type A. Crushed stone produced and graded from oversized quarried aggregate that originates from a single, naturally occurring source. Do not use gravel or multiple sources.
 - 2) Type B. Crushed or uncrushed gravel. Blending of 2 or more sources is allowed.
 - 3) Type C. Crushed gravel with a minimum of 60% of the particles retained on a No. 4 sieve with 2 or more crushed faces as determined by Tex-460-A, Part I. Blending of 2 or more sources is allowed.
 - 4) Type D. Type A material or crushed concrete. Crushed concrete containing gravel will be considered Type D material. Crushed concrete must meet the requirements as set forth in TxDOT Section 247.2.A.3.b and be managed in a way to provide for uniform quality. The Engineer may require separate dedicated stockpiles in order to review compliance.
 - 5) Type E. As shown on the plans.
- B. Material Grades. Material shall consist of Grades 1, 2, 3, or 4, as specified in the plans, meeting the requirements as set forth in Table 1. Each source must meet Table 1 requirements for liquid limit, plasticity index, and wet ball mill for the grade specified. Do not use additives such as but not limited to lime, cement, or fly ash to modify aggregates to meet the requirements of Table 1, unless shown on the plans.

**TABLE 1
MATERIAL REQUIREMENTS**

Property	Test Method	Grade 1	Grade 2	Grade 3	Grade 4
Master gradation sieve size (% retained)	Tex-110-E				As shown on the plans
2-1/2 in.		--	0	0	
1-3/4 in.		0	0-10	0-10	
7/8 in.		10-35	--	--	
3/8 in.		30-50	--	--	
No. 4		45-65	45-75	45-75	
No. 40		70-85	60-85	50-85	
Liquid limit, % max. ¹	Tex-104-E	35	40	40	As shown on the plans
Plasticity index, max. ¹	Tex-106-E	10	12	12	As shown on the plans
Plasticity index, min. ¹					
Wet ball mill, % max. ²	Tex-116-E	40	45	--	As shown on the plans
Wet ball mill, % max. increase passing the No. 40 sieve		20	20	--	
Classification ³		1.0	1.1-2.3	---	As shown on the plans
Min. compressive strength ³ , psi	Tex-117-E				As shown on the plans
Lateral pressure 0 psi		45	35	--	
Lateral pressure 15 psi		175	175	--	

¹Determine plastic index in accordance with Tex-107-E (linear shrinkage) when liquid limit is unattainable as defined in Tex-104-E.

²When a soundness value is required by the plans, test material in accordance with Tex-411-A.

³Meet both the classification and the minimum compressive strength, unless otherwise shown on the plans.

- C. Material Tolerances. The Engineer may accept material if no more than 1 of the 5 most recent gradation tests has an individual sieve outside the specified limits of the gradation. The Engineer may accept material if no more than 1 of the 5 most recent plasticity index tests is outside the specified limit. No single failing test may exceed the allowable limit by more than 2 points.

- D. Water. Furnish water free of industrial wastes and other objectionable matter.
- E. Equipment. Provide machinery, tools, and equipment necessary for proper execution of the work. Provide rollers in accordance with TxDOT Item 210, "Rolling". Provide proof rollers in accordance with TxDOT Item 216, "Proof Rolling", when required.
- F. Base material shall be secured from commercial sources and approved by the Engineer. If non-commercial sources are proposed by the Contractor and approved by the Engineer, expose the vertical faces of all of strata of material proposed for use. Secure and process the material by successive vertical cuts extending through all exposed strata.

PART 3 EXECUTION

3.01 PREPARATION

The subgrade shall be completed within specification and approved by the Engineer prior to placement of base material.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans.

Stockpile base material temporarily at an approved location before delivery to the roadway. Build stockpiles in layers no greater than 2 feet thick. Stockpiles must have a total height between 10 and 16 feet unless otherwise shown on the plans. After construction and acceptance of the stockpile, loading from the stockpile for delivery is allowed. Load by making successive vertical cuts through the entire depth of the stockpile.

Do not add or remove material from temporary stockpiles that require sampling and testing before delivery unless otherwise approved. Changes for additional sampling and testing required as a result of adding or removing material will be deducted from the Contractor's estimates.

Haul approved flexible base in clean trucks. Deliver the required quantity to each 100-foot station or designated stockpile site as shown on the plans. Prepare stockpile sites as directed. When delivery is to the 100-foot station, manipulate in accordance with the applicable Items.

- A. Preparation of Subgrade or Existing Base. Remove or scarify existing asphalt concrete pavement in accordance with Item 105, "Removing Stabilized Base and Asphalt Pavement," when shown on the plans. Shape the subgrade or existing base to conform to the typical sections shown on the plans.

When new base is required to be mixed with existing base, deliver, place, and spread the new flexible base in the required amount per station. Manipulate and thoroughly mix the new base with existing material to provide a uniform mixture to the specified depth before shaping.

When shown on the plans, proof roll the roadbed in accordance with Item 216, "Proof Rolling," before pulverizing or scarifying. Correct soft spots as required.

- B. Placing. Spread and shape flexible base into a uniform layer with an approved spreader the same day as delivered unless otherwise approved. Construct layers to the thickness shown on the plans. Maintain the shape of the course. Control dust by sprinkling, as directed. Correct or replace segregated areas, at no additional expense to the Department.

Place successive base courses and finish courses using the same construction methods required for the first course.

- C. Compaction. Compact using density control unless otherwise shown on the plans. Bring each layer to the moisture content directed. When necessary, sprinkle the material in accordance with Item 204, "Sprinkling".

Begin rolling longitudinally at the sides and proceed towards the center, overlapping on successive trips by at least ½ the width of the roller unit. On superelevated curves, begin rolling at the low side and progress toward the high side. Offset alternate trips of the roller. Operate rollers at a speed between 2 and 6 mph.

Rework, recompact, and refinish material that fails, to meet or that loses required moisture, density, stability, or finish before the next course is placed or the project is accepted. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.

1. Ordinary Compaction. Roll with approved compaction equipment. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing approved material as required, reshaping, and recompacting.
2. Density Control. Compact to at least 100% of the maximum density determined by Tex-113-E unless otherwise shown on the plans. Determine the moisture content of the material at the beginning and during compaction in accordance with Tex-103-E.

The Engineer will determine roadway density of completed sections in accordance with Tex-115-E. The Engineer may accept the section if no more than 1 of the 5 most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

- D. Finishing. After completing compaction, clip, skin, or tight-blade the surface with a maintainer or subgrade trimmer to a depth of approximately ¼ inch. Remove loosened material and dispose of it at an approved location. Seal the clipped surface immediately by rolling with a pneumatic tire roller until a smooth surface is attained. Add small increments of water as needed during rolling. Shape and maintain the course and surface in conformity with the typical sections, lines, and grades as shown on the plans.

In areas where surfacing is to be placed, correct grade deviations greater than ¼ inch in 16 foot measured longitudinally or greater than ¼ inch over the entire width of the cross-section. Correct by loosening, adding, or removing material. Reshape and recompact in accordance with Section 247.4.C., "Compaction."

- E. Curing. Cure the finished section until the moisture content is at least 2 percentage points below optimum before applying the next successive course or prime coat.

3.03 REPAIR / RESTORATION

In areas on which surface pavement is to be placed, any deviation over three-eighths (3/8) inch in sixteen (16) feet shall be corrected by loosening, adding or removing material, reshaping, and recompacting by rolling and sprinkling. The surface course shall be checked for deviations by using a straightedge or template. All depressions, irregularities, or weak spots that develop shall be corrected by scarifying the areas, adding approved material required, reshaping and recompacting by rolling and sprinkling. Additional base courses may be added once the preceding course has been compacted, cured and is approved by the Engineer.

3.04 FIELD QUALITY CONTROL

Allow access to completed portions of flexible base for field density testing by nuclear method.

END OF SECTION

SECTION 32 12 16.13

HOT MIX ASPHALTIC CONCRETE PAVEMENT

PART 1 GENERAL

1.01 SUMMARY

This section describes the furnishing and installing of a surface for pavement consisting of compacted mixture of coarse and fine aggregates and asphaltic material. Paving construction will be on stabilized subgrades and/or base to conform with the lines, grades, compaction thickness and the typical cross sections as shown on the plans.

1.02 MEASUREMENT AND PAYMENT

The work performed and materials furnished for hot mix asphaltic concrete pavement shall be measured and paid for in accordance with the Bid Proposal. Prime and/or tack coat shall be considered a part of the asphaltic concrete surface course and no separate payment will be made for this work and materials. The unit price will be complete compensation for all equipment, materials, labor, and supervision required to construct asphaltic concrete surface course as shown on the plans.

1.03 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

AASHTO	American Association of State Highway and Transportation Officials
TxDOT	Texas Department of Transportation Construction Bulletin No. 14
TxDOT	Texas Department of Transportation - Standard Specifications For Construction of Highways, Streets and Bridges

1.04 SYSTEM DESCRIPTION

Hot mix asphaltic concrete pavement shall include prime coat and/or tack coat, and asphaltic mixture. Adjustment to the elevation of manhole frames and covers, valve boxes, and other such utility access structures to match the surface elevation of the new pavement is a part of the pavement operation.

1.05 SUBMITTALS

The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed. The following information must be submitted:

- A. Samples and tests of coarse aggregate and fine aggregate.
- B. Samples of any mineral filler.
- C. Material submittal for prime coat.
- D. Material submittal for tack coat.

E. Hot mix asphaltic concrete mix design and test results.

1.06 QUALITY ASSURANCE

The Contractor shall provide at his expense, laboratory test results for all the materials to be incorporated into the asphaltic concrete as well as the asphaltic concrete mix. The Contractor must furnish, operate, and maintain templates, straight edges, scales, and other measuring and weighing devices necessary for proper construction and checking of work.

1.07 PROJECT / SITE CONDITIONS

No asphaltic mixture, prime coat, nor tack coat shall be placed when the air temperature is below 50E F and falling but it may be placed when the temperature is 40E F and rising. Temperature readings shall be taken in the shade away from artificial heat. Place asphaltic mixtures only when weather conditions are suitable, in the opinion of the Engineer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

Both the materials and the source of the supply must be approved by the engineer prior to the delivery of any materials.

2.02 MATERIALS AND/OR EQUIPMENT

A. Aggregate. Composition of the mineral aggregate shall be of both a coarse aggregate and a fine aggregate and may include a mineral filler. If required, samples of aggregates shall be submitted for testing.

1. Coarse Aggregate. The coarse aggregate shall consist of that part of the aggregate retained on a No. 10 sieve. The coarse aggregate shall consist of clean, tough, durable fragments of stone, crushed gravel, or a combination of both, as specified herein, and shall be of a uniform quality throughout free from dirt, organic or other injurious matter occurring either freely in the material or as a coating of the aggregate. The coarse aggregate shall have a maximum percent abrasion of 40 when subjected to the Los Angeles Abrasion Test (Tex-410-A) and a maximum percent loss of 30 when subjected to the 5 cycle Magnesium Sulfate Soundness Test (Tex-411-A).
2. Fine Aggregate. The fine aggregate shall be that part of the aggregate passing the No. 10 sieve and consist of sand and fine aggregate particles from the coarse aggregates' material sources or a combination thereof. The sand shall be composed of durable particles free from injurious foreign matter and shall be limited to 15% of the total fine aggregate. Screenings shall be of the same or similar materials as specified for coarse aggregates. The plasticity index of that passing the No. 40 sieve shall be a maximum six (6) when tested by AASHTO T-89 and T-90. Unless otherwise shown on the plans, stone screenings are required and shall be the result of a rock crushing operation and meet the

following gradation requirements, when tested in accordance with Test Method Tex-200-F, Part I.

