

NOTICE TO BIDDERS

The City of Sweeny will receive sealed bids for Phase III; Sections A, B, and C Sidewalk Improvements until 2pm on Wednesday, September 4, 2013 at the City of Sweeny City Hall, 102 W Ashley Wilson Rd. Sweeny Texas 77480. The sealed bids will be publicly opened and read aloud at the same time and location.

The sealed bids are for three (3) different sections known as Phase III Sections A, B, and C. Each section is to be a separate bid; but the award will be for all three (3) sections.

Bid documents can be accessed via our website: www.ci.sweeny.tx.us or by picking up a bid packet at City Hall.

Any questions regarding the bid please contact: Cindy King, City Manager. 102 W Ashley Wilson Rd. Sweeny TX 77480 - 979-548-3321.

INSTRUCTION TO BIDDERS

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 an interpretation shall be in writing to the City Manager 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 distributed to all parties holding contract documents 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.

3. Inspection of Site

Each bidder should visit the site of the proposed work and fully acquaint himself with the existing conditions there and should fully inform himself as to the facilities involved, the difficulties and the restrictions attending the performance of the contract. The bidder should thoroughly examine and familiarize himself 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 his failure to receive or examine any form or legal document or to visit the site or acquaint himself with the conditions there 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 interlineations, excisions or special conditions may be made or included by the bidder.

- c. Bid documents, including the bid, proof of liability insurance, and the statement of bidders' qualifications shall be sealed in an envelope and clearly labeled with the words "Bid Documents", 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. Statement of Bidders Qualifications

Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The locality shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform his obligations under the contract, and the bidder shall furnish the locality 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 locality that the bidder is qualified to carry out properly the terms of the contract.
7. 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 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.
8. Corrections

Erasures or other corrections in the bid must be noted over the signature of the bidder.
9. 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 specific time has arrived and no bid received thereafter will be considered; except that when that 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 locality 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.

10. Opening of Bids

The locality 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.

11. Withdrawal of Bids

Bids may be withdrawn by written request dispatched for delivery in the normal course of business prior to the bid opening. The bid guaranty of any bidder withdrawing his bid will be returned promptly.

12. 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 locality 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.

13. Wages and Salaries

Attention is particularly called to the requirement of paying not less than the prevailing 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 the local labor conditions.

14. Equal Employment Opportunity

Attention is called to the requirements for ensuring that employees and applicants for employment are not discriminated against because of their race, color, creed, sex or national origin.

15. Substitute and “or – equal” Items

The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or “or-equal” item. No item of material or equipment will be considered as a substitute of “or-equal” unless written request for approval has been submitted by Bidder and has been received by the city at least ten (10) calendar days prior to the date for receipt of Bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed item including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the proposed item would require shall be included. The burden of proof of the merit of the proposed item is upon Bidder. City’s approval or disapproval of a proposed item will be final. If any proposed item is approved, such approval will be set forth in writing. Bidders shall not rely upon approvals made in any other manner.

BID INFORMATION

Sweeny Texas

Sidewalk Phase III; Sections A, B, and C

Proposal of _____ (herein after called bidder) a corporation, organized and existing under the laws of the State of _____ / a partnership / an individual doing business as _____ (cross out non-applicable references)

To the City of Sweeny (herein after called owner)

The bidder in compliance with your invitation for bids for the construction of Phase III Sections A, B, and C sidewalk improvements having examined the plans and specifications with related documents and the site of the proposed work and being familiar with all of the conditions surrounding the construction of the project including the availability of the materials, labor and hereby proposes to furnish all labor, materials, and supplies and to construct the project in accordance with the contract documents, within the time line set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the contract documents of which this proposal is a part.

Bidder hereby agrees to commence work under this contract on or before a date to be specified in a written "Notice to Proceed" of the owner and to fully complete the project within sixty (60) consecutive calendar days thereafter as stipulated in the specifications. Bidder further agrees to pay as liquidated damages, the sum of \$100.00 for each consecutive calendar day thereafter as herein after provided in the general conditions.

Bidder acknowledges addenda as follows:

Bidder agrees to perform all of the following work described in the specifications and shown on the plans for the following unit prices –

Item Number	Estimated Quantity	Description and Unit Price in Words	Unit Price	Section A Section B Section C
1.	1,055 LF (Section A -- 275 LF; Section B -- 390 LF; Section C -- 390 LF)	Furnish and install 4' wide, 4 ½" thick reinforced concrete sidewalk complete in place for the unit price of _____ dollars and _____ cents per linear foot	\$	\$ \$ \$
2.	48 LF	Furnish and install 6" PVC Sch. 40 drain, complete in place for the unit price of _____ dollars and _____ Cents per linear foot	\$	\$ \$ \$
3.	4 EA	Saw cut existing driveway, remove, dispose of and replace each driveway. Price of each _____ dollars and _____ cents	\$	\$ \$ \$
4.		Furnish materials and labor to construct all other items such as tie-ins to existing asphalt		

		<p>and concrete driveways, backfill along new sidewalk edges, relocation of existing mail boxes and signs, and all other items above, to provide a complete and operational facility, complete in place for the lump sum price of each section.</p> <p>A: _____</p> <p>B: _____</p> <p>C: _____</p> <p>dollars and cents</p>		
Total Bid				<p>Section A: _____</p> <p>Section B: _____</p> <p>Section C: _____</p>

The above unit prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance, etc., to cover the finished work of the several kinds called for.

Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of 30 days after the scheduled closing time for receiving bids.

Upon notice of the acceptance of this bid, bidder will execute the formal contract attached within 10 days.