<u>Percent by Weight</u>	
Passing the 3/8" sieve	100
Passing the No. 10 sieve	70-100
Passing the No. 200 sieve	0-15

3. Mineral Filler. The mineral filler shall consist of thoroughly dry stone dust, portland cement, fly ash or other mineral dust approved by the Engineer. The mineral filler shall be free from foreign and other injurious matter. The mineral filler shall meet the following grading requirements when testing in accordance with Tex-200-F, unless the plans show otherwise:

<u>Percent by Weight</u>	
Passing a No. 30 sieve	95 to 100
Passing a No. 80 sieve, not less than	75
Passing a No. 200 sieve, not less than	55

- B. Asphalt. The grade of the asphalt shall be AC-20. If more than one (1) type of asphaltic concrete mixture is specified for the project, only one (1) grade of asphalt will be required for all types of mixtures. The asphaltic materials shall be homogeneous, free from water, and shall not foam when heated to 350° F. The material shall meet the following requirements:

<u>Viscosity Grade</u>	<u>AC-20</u>	
<u>Property</u>	<u>Min.</u>	<u>Max.</u>
Viscosity, 140° F, poises	1600	2400
275° F, poises	2.5	---
Penetration, 77° F 100 g, 5 sec	55	---
Flash Point, C.O.C., F	450	---
Solubility in Trichloroethylene, %	99.0	---
Spot Test	Negative	
Tests on Residue from Thin Film Oven Test:		
Viscosity, 140° F, poises	---	6000
Ductility, 77° F, 5 cm per min., cm	70	---

Asphalt material for the prime coat shall be MC-30 or EAP&T and asphalt material for the tack coat shall be RC-250 or SS-1.

All prime coat or tack coat materials shall be obtained from TxDOT pretested stock.

C. Hot-Mix Asphalt Concrete.

Design Mixes. After being tested in accordance with these specifications and current Texas Department of Transportation methods, the design mixes and materials are subject to approval of the Engineer. Design mixes and density and stability tests are the Contractor's responsibility and made at his expense. All certified test results, stating compliance with the specified requirements, for both the asphaltic materials and aggregates shall be furnished to the Engineer.

Density and Stability Requirements. Laboratory density and stability of the mixture shall be designed and tested in accordance with the methods outlined in the Texas Department of Transportation C-14 and meet the following:

Density %		Optimum	Stability %
<u>Min.</u>	<u>Max.</u>		<u>Not Less Than</u>
95	99	96	35

The compacted thickness of the mixture(s) used shall be specified

1. Hot-Mix Asphaltic Concrete Base Course - Type "B".

Master Grading Requirements for the Aggregates

<u>Sieve Sizes</u>	<u>Total Percent Passing, by Weight</u>
1-1/2 inch	---
1-1/4 inch	---
1-inch	100%
7/8-inch	95 - 100%
5/8-inch	75 - 95%
1/2-inch	---
3/8-inch	60 - 80%
1/4-inch	---
No. 4	40 - 60%
No. 10	27 - 40%
No. 40	10 - 25%
No. 80	3 - 13%
No. 200	1 - 6%*
VMA % Minimum	12

*2 - 8 when Test Method Tex-200-F, Part II (Washed Sieve Analysis) is used.

The asphaltic material shall form three percent (3%) to eight percent (8%) of the mixture by weight.

2. Hot-Mix Asphaltic Concrete Surface Course - Type "D"

Master Grading Requirements for the Aggregates.

<u>Sieve Sizes</u>	<u>Total Percent Passing, by Weight</u>
1-1/2 - inch	---
1-1/4 - inch	---
1 - inch	---
7/8 - inch	---
5/8 - inch	---
1/2 - inch	100%
3/8 - inch	85 - 100%
1/4 - inch	---
No. 4	50 - 70%
No. 10	32 - 42%
No. 40	11 - 26%
No. 80	4 - 14%
No. 200	1 - 6%*
VMA % Minimum	14

*2-8 when Test Method Tex-200-F, Part II (Washed Sieve Analysis) is used.

The asphaltic material shall form four percent (4%) to eight percent (8%) of the mixture by weight.

- D. Type of Plant. Mixing plants must be approved by the Engineer and have the capacity for producing mixtures that meet the specifications. Continuous mixing type and weight batching-type are both acceptable. The plant must have acceptable conveyors, power units, aggregate handling equipment, hot aggregate screens and bins, and dust collectors. The plant must provide equipment to adequately supply materials in accordance with the plant's rated capacity and produce finished material within the specified tolerances. Essential equipment includes cold aggregate bins and proportioning device, dryer, screens, aggregate weight box and batching scales, mixer, asphalt storage and heating devices, and asphalt measuring devices.

2.03 FABRICATION

- A. Screening and Proportioning. Screening capacity and bin sizes shall be adequate to screen and store the amount of aggregate required to properly operate and keep the plant in continuous operation at full capacity.
- B. Drying. The mineral aggregate drying shall be done in a manner such that fine particles will not be lost with the furnace gases. A dust collector system will be required if forced draft is used. The Engineer may require that a dust collector system be used during forced draft if a substantial amount of the finer particles are escaping. The aggregate shall be continuously agitated during heating in a suitable apparatus in which the temperature can be efficiently controlled so that the aggregate will not be damaged and the finished mixture will have a temperature of between 250 degrees and 375 degrees Fahrenheit.

A recording thermometer shall be used to record the temperature of the aggregate as it

leaves the dryer. The temperature record shall be a 24 hour chart, and may be equipped to record both the temperature of the rock and the temperature of the aggregate incorporated into the batch. The dryer(s) shall be of adequate size to heat and dry the required amount of aggregate to keep the plant in continuous operation.

- C. Weigh Box. Tight cut-off gates shall be provided on the storage bins so that mineral aggregates will not leak into the weigh box. The weigh box shall be of a sufficient capacity to hold a complete batch of aggregate without wasting or leveling by hand. The weigh box shall be designed so that the entire batch will quickly discharge into the mixer. The weigh box shall have an open top so that any excess of one (1) size of mineral aggregate may be removed by the operator, during charging. The weigh box shall have a close fitting and quick operating cut-off gate so that no mineral aggregate will leak into the mixer.

- D. Scales. Either the springless dial type or the multibeam-type scales may be used for weighing the different grades of mineral aggregate. If using a springless dial type, an adjustable indicating pointer shall be required for each grade of the mineral aggregate allowing for an accurate setting of the weight. If using a multibeam-type, there shall be sufficient weighing beams to weigh each grade of aggregate separately. All scales shall have a tare beam for balancing. The beam scale is also required to be equipped with a tell-tale dial indicator of the springless dial type indicating over and under load of at least 50 pounds. Scales that are not accurate within four (4) pounds per 1,000 pounds net load will not be considered adequate. The scales shall be insulated against shock or vibration so that neither case shall interfere with accurate weighing.

- E. Mixing.
 - 1. The mixer shall be the twin-pug-mill type and shall have a capacity of not less than 2,000 pounds in a single batch. The positioning and number of blades shall be sufficient to give a uniform and complete circulation of the batch in the mixer from the center to the four (4) ends of the mixer arms and than back to the center. A mixer will be considered inadequate if it fails to perform a uniform and thorough mixing with the asphalt cement and the aggregate, or it has a tendency to segregate mineral aggregate. Mixer determination will be made by mixing a standard batch for the required time, and then dumping out the batch in order to take samples from different parts of the batch for testing.

 - 2. All mixers shall be provided with automatic time locks on the discharge gates and weigh box and will be locked for a period of 45 seconds after all of the mineral aggregate have been introduced into the mixer. The mixture shall have a temperature of 300 degrees to 375 degrees when discharged. The mixer dump door shall be tight to the dry mineral aggregate or dust so that there will be no spilling from the pug mill. All mineral aggregate shall be thoroughly mixed for a period of five (5) to ten (10) seconds before the asphalt cement is added. Mixing will then continue for the required time, or longer if necessary to produce a mixture with uniform consistency.

- F. Heating and Weighing Asphalt.
 - 1. Storage for the asphalt cement shall be adequate to meet the requirements of the

plans. Asphalt cement in storage shall be heated by steam coils, tight enough to prevent moisture from leaking into the asphalt. Steam for heating shall not be at a temperature in excess of 400 degrees Fahrenheit. Direct fire heating of asphalt shall not be permitted.

2. The steam heating system shall provide a uniform draw-off heat of the asphalt cement is maintained between 250 degrees and 350 degrees Fahrenheit at the asphalt cement bucket. The temperature shall be maintained with an efficient and positive control of the heat beyond 250 degrees Fahrenheit, either before or during mixing with the mineral aggregate.
3. The asphalt cement draw-off valve shall be of a quick cutoff type that will not leak any asphalt into the bucket after the required weight of the asphalt cement has been drawn. The asphalt supply line must be of a circulating type, and must be equipped with a recording thermometer indicating the temperature of the asphalt at the draw-off valve. The recording thermometer may be a combination thermometer used for recording the temperature of the aggregate.
4. The asphalt cement shall flow from the asphalt cement weigh bucket into the mixer for approximately the full width of the mixer so as not to deposit the asphalt cement in the mixer in one (1) place. Scales used for weighing the asphaltic cement shall be of springless dial type arranged for quick adjustment at zero to provide for the change in tare. A pointer will indicate the weight of the asphaltic cement required in one (1) batch.

PART 3 EXECUTION

3.01 PREPARATION

Prior to placing any pavement, manhole frames and covers, valve boxes, and other such utility access structures shall be adjusted in elevation by the Contractor if needed to match the surface of the new pavement. For overlaying existing pavement, cast iron or ductile iron extensions rated for not less than H-20 loading of a manufacturer and model approved by the Engineer shall be used. For other than overlaying of existing pavement, the Contractor shall adjust the height of manhole frames and covers, valve boxes, and other such utility access in a manner acceptable to the Engineer to the grades required for the new pavement.

The base course or asphalt course to be overlaid shall be cleaned by sweeping or other methods. All vegetation shall be removed from the area to receive the surface treatment. If a prepared base is to receive the new surface, it shall be lightly sprinkled immediately before the prime coat is applied. All rate of application and pressure gauges will be inspected and calibrated prior to applying the prime coat. On new roadways where extended periods of traffic shut down is possible MC-30 prime coat shall be applied at a rate of 0.30 gallons per square yard at a temperature between 70° and 150° Fahrenheit. On roadways unable to be shut down from traffic, emulsified asphalt prime and tack (EAP&T) shall be applied as the prime coat at a rate of 0.17 gallons per square yard. The prime coat shall dry for a period of forty-eight (48) hours or longer if requested by the Engineer. The prime coat shall be applied in strict accordance with the requirements of Item 310 of the Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

A. Laying.

1. The asphaltic concrete mixture shall be hauled to the worksite in vehicles cleaned of all foreign materials and, if required by the Engineer, covered with a canvas that is sufficient to protect the entire load. The vehicle dispatching shall be arranged so that all material delivered may be placed and initially rolled in the daylight. The mixture shall be deposited directly into the "lay down" machine or placed on the prepared base in windrows which will be spread to the line, grade and crown as specified in the plans. Transfer of mixture from dispatching vehicle to "lay down" machine using front end loaders or other equipment shall not be allowed. The mixture shall be spread without segregation or tearing. The mixture must be at a temperature between 200 degrees and 350 degrees Fahrenheit.
2. The base course shall be spread in one (1) lift so that when compacted, the finished course will be smooth, of uniform density, and will be to section, line and grades.
3. A surface course of two (2) inches or less in thickness may be spread in one (1) lift. All lifts shall be spread such that when compacted, the finished course will be smooth, of uniform density, and will be to section, line and grades.
4. Asphalt base and surface courses may be spread and finished by hand if use of a paver is impractical. Steel or wood forms, rigidly supported to provide correct grade and cross-section, shall be used. Place the materials carefully in order to avoid segregation of the mix. Broadcasting of the material shall not be permitted. Any lumps which do not break down must be removed. Asphalt courses must be put down in the same sequence as if placed by machine.

B. Rolling. Rolling equipment shall consist of pneumatic tire and steel wheel rollers.

1. Pneumatic tire rollers shall have equal size and diameter pneumatic tires that are capable of exerting a contact pressure varying from 40 to 110 psi by adjusting ballast and/or tire pressure. Wheel spacing will be such that one (1) pass will accomplish one (1) complete coverage equal to the width of the roller and have a 1/4-inch (1/4") minimum overlap. None of the wheels shall wobble. The tire pressure and operating weight shall be sufficient to achieve the desired density. The roller shall be self-propelled.
2. Steel wheel rollers shall be a three (3) wheel roller two-axle tandem roller or three-axle tandem roller weighing not less than eight (8) tons and developing a compression in the rear wheels of 250 to 350 pounds per inch of roller width. The rollers shall have power units and be equipped with the means of keeping the wheel wet to prevent the mixes from sticking to the rollers. The rollers shall also be equipped with scrapers to keep the wheels clean.
3. Rolling shall start at the sides longitudinally and proceed toward the center of

the pavement, overlapping on successive trips by at least 1/2 of the width of the rear wheels. Alternate trips of the roller shall be slightly different in length. Continue rolling until no further compression can be obtained and all roller marks are eliminated. The roller motion shall be slow enough so that there is no displacement of the hot mixture. The roller must not sit on completed pavement which has not cooled to the normal atmospheric temperature. The wheels shall be properly moistened with water to prevent the hot mixture from sticking to the rollers, but an excess of water shall not be permitted.

4. If the asphalt is not being compacted properly, in the opinion of the Engineer, then cores will be taken and tested in order to determine the relative densities of the course at various locations.
 5. The completed course shall have a uniform density over the entire roadway area. The Engineer may, after testing under acceptable practices, have all or parts of the course removed and replaced on areas where the density is found to vary. The task of removing and replacing of the course because of unacceptable density variations shall be completed at the cost of the Contractor.
- C. Hand Tamping. In areas where compaction by a roller is not easily accomplished, such as along walls, curbs, headers, etc., a vibrating plate compactor or lightly oiled tamps shall be used to thoroughly compact the mixture in three-inch (3") layers.
- D. Density. The base course, binder course and surface course shall be compacted to a minimum density of 95 percent (95%) of the maximum possible density of a voidless mixture composed of the same materials in like proportions. If the results of the density tests for the base course, binder course or surface course indicate that the minimum density of 95 percent (95%) has not been obtained, additional rolling with a three-wheel or pneumatic roller will be required before the mix cools.
- E. Surface Requirements. The finished surface of plane areas shall not vary more than 1/4-inch (1/4") from a 16-foot (16') straightedge applied to the surface. The straightedge must overlap the previous test by 1/4 of its length. Any irregularities which vary more than 3/16-inch (3/16") in 10-feet (10') or 1/4-inch (1/4") in 16-feet in accordance with the grade, valley and crown shown on the plans shall be corrected.
- F. Construction Joints. Each course shall be placed as nearly continuous as possible. The roller shall only pass over the unprotected end of the freshly laid mixture when the laying of the course is discontinued for such a length of time as to allow for the mixture to become chilled. In such cases, when the work is resumed, the material laid shall be either cut back in order to obtain a beveled edge for the full thickness of the course or an acceptable lap joint shall be made.
- G. No portion of the finished asphalt course shall be opened to traffic until 12-hours after rolling has been completed, except where shown on the plans or in an emergency.

3.03 REPAIR / RESTORATION

Pavement sections not meeting the specified densities shall be recompacted or replaced with new asphaltic concrete material. Pavement not having an acceptable surface course texture, not

meeting surface test requirements or not meeting the minimum thickness shall be replaced with new material sections of surface course.

3.04 FIELD QUALITY CONTROL

- A. Extraction Test. The percentage of bitumen in any mixture shall not vary more than 1/2 of one percent (1%) from the proportion established by the Engineer. Samples of the hot mixture may be taken from the trucks or from the finished pavement, when required by the Engineer. The minimum weight of the test specimen in grams shall be determined by multiplying 3,000 by the maximum size aggregate in inches; and when tested by standard laboratory methods (in which benzol may be used as the solvent), it shall not vary from the grading proportions specified, according to the mix being tested, by more than five percent (5%) in any particular case.

- B. Cores may be taken from the finished hot-mix asphalt concrete. The quality and thickness of the cores will govern the acceptance of the pavement.

END OF SECTION

SECTION 32 92 19

SEEDING

PART 1 GENERAL

1.01 SUMMARY

This specification describes the requirements for the seeding, application of fertilizer, and other management practices to establish ground cover in all areas disturbed by construction, or as otherwise shown on the plans and as designated in the specifications.

1.02 MEASUREMENT AND PAYMENT

The work of this section will be measured and payment made on a lump sum basis or as otherwise provided for in the Bid Form. The payment as made will be full compensation for all materials, equipment, tools, labor, superintendence, maintenance, and incidentals as required to complete the work.

1.03 QUALITY ASSURANCE

A tag with written certification of guaranteed product content shall be attached to the product bags or containers, or a separate written certification of guaranteed product content shall be provided by the product supplier or manufacturer.

1.04 DELIVERY, STORAGE, AND HANDLING

All materials shall be transported, stored, and handled according to the written recommendation of the manufacturer or supplier.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

A. Seed. The seed shall be common Bermuda grass (hulled) and ryegrass. All seed must meet the requirements of the Texas Seed Law including the labeling requirements for showing purity, germination, name and type of seed. Seed furnished shall be of the previous season's crop and the date of analysis shown on each bag shall be within nine (9) months of the time of delivery to the project. Each variety of seed shall be furnished and delivered in separate bags or containers.

B. Fertilizer. The fertilizer shall be standard pelleted or granulated commercial fertilizer supplied separately or in mixture containing the percentages of total nitrogen, available phosphoric acid, and water soluble potash of 12-12-12.

2.02 SOURCE QUALITY CONTROL

Submit samples of seed and fertilizer for analysis and testing prior to planting.

PART 3 EXECUTION

3.01 PREPARATION

Planting Season. The ryegrass shall be planted between September 1 and May 1. Bermuda grass shall be planted between March 1 and October 1. When planting seasons overlap, plant both Ryegrass and Bermuda.

3.02 ERECTION/INSTALLATION/APPLICATION AND/OR CONSTRUCTION

A. Application Rate:

1. Seed for areas outside of TxDOT right-of-way:
 - a. Bermuda Grass: Not less than five (5) pounds pure live seed per acre.
 - b. Ryegrass: Not less than thirty (30) pounds pure live seed per acre.
2. Seed for areas within TxDOT right-of-way: Seeding in TxDOT right-of-way shall be in accordance with Item 164 of the latest version of TxDOT's Standard Specifications for Construction of Highways, Streets, and Bridges.
3. Fertilizer: Not less than three hundred (300) pounds per acre.

B. Broadcast Seeding: The seed or seed mixture in the quantity specified shall be uniformly distributed over the areas to be seeded. If the sowing of seed is by hand, rather than by mechanical methods, the seed shall be sown in two directions at right angles to each other. If mechanical equipment is used, all varieties of seed as well as fertilizer may be distributed at the same time provided that each component is uniformly applied at the specified rate. After planting, the planted area shall be rolled with a corrugated roller of the "Cultipacker" type. All rolling of slope areas shall be on the contour.

3.03 REPAIR/RESTORATION

Any areas damaged by erosion or that do not achieve an acceptable coverage shall be replanted.

3.04 FIELD QUALITY CONTROL

Work under this section shall achieve a ground cover of at least 70% that has been growing for at least 60 days throughout the area to be seeded as determined by the percent of area covered in any selected square yard of seeded area.

END OF SECTION

SECTION 33 01 30.71

TRENCHLESS SANITARY SEWER REHABILITATION

PART 1 GENERAL

1.01 SUMMARY

This specification covers the rehabilitation (replacement) of existing sanitary sewers using trenchless technology (pipe bursting). The work performed under this section includes the installation of solid wall High Density Polyethylene (HDPE) pipe, fittings, and other appurtenances for gravity sanitary sewers, including removal and replacement of service lateral connections.

1.02 RELATED SECTIONS

Section 31 23 33 - Excavation, Trenching, and Backfilling for Utilities

Section 31 50 00 - Excavation Safety

Section 33 31 13 – Sanitary Sewerage System

1.03 MEASUREMENT AND PAYMENT

- A. Sanitary Sewer Pipe. Measurement and payment for sanitary sewer pipe will be by the linear foot for each size sanitary sewer pipe required including service line without deductions for space occupied by manholes. No separate sewer line classifications based on depth will be established and all depths will be paid for under the unit price bid unless otherwise noted in the bid proposal. The unit price bid for the various sizes and types of sanitary sewer lines shall include compensation for furnishing all equipment, tools, materials and labor necessary to replace existing sanitary sewer line using pipe bursting technology. The unit price bid shall include all royalty fees associated with using pipe bursting technology. The unit price bid shall also include connections with existing sewers and between non-compatible new pipe and costs for the appropriate tests to be conducted.
- B. Connection to Existing Manhole. Connections to existing manholes will be included in the unit price for pipe unless otherwise noted in the bid proposal. A connection to an existing manhole shall include removing the old pipe in the manhole as needed to install the new pipe; providing and installing any required gaskets and fittings; and grouting around the new pipe to provide a watertight seal at the manhole.
- C. Service Connections. Service connections shall consist of installing a saddle on the main line and making connection to the existing sewer service line, and shall be measured per each and paid for at the unit price bid per each.
- D. Testing New Sewers. There will be no separate payment made for testing, cleaning, or television inspection of new sanitary sewers. All of the cost for testing will be included in the unit cost bid for sanitary sewer pipe.
- E. Clean and TV Existing Line. Cleaning and visual inspection (using closed circuit television camera and video taping equipment) of existing sanitary sewer line shall be

paid for at the unit price bid per linear foot of existing sewer line. The unit price shall include all equipment, labor, tools, and incidentals to clean the existing sewer line and video tape the interior of the line using CCTV and video taping equipment. The unit price shall also include providing the Owner and Engineer a copy of the video tape along with a brief report that identifies any potential problems that would not allow the existing sewer line to be replaced by pipe bursting.

- F. Bypass Pumping of Sewage. There will be no separate compensation for the bypass pumping of sewage in any phase of the project. Costs for all bypass pumping shall be included in the related items work being performed.
- G. Joining of New Pipe. No separate compensation will be provided for joining of new pipe regardless of size, class or location. Include costs for joining (including fusing) in the unit price of the pipe being joined.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials
AWWA	American Water Works Association

1.05 BACK-UP EQUIPMENT

Contractor shall provide written certification that back-up equipment is available and can be delivered to project site in fully operational condition within 24 hours.

1.06 SUBMITTALS

The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed.

- A. Submit shop drawings, catalog data, and manufacturer's technical data showing complete information on material composition, physical properties, and dimensions of the HDPE pipe and fittings specified. Include manufacturer's recommendations for transporting, handling, storage and repair of damaged pipe and fittings.
- B. Closed circuit television reports and video tapes for existing sanitary sewer line and newly installed sanitary sewer line.
- C. Detailed drawings and written descriptions of the entire construction procedure to install new pipe, bypass sewage flow and reconnection of service connections.
- D. Certifications of all personnel trained to join and install pipe.
- E. Certification of authority to perform sanitary sewer rehabilitation using proprietary pipe bursting technology.

- F. Pipe Manufacturer’s written recommendation for time required for relaxation and cooling of the pipe after pulling into place as a part of the pipe bursting installation process.

1.07 DELIVERY, STORAGE, AND HANDLING

Transport, handle, and store pipe, fittings and other materials in accordance with the recommendations of the manufacturer and in a manner that will prevent damage. All pipe, fittings and other materials damaged during transit, storage or installation shall be replaced by Contractor at no additional expense to the Owner.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. HDPE pressure rated pipe shall conform to the requirements of AWWA C906 for pipe from 4 inches through 65 inches. HDPE pipe shall be manufactured from material conforming to PE Code PE4710. HDPE pipe outside diameter shall conform to ductile iron pipe sizes (DIPS). The type of HDPE material, nominal pipe size, standard dimension ratio, and pressure rating shall be in accordance with the Drawings. Markings on the pipe shall include the following: Nominal pipe size, type of plastic pipe material, DR number, pressure class rating, manufacturer’s name, and the seal or mark of the laboratory making the evaluation of the suitability of the pipe for the transport of potable water. Fittings for HDPE pipe shall conform to AWWA C906 and shall have the same pressure rating as the pipe in which they are installed.

- 1. Gravity Sewer Pipe 6”-24” shall have a black outside wall with a soft white inside wall to reflect lighting and facilitate closed circuit television (CCTV) inspections. Pipes shall conform to ASTM F-714 and be manufactured to iron pipe size outside diameters. The minimum wall thickness of the HDPE pipe for gravity sewer lines shall meet the following:

<u>Depth of Cover (Feet)</u>	<u>Minimum SDR of Pipe</u>
0 - 12	19
12 - 30	17

- 2. All pipe shall be made of virgin material. No rework except that obtained from the manufacturer’s own production of the same formulation shall be used.
- 3. The pipe shall be homogenous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
- 4. The pipe shall be produced with plain end construction for heat joining (butt-fusion) conforming to ASTM D 2657. Utilize controlled temperatures and pressures for jointing to produce a fused leak-free joint.

- B. Fused-on Water Stop: Approved manufacturers:
 - 1. ISCO Industries Wall Anchor.
 - 2. Central Plastics Electrofusion Flex Restraint.
 - 3. Or Approved Equal.
- C. Fusing equipment. Provide the necessary fusing equipment to butt fuse the solid wall HDPE pipe in accordance with the manufacturer's recommendations. The fusing equipment shall be certified by the pipe manufacturer as acceptable for joining the pipe. The fusing equipment shall be capable of providing butt-fused joints that are in true alignment and water tight and produce a joint in the pipe that has the same tensile strength as the pipe.
- D. Pipe bursting equipment.
 - 1. The pipe bursting tool used to accomplish the planned work shall be designed and manufactured to force its way through existing pipe materials by fragmenting the pipe and compressing the fragmented old pipe sections into the surrounding soil strata as it progresses through the pipe. The bursting unit shall be pneumatic or hydraulic as appropriate for the site conditions and shall generate enough force to burst and compact the existing pipe. The bursting unit shall provide a void of sufficient size to allow for the installation of the new pipe. The bursting unit shall have its own forward momentum and be equipped for attaching the new HDPE pipe to the rear of the unit such that the new pipe is pulled directly behind the bursting unit as it progresses forward.
 - 2. A hydraulic winch shall be attached to the front end of the bursting unit to provide tension for directional stability and efficient operation of the bursting unit. The winch size (tons) shall not exceed the recommendations of the pipe bursting system manufacturer for the size of line being bursted.
 - 3. Provide pulleys, bracing, bumpers, rollers, alignment control devices, and safety devices as needed to protect the new pipe and all existing structures, personnel, bystanders and facilities.

PART 3 EXECUTION

3.01 PREPARATION

- A. Contractor shall clean the existing sewer line using a sewer cleaning machine specifically designed for cleaning sewer lines. After cleaning, Contractor shall inspect the interior of the line using closed circuit television (CCTV) camera and video equipment specifically designed to visually inspect the interior of sewer lines. Using the CCTV equipment, Contractor shall locate service connections and identify any problems that would not allow the sewer line to be pipe bursted (i.e. severe grade problems). Upon completion of the cleaning and visual inspection (CCTV) of the existing line, Contractor shall prepare a brief report that states whether or not the existing sewer line is capable of

being rehabilitated using pipe bursting technology. Contractor shall not proceed with the sewer line rehabilitation until the report is submitted to the Engineer and has received direction to proceed with the sewer line rehabilitation.

Contractor shall locate and protect all existing buried facilities. The Contractor shall excavate around all buried lines, cables, ducts, etc. in the vicinity of the work to prevent damage to the existing facility by the pipe bursting operation.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

A. General.

1. The upsizing method shall not cause damage to overlying road pavements, ground terrain, or improvements except at the launching and receiving pits.
2. All disruption of service and inconvenience to customers shall be minimized at all times. All pipe bursting and related equipment shall be located such that no noise nuisance is created during execution of the work. The only excavations allowed will be for the insertion pit, pulling pit, and a pit at each service connection.

B. Pipe Bursting. Contractor shall install all pulleys, alignment control devices, rollers, bracing devices and other equipment to protect existing structures and the new pipe. Manhole pipe openings shall be enlarged sufficiently as required to allow pipe bursting head to pass through. Lateral lines shall be disconnected from the sewer main to be burst. Any lubrication used on the new pipe shall only be as recommended by the pipe manufacturer. Under no circumstances will the new pipe be allowed to be stressed beyond the elastic limit of the pipe material. The pulling apparatus shall be equipped with a load gauge to display the winching force directly. Contractor shall expose the existing main at every lateral connection and shall excavate around the lateral connection to allow free movement of the bursting head. Contractor shall center pull winch line in the center of the existing pipe being replaced. Upon commencement of the work, pipe bursting and insertion shall be continuous and without interruption from manhole to manhole. The new pipe shall be allowed sufficient relaxation and cooling time in accordance with the written relaxation and cooling time recommendation of the pipe manufacturer after installation and prior to installation of services connections, sealing of the annulus or backfilling of the insertion and pull pits. (The pipe manufacturer's written relaxation and cooling time recommendation shall be submitted to the Engineer by the Contractor as part of the submittal process.) Sufficient excess length of new pipe shall be allowed to protrude into manholes. The new pipe shall be restrained in manholes by use of a fusion coupling. The couplings shall be slipped over the terminating pipe end and placed against the manhole wall and fused in place in accordance with the manufacturer's recommended procedures. Following the relaxation period, Contractor shall seal annular space between pipe and manhole wall with a water stop material approved by the Engineer. The sealing of the annular space shall extend a minimum of eight (8) inches into the manhole wall from the inside face of the manhole wall and shall be formed to provide a smooth, uniform, water tight joint at the manhole.

C. Bypass Pumping of Raw Sewage. When necessary, the Contractor shall provide bypass pumping to provide diversion during the pipe bursting process. All pumps and lines

shall be of adequate size to handle the anticipated sewage flow during the entire pipe bursting process. The Contractor shall be responsible for providing continuity of sanitary sewer service to each customer connected to the sewer line section during the execution of the work. Contractor shall be responsible for all cleanup, repairs, replacements, property damage costs and claims resulting from sewage backups caused by the execution of the work.

- D. Sewer service connections. Service connections shall be made after sufficient relaxation and cooling time of the new HDPE pipe. All services shall be identified and located prior to beginning pipe bursting activities to expedite reconnection. Service connections shall be made by installing electrofusion saddles or strap on saddles on the new HDPE pipe. The saddles shall be made of the same material as the new pipe and shall provide a leak free joint. Install saddles in accordance with the manufacturer's recommendations. Contractor shall minimize inconvenience to customer during installation of service connections and shall be responsible for all damage to private property resulting from the installation of the service connection.
- E. Pipe Joining. The HDPE pipe shall be assembled and joined at the site using the butt fusion method to provide a leak proof joint. Threaded or solvent weld joints and connections will not be permitted. All equipment and procedures used shall be in strict compliance with the manufacturer's recommendations. Personnel certified as fusion technicians by the manufacturer of the fusion equipment and/or HDPE pipe shall accomplish all fusing. The butt fused joint shall be true alignment and shall have uniform roll-back beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal of pressure. The fused joint shall be watertight and shall have the tensile strength equal to that of the HDPE pipe. All joints shall be subject to the acceptance of the Engineer and Owner. When requested by Engineer, a test joint shall be cut length-wise to allow viewing of the weld bead inside the pipe. All defective joints shall be cut out and replaced at no additional cost. Joints or sections of the pipe deemed non-repairable by the Engineer shall be discarded and not used in the execution of the work.

3.02 REPAIR / RESTORATION

Any defects that which may affect the integrity or strength of the pipe in the opinion of the Engineer shall be repaired or the pipe replaced at the Contractor's expense.

3.03 FIELD QUALITY CONTROL

Testing. After the sanitary sewer is completely replaced, Contractor shall internally inspect the new pipe with a closed circuit television (CCTV) camera and video tape the inspection. A video tape of the inspection shall be provided to the Owner and Engineer with a written certification that the line is free from defects and meets the criteria established in these specifications and on the plans. Contractor shall perform all cleaning of the new sewer line to perform the required television camera inspection. Additionally, all of the testing required of new sanitary sewer lines and appurtenances described in Section 33 31 13 – Sanitary Sewerage System is required for the work covered by this section of the specifications.

END OF SECTION

SECTION 33 31 13

SANITARY SEWERAGE SYSTEM

PART 1 GENERAL

1.01 SUMMARY

This section applies to the construction of sanitary sewers, including installation of pipe, valves, fittings, manholes, cleanouts and other incidentals and testing of the installations. The work performed under this section applies to both gravity sewers and force mains.

1.02 RELATED SECTIONS

Section 03 30 53 – Cast-In-Place Concrete

Section 31 23 33 – Excavation, Trenching and Backfilling for Utilities

Section 31 50 00 – Excavation Safety

Section 33 11 13.19 – Conductive Trace Wire For Nonmetallic Pipe Installation

1.03 MEASUREMENT AND PAYMENT

Measurement and payment will be as provided in the bid form. If a unit price bid is provided for in the bid form, the following related to measurement and payment will apply.

- A. Sanitary Sewer Pipe. Measurement and payment will be by the linear foot for each size sanitary sewer pipe required including service line, without deductions for space occupied by manholes. Gravity sewer line classification will be established according to the depth of cut that is required in bid form. The unit price per linear foot for various sizes, types, and depths of sanitary sewer shall include compensation for furnishing all equipment, tools, materials and labor necessary to construct the sewer and place in the backfill, including the disposal of surplus excavated material, in compliance with the plans and specifications. The unit price shall also include connections to existing sewers, transitions between non-compatible new pipe and costs for the appropriate tests to be conducted. Unless it is specified as a bid item, no compensation shall be given for rock excavation, bedding, backfill, or clearing and grubbing. There will be no separate payment for fittings, thrust blocking, detector tape, or conductive trace wire.
- B. Manholes. Measurement of standard manholes will be taken at the center of the manhole, from the invert to the rim of the frame. Payment for standard manholes shall be at the contract unit price per each including manholes six (6) feet or less in depth, complete in place, according to the diameter. Payment for extra depth of standard manholes more than six (6) feet in depth will be paid for according to the diameter, on the basis of the unit contract price per foot of depth in excess of six (6) feet, as actually constructed. The unit price shall include compensation for furnishing all labor, materials, tools, equipment, and incidentals and performing all work necessary for the completion of the manholes in accordance with the provisions of the plans and these specifications.
- C. Cleanouts. Cleanouts for both the main lines and service lines shall be measured for payment per each, complete in place, regardless of depth. Payment will be made at the

unit contract price for the furnishing of all labor, tools, equipment, pipe fittings and incidental materials necessary to complete the work including earth excavation and disposal of surplus materials and backfill as specified and shown on the plans. All pipe required for constructing main line cleanouts shall be paid for on a linear foot basis.

- D. Drop Connections. Drop connections will be measured per each and shall be paid for at the unit price per each installed for drop connections five (5) feet height or less measured from the flowline of the sewer main to the flowline of the drop pipe at the manhole wall. Payment for extra depth of drop connections over five (5) feet will be per vertical foot of height as constructed.
- E. Service Connections. Service connections shall consist of installing a service branch fitting or saddle on the main line including tie-in to customer's service line and shall be measured per each and paid for at the unit price bid per each.
- F. Testing. There will be no separate payment made for testing sanitary sewers, but the testing will be included in the unit cost bid for sanitary sewer pipe.
- G. Casing Spacers: There will be no separate payment for casing spacers.
- H. Valves: There will be no separate pay for valves (including operator extensions, valve boxes and handwheel operators) unless otherwise indicated in the bid form.
- I. Trace Wire: There will be no separate payment for trace wire.
- J. Detector Tape: There will be no separate payment for detector tape that is required to be installed with all force mains.

1.04 REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials
AWWA	American Water Works Association

1.05 SUBMITTALS

The Contractor shall submit to the Engineer the appropriate technical data for all components used in the construction of the sanitary sewerage system (i.e. pipe, fittings, manholes, valves, etc). For pipe, the Contractor shall submit copies of the pipe manufacturer's certification that the pipe is in full compliance with the standards applicable to the pipe specified and copies of manufacturer's data showing the physical properties of the pipe. The physical properties shall, as a minimum, include normal bursting pressure, manufacturer's maximum working pressure, physical dimensions, and tolerances. The Contractor shall submit four (4) copies of each submittal, which will be retained by the Engineer, plus the number of copies that are to be returned to Contractor by Engineer after review is completed.

1.06 DELIVERY, STORAGE, AND HANDLING

The Contractor shall notify the Engineer of pipe delivery to the job site in advance in order to allow observation of the pipe by the Engineer prior to unloading of the pipe. Store pipe on a flat surface away from sunlight and heat. Do not stack bundles of pipe. Use a tarp to cover all pipe left for prolonged periods of time.

PART 2 PRODUCTS

2.01 MATERIALS AND/OR EQUIPMENT

- A. **Pressure Rated PVC Pipe.** Pressure rated PVC pipe, used for force mains or gravity lines, shall be polyvinyl chloride Type 1, Grade 1. The pipe shall meet AWWA specifications and bear the seal of the National Sanitation Foundation on each joint. The diameter and applicable commercial standard shall be shown on each length of pipe. The type of PVC pressure rated pipe required for the project shall be as shown on the plans.
1. **Schedule 40 PVC Pipe.** Schedule 40 PVC pipe shall conform to the requirements of ASTM D-1785. Joints for schedule 40 PVC shall be solvent weld with recessed bells. Pipe and fittings shall be made of PVC plastic having cell classification of 12454-B as specified in ASTM D-1784.
 2. **ASTM D-2241 PVC Pipe.** Pipe other than schedule 40 PVC shall comply with the requirements of ASTM D-2241. The pressure rating of the pipe shall be SDR 21 (Class 200) unless otherwise shown on the plans or in the bid form. Joint seals for ASTM D-2241 PVC pipe shall conform to ASTM F-477. Pipe and fittings shall be made of PVC plastic having cell classification of 12454-B as specified in ASTM D-1784.
- B. **Non Pressure Rated PVC Pipe.** Pipe for gravity sewers shall conform to ASTM D-3034 or ASTM F-675, SDR 26 unless otherwise shown on the plans. Pipe shall have fluid tight gasket type joints with joint bells formed integrally with the pipe. Joint seals shall conform to ASTM F-477. Pipe and fittings shall be made of PVC plastic having cell classification of 12454-B as specified in ASTM D-1784. The diameter and applicable commercial standard shall be shown on each length of pipe.
- C. **PVC Fittings.** PVC fittings for the pipe shall be constructed of the same material as the pipe. Fittings shall be of the molded type or machined from extruded stock. PVC fittings for pressure rated PVC pipe conforming to ASTM D-2241 used for gravity lines shall have a minimum pressure rating of 150 p.s.i. PVC fittings for pressure rated PVC pipe conforming to ASTM D-2241 used for force mains shall be rubber gasket and shall have a minimum pressure rating of 200 p.s.i. PVC fittings for Schedule 40 PVC pipe shall normally be Schedule 40 solvent weld, but rubber gasket fittings may be used in some applications. Fittings for ASTM D-3034 and ASTM D-2241 PVC pipe shall be push on type and have elastomeric seals and shall be compatible with the pipe. The seals shall meet ASTM F-477 for elastomeric seals. Fittings shall have smooth interior free of ridges or obstructions to sewer flow.
- D. **Ductile Iron Pipe.** Ductile iron pipe shall be thickness Class 50 per ANSI/AWWA C151/A21.51, unless shown otherwise on the plans. Pipe joints shall be push on joint

per ANSI/AWWA C111 unless shown otherwise. Interior flange pipe shall conform to ANSI/AWWA C115.

1. Coating, Lining and Encasement. Pipe and fittings inside wetwells or other structures and all above grade piping, valves, and appurtenances shall have outside coating in accordance with Section 09 90 00 Protective Coatings. All other pipe and fittings shall be asphaltic coated outside per ANSI/AWWA C151/A21.51 unless shown otherwise. Inside lining shall consist of a 30 mil dry film thickness of polyurethane high solids, high build two component coating (Corropipe II TX Five Minute Number 17115) as manufactured by Madison Chemical Industries, Inc., or 40 mil dry film thickness of amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment (Protecto 401 Ceramic Epoxy), or equal. Applicators of polyurethane and epoxy lining shall be approved by the pipe manufacturer. Encase pipe with 8 mil low density or 4 mil high density polyethylene in accordance with ANSI/AWWA C105/21.5.
 2. Ductile Iron Fittings - Full Body. Fittings shall be cast iron or ductile iron push-on type conforming to ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11, unless shown otherwise on the plans. Mechanical joint fittings shall conform to ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11, Class 250 for 4" through 12" and Class 150 for 14" and larger unless shown otherwise on the plans. Flanged fittings to be in accordance with ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11, Class 250 for 4" through 12" and Class 150 for 14" and larger unless shown otherwise on plans, both with one hundred twenty-five (125) pound template flanges.
 3. Ductile Iron Fittings - Short Body. "Short body" fittings shall be ductile iron push-on type conforming to ANSI/AWWA C153/A21.53 and ANSI/AWWA C111/21.11, Class 350 for all sizes, unless shown otherwise on the plans. Mechanical joint ductile iron short body fittings shall conform to ANSI/AWWA C153/A21.53 and ANSI/AWWA C111/21.11, Class 350 for all sizes. Flanged fittings shall have full body dimensions.
 4. Gaskets. Flanged joint gaskets shall be of SBR or Neoprene rubber. Gaskets shall extend to the full flange with holes to match ANSI A21.10 or B16.1 Class 125 flange drilling. Gaskets shall be rated for 250 psi water working pressure as a minimum.
- E. Concrete. All concrete shall meet the requirements specified in Section 03 30 53, Cast-In-Place Concrete.
- F. Mortar. Mortar shall conform to the current specification for Mortar for Unit Masonry, ASTM Designation C270, Type S. Mortar shall be composed of two parts of fine aggregate thoroughly mixed with one part Portland cement and the amount of water required to produce a homogeneous mixture of such consistency that it can be easily handled and spread by trowel. Aggregate for the mortar shall meet ASTM C-144.
- G. Manhole Covers. Manhole covers and rings shall be made of gray iron, ASTM A-48, Class 35B. The covers shall possess a tensile strength of not less than eighteen thousand (18,000) pounds per square inch. All casting shall conform to the shape and dimensions

shown on the plans and shall be clean and perfect without defects of any kind. All sanitary sewer manhole covers must include the words "Sanitary Sewer". See detail drawings for required make and model of cover.

- H. Cleanout Covers. Cleanout covers shall be made of the best quality of gray cast iron. The cover shall be free from perforations and shall conform to the detail specified in the plans.
- I. Fiberglass Manholes. Use manufactured reinforced fiberglass plastic as manufactured by Fluid Containment, Inc. formerly known as Owens-Corning Tanks Division, or preapproved equal. A traffic model designed for H 2O wheel loading is required. The base (bottom) of the manhole shall be pre-cast concrete meeting the requirements in these specifications for pre-cast concrete manholes and as detailed on the plans. The concrete base shall be coated per the requirements for concrete manholes.
- J. Precast Concrete Manholes. Precast concrete manholes shall meet the requirements of ASTM C-478. Ring sections shall be of the diameter specified. Precast concrete manholes joint gasket connections shall be made with an O-Ring type rubber gasket meeting ASTM C361 and C443 as manufactured by Press-Seal Gasket, Inc. or approved equal. Precast manhole sections shall be specifically manufactured for O-Ring application. Installation shall be in accordance with the manufacturer's recommendations. See details for coating of manholes.
- K. Grade Rings. Precast concrete grade rings shall be used to adjust all types of manholes to final grade. Bricks shall not be used to adjust manhole grades.
- L. Manhole Connections. Watertight, size-on-size resilient connectors allowing for differential settlement shall be used to connect pipe to new manholes. Water stop gaskets shall be installed on the pipe for connection to existing manholes. Pipe to manhole connectors shall conform to ASTM C-923.
- M. Gate Valves. Non-rising stem gate valves used in a lift station shall have a position indicator. Gate valves 2-inches and larger shall be iron-body, resilient rubber seat, non-rising stem and shall conform to AWWA C-509. Gate valves smaller than 2-inches shall be brass double disc with brass body, non-rising stem with 2" square nut adapter and shall conform to AWWA C-500. Valves shall have the required ends for the piping in which they shall be installed. Gate valves shall have a clear waterway equal to the full nominal diameter of the valve and shall be opened by turning counterclockwise. An arrow shall be cast in the metal of the operating nut or wheel to indicate the direction to open. Underground valves shall be nut operated and valves located in structures shall be wheel operated. For nut operated valves installed with the nut more than 48" from finished grade, provide a nut operator extension so the nut operator is 48" or less below finished grade. Each valve shall have the maker's initials, pressure rating, and year of manufacture cast on the body. Valves 2 inches through 12 inches shall have a 200 psig working pressure and valves 16 inches and larger shall have a 150 psig working pressure. Prior to shipment from the factory each valve shall be tested by hydraulic pressure equal to twice the specified water working pressure. Gate valves shall have the same exterior coating as the pipe and an 8 to 10 mil dry film thickness epoxy interior coating. Gate valves shall be American Flow Control, Mueller or pre-approved equal.

- N. Check Valves. Check valves two and one-half (2-1/2) inches in diameter and larger shall be iron body, bronze mounted, horizontal swing check valves with balanced weight and lever arm designated for one hundred fifty (150) pounds working pressure, unless otherwise designated on the plans . Check valves shall have the same exterior coating as the pipe.
- O. Plug Valves. Plug valves shall be manufactured by Dezurik or preapproved equal. Plug valves shall have the exterior coating same as the pipe and an 8 to 10 mil dry film thickness epoxy interior coating.
- P. Valve Boxes. All valves buried in the ground shall be provided with cast iron boxes of proper dimensions to fit over the valve. The tops shall be complete with covers and adjustable.
- Q. Shear Gates. Shear gates shall be all iron, Clow No. F-3000; Neenah Foundry Company, R-5005 Series; Olympic shear gate; or approved equal. Shear gates shall have lifting handle extension where required.
- R. Combination Sewer Air Valves. Combination air valves for sanitary sewer force mains shall be A.R.I. Model D-025 or preapproved equal. All valves shall come equipped with backwash assemblies and shall be rated for sewer service.
- S. Casing Spacers. Casing spacers shall provide electrical insulation between the carrier pipe and casing. They shall be made of high density polyethylene or of other approved material. The casing spacers shall be "RACI" as manufactured by Public Works Marketing, Inc., or approved equal. The spacers shall be sized such that the bell of the carrier pipe will be held a minimum of one fourth (1/4) inch from the bottom of the casing, and the spacer O.D. shall not be less than the casing I.D. minus three fourths (3/4) of an inch. The design and type of spacer shall be suitable for the type, size, and weight of the carrier pipe and it's contents.
- T. Detector Tape. Detector tape for force mains must bear the label "PRESSURIZED WASTEWATER" repeated continuously in letters a minimum of 1.5 inches in height.
- U. Inflow Protectors. Where required inflow protectors shall be RainGuard Inflow Protectors Model LFN-VHS as produced by L.F. Manufacturing Inc., or pre-approved equal. Inflow protector must be equipped with a strap and a vent hole.

PART 3 EXECUTION

3.01 PREPARATION

Expose all underground utilities which may be in conflict with proposed sanitary sewer lines prior to installing new lines. If faults, caverns or subsidence are discovered during construction, halt work to allow features to be observed by Engineer. Construction may only be resumed when acceptable to Engineer.

3.02 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION

- A. Pipe Laying and Jointing. Once the foundation has been prepared, pipe shall be laid with the spigot ends in the direction of the outlet or low end of the pipeline. The interior of the pipe shall be free from all dirt, joint material and foreign material as the work progresses and shall be clean upon its completion. Inside surfaces of adjacent sections of pipe shall be constructed in such a manner to provide the best possible flow conditions. Tight fitting stoppers or bulkheads shall be placed in the ends of all pipelines when the work has stopped, to prevent dirt or trash from entering the pipe.
- B. PVC Pipe. Bedding of the pipe shall be as detailed on the plans for the laying conditions.
1. Solvent Weld Joints. When joints are made, the pipe fittings and couplings shall be at the same temperature. All joints shall be tested for a snug dry fit before solvent is applied. If the dry fit is such that the couplings are loose or if force is required to test dry fit, the pipe shall be rejected. A nonsynthetic brush shall be used to apply solvent cement in accordance with the manufacturer's recommendations. Lightly apply cement to the inside of the fitting and more generously to the outside of the pipe. The joint shall then be stabbed into the fitting and given a quarter turn. If sufficient cement has been used, a small bead will form between the pipe and the shoulder of the fitting. Remove this excess solvent. The joint shall not be moved until the cement weld has set. Fittings for service lines or laterals shall be assembled so that no strain is placed on the pipe during or after the backfill operation.
 2. Push-On Joints. Before jointing, both bell and spigot ends shall be thoroughly cleaned and a lubricant supplied by the pipe manufacturer shall be applied according to the manufacturer's recommendations. Spigot end shall be beveled so it will not dislodge or damage gasket. To provide proper sealing of the joint, sufficient pressure shall be applied until reference mark on spigot is flush with end of bell.
 3. Cutting Pipe. If it is necessary to cut the pipe, a fine tooth hacksaw shall be used and the burrs removed with a file. The outer surface of the pipe and the inner surface of the fittings shall be wiped with a clean cloth to remove all foreign matter and moisture before application of the solvent cement, for solvent weld joints. Bevel end of pipe per manufacturer's recommendations for push-on joints.
- C. Ductile Iron Pipe. Bedding of the pipe shall be as detailed on the plans for the laying conditions.
1. Before jointing, both bell and spigot ends shall be thoroughly cleaned and a lubricant supplied by the pipe manufacturer shall be applied according to the manufacturer's recommendations. Spigot end shall be beveled so it will not dislodge or damage gasket. To provide proper sealing of the joint, sufficient pressure shall be applied until reference mark on spigot is flush with end of bell.

2. Mechanical Joints. Joints shall be made in a workmanlike manner, using rubber gasket seals, follower glands, and standard bolts. Overstressing of bolts to stop leaks resulting from poor installation practice will not be permitted.
 3. Wall Sleeves. At all points where the pipe must pass through a wall of a structure, the Contractor shall furnish and install suitable sleeves and wall castings, unless otherwise shown on the plans. The wall sleeve or wall casting shall be a mechanical joint and/or flange fitting flush with the wall, with flanges tapped for studs.
- D. Detector Tape. Install detector tape in the same trench as force main pipe along the top of the force main.
- E. Conductive Trace Wire. Install conductive trace wire in compliance with Section 33 11 13.19 - Conductive Trace Wire For Nonmetallic Pipe Installation with all force mains and with gravity lines in Texas Department of Transportation (TxDOT) right-of-way.
- F. Curved Alignment. For curved sewer lines, the Contractor shall not exceed the pipe manufacturer's recommended maximum deflection at each joint. Each joint shall be pushed "home" prior to deflecting the pipe and pipe shall not be stressed or bent to achieve curvature. The Contractor shall reduce the pipe lengths according to the manufacturer's recommendations if the radius of curvature cannot be achieved without exceeding the maximum deflection using standard length joints of pipe.
- G. Valve Boxes and Operator Extensions. Valves buried in the ground shall be provided with cast iron valve boxes of proper dimensions to fit over the valve, and to extend to such elevation, at slightly above the finished ground line. Valve boxes shall be set vertical and centered with the valve stem. Provide and install a valve operator extension on any buried valve that is installed with the nut operator more than 48-inches below surrounding finished grade.
- H. Thrust Blocking. Thrust blocking for pressure sewers (force mains) shall be in accordance with the pipe manufacturer's recommendation.
- I. Embedment and Encasement. Embedment and encasement shall be placed at the locations shown on the plans and in conformance with Section 31 23 33 Excavation, Trenching and Backfilling for Utilities. If the maximum width is exceeded at any point, the Contractor shall use the next number of embedment higher than that designated on the plans. The additional cost for using the higher type of embedment required because of over cutting will be at the expense of the Contractor.
1. Typical DIP Embedment. Unless otherwise shown on plans use Type 2 embedment in accordance with ASTM A746.
 2. Typical PVC Embedment. Pipe shall be imbedded in sand or gravel with fines meeting the designation of Class I or II Soil per ASTM D-2321 compacted to a minimum of eighty-five (85) percent Standard Proctor. The embedment shall extend from six (6) inches below and on each side of the bell of the pipe to a point twelve (12) inches above the top of the pipe.

J. Precast Concrete Manhole Construction.

1. The manhole shall be constructed on a concrete foundation of the size and shape shown on the plans. The foundation shall be placed against undisturbed earth and the thickness shall be a minimum of eight (8) inches below the bottom of the outside diameter of the sewer pipe or bottom edge of manhole section. If the manhole is over twelve (12) feet deep, then the foundation thickness shall be a minimum of twelve (12) inches below the bottom of the sewer pipe's outside diameter or bottom edge of manhole section. The bottom section ring shall be embedded in a concrete foundation to a minimum depth of six (6) inches. Precast manhole bottoms may be used if cast as an integral part of the bottom ring.
2. Pipe connections to a new manhole shall be made with watertight, size-on-size resilient connectors that allow for differential settlement and must conform to ASTM C-923. Pipe connections to an existing manhole shall be made with approved waterstop connectors or with connectors conforming to ASTM C-923.
3. Manholes shall be installed as one basic unit. The Contractor is responsible for verifying the correct manhole depth before construction. Top of precast portion of manhole shall not be less than twelve (12) inches nor greater than eighteen (18) inches from final grade. The Contractor is responsible for the correct depth of manholes relocated in the field because of unforeseen conflicts. Manhole tops shall be adjusted with precast concrete rings and be set as follows:
 - a. Undeveloped Areas. Manhole tops shall be set one (1) inch higher than the existing elevation of natural ground or other final grade, unless shown otherwise on the plans.
 - b. Developed Areas. Manhole tops shall be set flush with paved surfaces and one (1) inch higher than shoulder and/or proposed final grade elevations in easement or other unpaved areas. Where manholes are located in a ditch bottom, set manhole top a minimum of twelve (12) inches above the ditch bottom and reshape the ditch around the manhole.
4. Backfill around manholes and drop connections immediately after mortar and concrete have set. Place backfill around the manhole evenly in six (6) inch layers and in such a manner that no torque is applied to the manhole. For manholes in paved areas backfill around manholes shall be of same material and compaction as specified for sewer line in paved areas. Where a proposed sewer line connects to an existing manhole at or near a manhole invert, reshape the invert of the existing manhole so that no turbulence is created in the manhole as a result of the connection.
5. Precast concrete rings shall be used to adjust the top of the manhole to the proposed grade if necessary.

- K. Cast-in-Place Manholes. Manholes shall be constructed of concrete conforming to applicable section. Manholes shall be poured in place as shown on the plan sanitary sewer detail sheet. The foundation shall be placed against undisturbed earth and shall be

a minimum of eight (8) inches thick below the bottom of the sewer outside diameter, except if the manhole is over twelve (12) feet deep make the foundation twelve (12) inches thick below the bottom of the sewer pipe outside diameter. The manhole foundation, walls and cone section shall be constructed in a single continuous monolithic concrete pour.

- L. Fiberglass Manholes. Construction of fiberglass manholes shall follow the general procedures for precast concrete manholes.
- M. Construction Methods For All Manholes.
 - 1. Manhole Connections. Watertight, size-on-size resilient connectors allowing for differential settlement shall be used to connect pipe to new manholes. Water stop gaskets shall be installed on the pipe for connection to existing manholes and shall be grouted in place with non-shrink grout having a minimum thickness of one (1) inch around the gasket.
 - 2. Manhole Inverts. The bottom of the manhole shall be provided with a "U" shaped channel that is a smooth continuation of the inlet and outlet pipes. For manholes connected to pipes less than fifteen (15) inches in diameter, the channel depth shall be at least half the largest pipe diameter. For manholes connected to pipe greater than 15 inches but less than 24 inches in diameter, the channel depth shall be at least three-fourths of the largest pipe's diameter. For manholes connected to pipes greater than twenty-four (24) inches in diameter, the channel depth shall be at least equal to the largest pipe diameter. Invert flow channels shall be on an even slope from pipe to pipe. The bench provided above the channel shall be sloped at a minimum of 0.5 inch per foot. Where sewer lines enter the manhole higher than twenty-four (24) inches above the manhole invert, the invert shall be filleted to prevent solids deposition and the pipe entering the manhole must have a drop pipe. Where the main sewer (lowest line) passes straight through the manhole and the degree of deflection of the main sewer is less than five (5) degrees, and no other line or stub out is shown entering the manhole below the center line of the main sewer, lay the sewer continuously through the manhole. After the manhole walls have been completed, cut out and remove the top half of the barrel of the sewer pipe that was previously laid through the manhole. Use concrete with one (1) inch mortar topping and construct the remainder of invert as shown on plans. Where the main sewer (lowest line) alignment deflects greater than five (5) degrees at the manhole or where another sewer or stub out enters at or below the center line of the main sewer, terminate the main sewer pipe laying in such a manner that the ends of pipe protrude inside of the manhole. The invert shall be constructed with concrete and topped with one (1) inch of mortar. The invert shall be shaped to allow for a smooth flow across the floor of the manhole and slope the side as required to prevent deposition of solids.
 - 3. Stubs Outs. Stub outs shall be installed to line and grade where shown. One (1) full joint of pipe or such other length as shown on the plans, of the size indicated, will be used for the stub out. The stubbed out pipe shall terminate with the bell end of the pipe. Seal the stub out with a plug. The plug shall be installed in such a manner as to prevent seepage or leakage through stub outs.

The plug shall be installed such that it may easily be removed in the future without damaging the bell or groove end of the stub out.

4. Contractor shall meet all OSHA requirements relating to entry into confined spaces prior to personnel entering manhole for any reason.

N. Cleanout Structures. Cleanout structures shall be constructed where shown on the plans and as specified. Cleanouts shall consist of line size pipe laid on an angle on undisturbed natural ground. Machine tamp all backfill around and above the pipe in layers six (6) inches or less in depth so that no settlement shall occur after the cleanout is constructed. Other construction details shall conform to the cleanout detail shown on the plans.

O. Connections.

1. Drop Connections. Drop connections on manholes shall be constructed according to the plans and these specifications. The connection shall include the indicated fittings and necessary backfill material.
2. Service Connections. Standard service connections shall consist of a sewer style tee or wye and forty-five (45) degree bend as detailed on the plans and the necessary four (4) inch diameter PVC sewer pipe to reach the property line, or be plugged and sealed at the end. The plans may require a larger service line. Install a larger service line when shown on the plans. If required, the Contractor shall raise the lateral by means of a steeper grade from the main. Locations of the service outlets and the depth to the top of the lateral pipe, if depth is not shown on the plans, will be designated at the time of construction. Minimum depth of cover over the end of the lateral pipe shall be five (5) feet.

P. Separation Distances. The following are separation distances that shall apply between potable water and wastewater treatment plants, and water lines and sanitary sewers.

1. Potable Water Treatment Plant Separation. Sanitary sewers located within 50 feet of any underground treatment plant units shall be constructed of ductile iron or PVC with a minimum pressure rating of 150 pounds per square inch and watertight joints.
2. Water Line / New Sewer Line Separation. Sanitary sewers shall not be installed within nine (9) feet, in all directions, to existing water lines. Sewer lines parallel to water lines must be installed in separate trenches. If the nine (9) feet separation distance cannot be achieved, the following guidelines apply.
 - a. Where a sanitary sewer parallels a water line, the sewer shall be constructed of cast iron, ductile iron or PVC meeting ASTM specifications with a pressure rating of 150 psi for both the pipe and joints. A minimum vertical distance of two (2) feet and a minimum horizontal distance of four (4) feet between the outside diameters of the pipes is required. The sewer shall be located below the water line.
 - b. Where a sanitary sewer crosses a water line, and the sewer is constructed of cast iron, ductile iron or PVC with a minimum pressure rating of 150

psi, an absolute minimum distance of six (6) inches between the outside diameters shall be maintained. The sewer line shall be placed below the water line, and one length of the sewer pipe must be centered on the water line.

c. Where a sewer line crosses under a water line and the sewer line is constructed of ABS truss pipe, similar semi-rigid plastic composite pipe, or concrete pipe with gasketed joints, a minimum separation distance of two (2) feet must be maintained. The initial backfill shall be cement stabilized sand (two or more 80 pound bags of cement per cubic yard of sand) for all sections of sewer within nine feet of the water line. This initial backfill shall be from one quarter diameter below the centerline of the pipe to one pipe diameter (but not less than twelve (12) inches) above the top of the pipe.

d. Where a sewer crosses over a water line all portions of the sewer within nine (9) feet of the water line shall be constructed of cast iron, ductile iron, or PVC pipe with a pressure rating of at least 150 psi using appropriate adapters. In lieu of this procedure, the sewer pipe may be encased in a joint of 150 psi pressure class pipe at least eighteen (18) feet long and two (2) nominal sizes larger than the sewer pipe. The carrier pipe shall be supported at five (5) foot intervals with spacers or be filled to the springline with washed sand. The encasement pipe should be centered on the crossing and both ends sealed with cement grout or a manufactured seal.

3. Water Line / Manhole Separation. If the sanitary sewer manholes and the connecting sewer cannot be made watertight and tested for no leakage, then a minimum horizontal separation distance of nine (9) feet must be provided between the manhole and the water line.

However, where a 9' separation between sanitary sewer manholes and a water line cannot be achieved, the Contractor must construct the manhole to be watertight (leak free).

Q. Casing Spacers: Casing spacers shall be installed on all carrier pipe which is installed inside a casing. Casing spacers shall be installed such that the distance between spacers does not exceed the maximum distance recommended by the spacer manufacturer dependent on potential weight of the carrier pipe and casing, both full of water, except the distance between spacers shall not exceed seven (7) feet. A casing spacer shall be installed within one (1) foot of the end of each joint of nonwelded carrier pipe, and two adjacent spacers shall be installed on the carrier pipe at each end of the casing such that the last spacer is within one (1) foot of the end of the casing.

3.03 FIELD QUALITY CONTROL

A. Test For Deflection of PVC Pipe. All PVC pipe installed for gravity sewers will be tested for deflection according to this specification after the pipe segment has been in place for a minimum of thirty (30) days. Maximum allowable deflection shall not exceed five percent (5%) of the inside diameter of the pipe. The inside diameter shall be

the average outside diameter minus two (2) minimum wall thicknesses for outside diameter controlled pipe or the average inside diameter for inside diameter controlled pipe. A rigid "go, no-go" mandrel will be used to check the deflection of an installed section of PVC pipe. The mandrel will be sized so that it will not "go" when encountering a deflection that is greater than permissible. The mandrel must be of such design as to minimize the possibility of it being hung up in the pipe by silt or other residues. A design sized to permit up to five percent (5%) deflection in pipe is shown in Figures 3.03A & 3.03B. Table 3.03A showing the required dimensions of mandrels for various pipes is attached. Suggested instructions for its use are as follows:

1. Completely flush the line making sure the pipe is clean of any mud or debris that would hinder the passage of the mandrel.
2. During the final flushing of the line, attach a floating block or ball to the end of the mandrel pull rope and float the rope through the line.
3. Once the rope is threaded through the line, connect the pull rope to the mandrel and place the mandrel in the entrance of the pipe.
4. Connect a retrieval rope to the back of the mandrel to pull it back, if necessary.
5. Remove all slack in the pull rope and place a tape marker on the rope at the ends of the pipe where the mandrel will exit, determining the location of the mandrel in the line.
6. Draw the mandrel through the sewer line by hand pulling only. If any irregularities or obstructions are encountered in the line, the Engineer should establish the corrective action, if required.
7. If a section with excessive deflection is found, locate it; dig down and uncover the pipe; inspect the pipe, if any damaged pipe is found, replace it; if pipe is not damaged, replace and thoroughly tamp the haunching and initial backfill; replace remainder of backfill.
8. Retest this section for deflection a minimum of thirty (30) days after completing the repair.

Figure 3.03 A

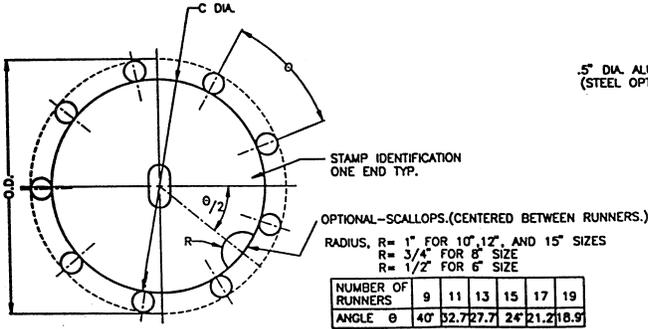
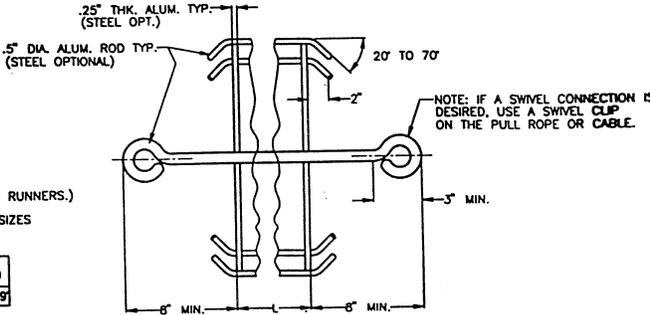


Figure 3.03 B



- B. Testing Pressure Sewers For Leakage. All pressure sewers shall be tested for leakage with a hydrostatic test to be completed in the presence of the Engineer or his representative. Leaks demonstrated by the tests are to be repaired at the expense of the Contractor.
1. Performance. Newly laid pipe or any valved section of piping shall be subjected for four (4) hours to a hydrostatic pressure test of 50 p.s.i. above normal working pressure at point of test, but not less than 75% of the rated pressure of the pipe. Test pressure shall not exceed the rated pressure of the pipe at any time at any location on the segment being tested. Test pressure being applied to the line shall not be allowed to vary more than 5 pounds per square inch for the duration of the test. The maximum permissible leakage is 10.0 gallons per inch diameter per mile of pipe per day.
 2. Execution. Fill test section of pipe with water and expel the air from the pipe. Apply the specified test pressure by means of a pump connected to the pipe. The Contractor shall furnish the necessary pump, pipe connections, gauge and meter and shall conduct the test. If force main is tapped to perform test, plug taps with brass fittings upon completion of test.
 - a. Walk the route of the pipe during the test period to locate any leaks or breaks. The Contractor shall replace any cracked or defective pipe, fittings or valves disclosed in the pressure test.
 - b. When the four (4) hour test period is completed, bring the pressure in the pipe up to the specified test pressure and determine the amount of water lost during the test. No piping installation shall be accepted until the leakage amount is less than 10.0 gallons per inch diameter per mile of pipe per day. Should any test of combined sections or individual sections of pipe show leakage greater than the specified limit, the Contractor shall locate and repair the defective joints or defective pipe until the test proves that the leakage is within the specified allowance.
- C. Testing Gravity Sanitary Sewers For Leakage. The Contractor shall test all gravity sewer lines using either the infiltration method, exfiltration method, or the low pressure air test, in the presence of the Engineer or his representative. Additionally, all new manholes shall be tested. The Engineer or his representative shall be notified no later than the preceding day, of the date and approximate time the tests will be made. Sewers shall not show leakage of more than fifty (50) gallons per inch diameter per mile of pipe per twenty-four (24) hours at a minimum test head of two (2) feet above the crown of pipes at the upstream manhole using the infiltration or exfiltration test except for pipes installed in the 25 year flood plain, which shall show leakage less than 10 gallons per inch diameter per mile of pipe per twenty four (24) hours. An infiltration test must be used when pipes are installed below groundwater level. For the air test, leakage shall not exceed the amount specified herein for the length and diameter of the pipe tested. The Engineer may vary the procedures for "Infiltration Test," "Exfiltration Test," and "Air Test" provided the methods used give an accurate measurement of the leakage.

1. Preparation for Testing. The Contractor shall supply all water for the tests, all equipment and labor necessary to convey the water into the sewer, and all labor and equipment to install test plugs, and other incidental work in conducting the tests and the cost thereof shall be included in the price for constructing the sewer. The Contractor shall supply the test plugs and the risers for the tests and will conduct the tests.
 - a. Before testing is observed by the Engineer, sewers shall be completely backfilled, except for the stacks, but not necessarily water tamped. The Contractor may make preliminary tests with a minimum of eighteen (18) inches of backfill over the pipe to determine if any repairs are necessary. These tests are for the Contractor's information and shall not be performed in lieu of the tests to be observed by the Engineer. These line tests will be made between the inlet side of the downstream manhole and the outlet side of the next upstream manhole.
 - b. Unless the Contractor has been notified that the tests will be made by the infiltration method, he shall leave the tops of stacks exposed and unplugged until after the leak test has been made. If a stack terminates below the test level, they shall be temporarily extended upward by installing an additional length of pipe in the top.
 - c. The Contractor shall provide suitable means to determine the groundwater level at any time until the testing is completed. As an example, a pipe not less than three (3) inches in diameter, such as a downspout pipe, closed at the bottom and perforated for at least the lower three (3) feet, with the perforations wrapped with at least two (2) thicknesses of filter fabric, set in the trench prior to backfilling. These pipes shall than be removed or cut off at least two (2) feet below the ground after testing has been completed. Prior to removal, the pipes shall be protected against damage and earth or other material excluded therefrom. Generally one pipe shall be installed in each run of pipeline between manholes.
 - d. Stubs or house connections connected to the section being tested for leakage which are below the test water level, will be considered in computing the allowable leakage but the Contractor will not be held responsible for excess leakage in sewers not laid by him which have been connected to the lines being tested. The Engineer may request individual stubs or house connections in the system that were constructed under this contract to be tested. Prior arrangements for access to the ends of the pipe will be made for these tests.
2. Infiltration Test. For the Infiltration Test, all pumps must be stopped and the groundwater allowed to return to its normal level and to remain so for at least 24 hours. Before the test is started, the pipe will be filled with water to a depth that will cause leakage to flow at a uniform rate through an opening in the plug in the downstream end of the section of sewer being tested. Leakage will be

determined by measuring the flow through the opening in the downstream plug during a given time. Five measurements will be taken. The average of the measurements will be used. If one of the five measurements varies by more than fifty percent (50%) of the other four, then that measurement will be discarded, except for the last measurement taken. If the results of the tests are satisfactory, but the last of the five measurements shows leakage in excess of that permitted, tests shall be continued to determine if additional leaks may have developed during testing.

<u>Size of Pipe</u>	<u>Allowable Leakage*, Gal. Per Minute Per 100 Ft.</u>
6"	0.0039
8"	0.0053
10"	0.0066
12"	0.0079
15"	0.0099
18"	0.0118
21"	0.0138
24"	0.0158
27"	0.0178
30"	0.0197
36"	0.0237

*Equivalent to 50 gal. per inch diameter per mile per 24 hours

3. Exfiltration Test. In order to permit absorption by the pipe, the Contractor may keep the pipe full of water for 24 hours prior to the test. The Engineer shall be notified by the Contractor before backfilling is completed that the pipe will be filled and will be given 48 hours before the test to allow time for filling and soaking the pipe. At least two (2) hours before the tests start, the water will be bled off below the level of the top of the pipe at its lower end and allowed to remain so until the water level remains static at this level or continues to fall. The test shall be made in the following manner.
 - a. A watertight plug, equipped with a pipe riser will be inserted and braced in the inlet opening in the downstream manhole and a similar plug equipped with a suitable vent pipe that will permit the escape of air in the pipe at its upper end, will be inserted and braced in the outlet in the upstream manhole. Fill the sewer and riser with water up to a level either four (4) feet above the crown of the sewer pipe at its lower end or two (2) foot above the crown of the sewer pipe at its upper end, whichever is higher, plus the vertical distance from the invert of the sewer at its lower end up to the level of the groundwater where such groundwater exists above the invert of the sewer.
 - b. The sewer will be filled with water as a continuous operation, as rapidly as the supply will permit, and the test measurement will be started as soon as the water is at the required level. This will be completed in not less than two (2) hours for sewers twelve (12) inches or smaller, not less than three (3) hours for sewers fifteen (15) inches through twenty-four (24) inches and not less than four (4) hours for larger sewers. A

measurement of the water level will be recorded at each minute for five (5) minutes or until the level has dropped twelve (12) inches, whichever occurs first. The water will then be brought back to the required level and the test shall be repeated until five (5) such tests have been performed. Use the average of these results, discarding any of the five (5) observations that varies by more than fifty percent (50%) from the average of the other four (4) except for the last one. If the results of the tests are otherwise satisfactory, but the last of the five (5) measurements shows leakage in excess of that permitted, the tests will be continued to determine if additional leaks may have developed during testing.

- c. The total leakage in cubic inches shall be the total cross-sectional area in square inches of the inside of the two (2) risers and of any stacks in the sewer multiplied by the drop in water level in inches.

Table For Measuring Leakage in Sewers

Diameter of Riser Or Stack	Volume Per Inch of Depth	
	Cu. Inch	Gallons
1"	0.7854	0.0034
2"	3.1416	0.0136
2-1/2"	4.9087	0.0212
3"	7.0686	0.0306
4"	12.5664	0.0544
5"	19.6350	0.0850
6"	28.2743	0.1224
8"	50.2655	0.2176

- 4. Air Test. The air test shall be performed as follows.
 - a. To perform the air test, all the water should be flushed and drained from the line being tested prior to beginning the test. All pipe outlets, especially laterals and services, shall be plugged. Air shall be added until the internal air pressure of the sewer line is 4.0 psi greater than the pressure exerted on the pipe by the groundwater above the pipe. Allow the air pressure to stabilize after it has reached 4 psig. As the air temperature stabilizes, the air pressure will normally drop. When the pressure has stabilized at 3.5 psig, allow the pressure to drop to 2.5 psig. The time it takes the pressure to drop from 3.5 psig to 2.5 psig shall be recorded. If the time it takes the pressure to drop exceeds the time permitted, the line has passed. If the time is less than allowable, the line has failed.
 - b. The air pressure test should not be used when the pipe is submerged in groundwater, because the static water pressure will greatly affect the results. The water infiltration test will be used in this case.
 - c. For sections of pipe less than 36-inch average inside diameter, the minimum time allowable for the pressure to drop from 3.5 pounds per

square inch gauge to 2.5 pounds per square inch gauge shall be computed from the following equation:

$$T = 0.085(D)(K)/(Q)$$

where,

T = time for pressure to drop 1.0 pound per square inch gauge in seconds

K = 0.000419(D)(L), but not less than 1.0

D = average inside diameter in inches

L = length of line in feet of same pipe size being tested

Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface shall be used

- d. Since a K value of less than 1.0 shall not be used, there are minimum testing times for each pipe diameter as follows:

AIR TEST TABLE

Pipe Diameter (inches)	Minimum Time (seconds)	Length for Minimum Time (feet)	Time for Longer Length (seconds)
6	340	398	0.855(L)
8	454	298	1.520(L)
10	567	239	2.374(L)
12	680	199	3.419(L)
15	850	159	5.342(L)
18	1020	133	7.693(L)
21	1190	114	10.471(L)
24	1360	100	13.676(L)
27	1530	88	17.309(L)
30	1700	80	21.369(L)
33	1870	72	25.856(L)

- e. For sections of pipe with an average inside diameter less than thirty-six (36) inches, the test may be stopped if no pressure loss has occurred during the first twenty-five percent (25%) of the calculated testing time. If any pressure loss has occurred during the first twenty-five percent (25%) of the testing period, then the test shall be continued for the entire required time.
- f. Lines with an average inside diameter of twenty-seven (27) inches or larger may be air tested at each joint. Pipe with an inside diameter greater than thirty-six (36) inches shall be tested for leakage at each joint. A visual inspection of the line between the joints shall be performed immediately after an air test. Regardless of pipe size there shall be a minimum of ten (10) seconds allowable for the pressure to drop from 3.5 psig to 2.5 psig during a joint test.

- D. Testing Manholes for Leakage. All manholes shall be tested for leakage separate from the collection system lines. Manholes may be tested for leakage via hydrostatic exfiltration testing or vacuum testing.
1. Hydrostatic Exfiltration Testing. All collection lines shall be plugged and the manhole filled with water. If leakage exceeds 0.025 gallons per foot of diameter per foot of head per hour, repairs shall be made to reduce leakage, and retests shall be performed until the leakage is below 0.025 gallons per foot of diameter per foot of head per hour. Concrete manholes may be filled for 24 hours prior to testing to allow for saturation of the concrete.

For all manholes within nine (9) feet of a potable water line, the manhole shall be water tight and tested to have no leakage using the Hydrostatic Exfiltration Testing Method.
 2. Vacuum Testing. All collection lines must be plugged and all lift holes and exterior joints plugged with a non-shrink grout. No grout may be placed in horizontal joints prior to testing. Tighten external clamps to secure test cover using a minimum 60 inch/lb. torque wrench. Place a test head inside top of cone section and inflate seal in accordance with manufacturers recommendations. Create a vacuum of 10 inches of mercury inside manhole. Test begins after vacuum pump is off. If vacuum drops below 9.0 inches of mercury after 2.0 minutes with all valves closed, the manhole fails and a retest must be performed.
- E. Retests. Contractor shall test all sewer facilities and verify that they pass the specified test prior to requesting the Engineer or Owner to witness the tests. Sewer lines or manholes which fail to meet the requirements of the deflection or leak test will be tested again for leakage, after repairs have been completed by the Contractor. The sum of \$50.00 per test, will be deducted from the amount due the Contractor to compensate the Owner for the costs of witnessing any failed tests.

END OF SECTION

TABLE 3.03.A

Go / No Go Mandrel Sizing Guide for Deflection Testing of Installed Sewer Pipe

All Dimensions are in Inches

Stamped Identification	Average Pipe O.D.	Min. Wall Thickness of Pipe	I.D. of Pipe for Mandrel Sizing	O.D. of Mandrel C	Length of Mandrel L
6" ASTM D-3034, SDR 35	6.275	0.180	5.915	5.619	4.436
8" ASTM D-3034, SDR 35	8.400	0.240	7.920	7.524	5.940
10" ASTM D-3034, SDR 35	10.500	0.300	9.900	9.405	7.425
12" ASTM D-3034, SDR 35	12.500	0.360	11.780	11.191	8.835
15" ASTM D-3034, SDR 35	15.300	0.437	14.426	13.705	10.820
18" ASTM F-679, SDR 26	18.701	0.719	17.263	16.400	12.947
21" ASTM F-679, SDR 26	22.047	0.848	20.351	19.333	15.263
24" ASTM F-679, SDR 26	24.803	0.954	22.895	21.750	17.171
27" ASTM F-679, SDR 26	27.953	1.075	25.803	24.513	19.352
6" ASTM D-3034, SDR 26	6.275	0.241	5.793	5.503	4.345
8" ASTM D-3034, SDR 26	8.400	0.323	7.754	7.366	5.816
10" ASTM D-3034, SDR 26	10.500	0.404	9.692	9.207	7.269
12" ASTM D-3034, SDR 26	12.500	0.481	11.538	10.961	8.654
15" ASTM D-3034, SDR 26	15.300	0.588	14.124	13.418	10.593
12" ASTM D-2241, SDR 26	12.750	0.490	11.770	11.182	8.828
10" ASTM D-2241, SDR 26	10.750	0.413	9.924	9.428	7.443
8" ASTM D-2241, SDR 26	8.625	0.332	7.961	7.563	5.971
6" ASTM D-2241, SDR 26	6.625	0.255	6.115	5.809	4.586
12" ASTM D-2241, SDR 21	12.750	0.606	11.538	10.961	8.654
10" ASTM D-2241, SDR 21	10.750	0.511	9.728	9.242	7.296
8" ASTM D-2241, SDR 21	8.625	0.410	7.805	7.415	5.854
6" ASTM D-2241, SDR 21	6.625	0.316	5.993	5.693	4.495
12" ASTM D-1785, Sch. 40	12.750	0.406	11.938	11.341	8.954
10" ASTM D-1785, Sch. 40	10.750	0.365	10.020	9.519	7.515
8" ASTM D-1785, Sch. 40	8.625	0.322	7.981	7.582	5.986
6" ASTM D-1785, Sch. 40	6.625	0.280	6.065	5.762	4.459

ATTORNEY'S REVIEW CERTIFICATION

ATTORNEY'S REVIEW CERTIFICATION

I, the undersigned, _____, the duly authorized and acting legal representative of the _____, do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and am of the opinion that each of the agreements may be duly executed by the proper parties, acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties; and that the agreements shall constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Attorney's signature: _____ Date: _____

Print Attorney's Name: _____

Texas State Bar Number: _____

For more location information
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(P) 979-836-7937

April 29, 2019

Mr. Trey Job, Director of Public Works & Leisure Services
City of Bastrop
1311 Chestnut Street
Bastrop, TX 78602

Re: 2018 TxCDBG Sanitary Sewer Improvements
TxCDBG Contract No. 7218019
City of Bastrop, Texas

Dear Mr. Job:

Bids for the above-referenced project were opened on April 24, 2019. Seven bids were received with the resulting bid tabulation enclosed. The low bid of \$374,765.00 was less than ENGINEER's opinion of probable construction cost.

Barclays Premier Utility Services of Houston, Texas was the apparent low bidder at \$374,765.00. The bid included a bid bond for 5 percent.

Strand Associates, Inc.® has previously worked with Barclays Premier Utility Services on projects for the City of Brenham. Based on our previous experience with this contractor, we have found Barclays Premier Utility Services to be responsible.

Sincerely,

STRAND ASSOCIATES, INC.®

Kelly Hajek, P.E.

Enclosure

c: Janell Foster, Grant Manager

TBPE No. F-8405
TBPLS No. 10030000

4586.003\MKG:mds\R\BRE\Documents\Specifications\Archive\2019\Bastrop, City of\4586.003.1-2018.KMH(16) Specification Letters(a) Resulting Bid Tabulation\042919.docx



STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 10A

TITLE:

City Council shall convene into closed executive session pursuant to Section 551.072 of the Texas Government Code to deliberate the purchase, exchange, lease, or value of real property.

STAFF REPRESENTATIVE:

Lynda Humble, City Manager





STAFF REPORT

MEETING DATE: June 11, 2019

AGENDA ITEM: 11

TITLE:

Take any necessary or appropriate action on matters posted for consideration in closed/executive session

STAFF REPRESENTATIVE:

Lynda Humble, City Manager