Respectfully submitted,

By _____

Title

Address

STANDARD FORM OF AGREEMENT

State of Texas
County of Brazoria

This agreement, made and entered into this _____ day of _____, A.D. 20___, by and between the City of Sweeny of the County of Brazoria and State of Texas, acting through its Mayor and Councilmen thereunto duly authorized so to do, Party of the First Part, hereinafter termed OWNER, and _____ of the City of _____, County of _____ and State of _____, Party of the Second Part, hereinafter termed CONTRACTOR.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Party of the First Part (OWNER), and under the conditions expressed in the bond bearing even date here-with the said Party of the Second Part (CONTRACTOR), hereby agrees with the said Party of the First Part (OWNER) to commence and complete the construction of certain improvements described as follows:

City of Sweeny, Phase III Sections A, B, and C Sidewalk Improvements

And all extra work in connection therewith, under the terms as stated in the General Conditions of the Agreement and at his (or their) own proper cost and expense to furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said construction, in accordance with the conditions and prices stated in the Proposal attached hereto, and in accordance with the Notice to Contractors, General and Special Conditions of Agreement, Plans and other drawings and printed or written explanatory matter thereof, and the Specifications and addenda therefor, as prepared by City of Sweeny, 102 W. Ashley Wilson Rd. Sweeny TX 77480 – 979-548-3321; each of which has been identified by the CONTRACTOR and the OWNER, together with the CONTRACTORS written Proposal, the General Conditions of the Agreement, and proof of General Liability Insurance hereto attached; all of which are made a part hereof and collectively evidence and constitute the entire contract.

The CONTRACTOR hereby agrees to commence work within ten (10) days after the date written notice to do so shall have been given to him, and to substantially complete the same

within 60 (calendar days) after the date of the notice to commence work, subject to such extensions of time as are provided by the General and Special Conditions.

The OWNER agrees to pay the CONTRACTOR in current funds the price or prices shown in the Proposal, which forms a part of this contract, such payments to be subject to the General and Special Conditions of the contract.

IN WITNESS WHEREOF, the parties to these presents have executed this agreement in the year and date first above written.

City of Sweeny

Party of the First Part (Owner)

Party of the Second Part (Contractor)

BY: _____

ATTEST:

ATTEST:

Reviewed by:

City Attorney

(Seal)

(Seal)

GENERAL CONTRACT CONDITIONS

Contract and Contract Documents

The project to be constructed pursuant to this contract will be financed by the City with assistance from the SEDC and is subject to applicable Federal and State laws and regulations.

The Plans, Specifications and Addenda, hereinafter enumerated in Paragraph 1 of the Supplemental General Conditions shall form part of this contract and the provisions thereof shall be as binding upon the parties hereto as if they were herein fully set forth.

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 Sweeny hereinafter called the Locality and _____, hereinafter called Contractor, of which these GENERAL CONDITIONS form a part.
- B. The term "Project Area" means the area within which are the specified Contract limits of the Improvements contemplated to be constructed in whole or in part under this contract.
- C. 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).

SUPERVISION BY CONTRACTOR

- A. Except where the Contractor is an individual and gives his personal supervision to the work, the contractor shall provide a competent superintendent, satisfactory to the Local Public Agency, on the work at all times during working hours with full authority to act for him. The contractor shall also provide an adequate staff for the proper coordination and expediting of his work.
- B. The Contractor shall lay out his own work and he shall be responsible for all work executed by him under the Contract. He shall verify all figures and elevations before

proceeding with the work and will be held responsible for any error resulting for his failure to do so.

SUBCONTRACTORS

- A. No proposed subcontractor shall be disapproved by the city except for cause.
- B. The Contractor shall be as fully responsible to the city for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them.
- C. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work and required compliance by each subcontractor with the applicable provisions of the Contract.
- D. Nothing contained in the Contract shall create any contractual relation between any subcontractor and the Locality.

FITTING AND CORRDIATION 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.

PAYMENTS TO CONTRACTOR

A. PAYMENT OF EACH SECTION

- 1. After final inspection of each section completed and acceptance by the Locality of all work under the Contract, the Contractor shall prepare his requisition for final payment of each section which shall be based upon the careful inspection of each item of work at the applicable unit prices stipulated in the Agreement. The total amount of the final payment for each section due the Contractor under this contract shall be the amount computed as described above less any and all previous payments.
- 2. The Locality before paying the final estimate 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, if the Locality deems it necessary in order to protect its interest. The Locality may, if it deems such action advisable, 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 Locality under Liquidated Damages, shall be deducted from the final payment due the contractor.
- B. Payments Subject to Submission of Certificates
Each payment to the Contractor by the Locality shall be made subject to submission by the Contractor of all written certifications required of him and his subcontractors.
 - C. Withholding Payments
The Locality may withhold from any payment due the Contractor whatever is deemed necessary to protect the Locality, 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 Locality and will not require the Locality to determine or adjust any claims or disputes between the Contractor and his subcontractors or material dealers, or to withhold any moneys for their protection unless the Locality elects to do so. The failure or refusal of the Locality to withhold any moneys from the Contractor shall in no way impair the obligations furnished under this Contract.

CHANGES IN THE WORK

- A. The Locality 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 of his obligations under the Contract or any guarantee given by him pursuant to the Contract provisions. All such work shall be executed under the terms of the original Contract unless it is expressly provided otherwise.
- 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 Locality 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 Agreement, the Locality 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

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 Locality, stating clearly and in detail the basis for 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 Locality and work shall not proceed except at the Contractor's risk, until written instructions have been received by him from the Locality.
- D. If, on the basis of the available evidence, the Locality determines that an adjustment of the Contract Price and / or time is justifiable, a change order shall be executed.

TERMINATION, DELAYS, AND LIQUIDATED DAMAGES

- A. Right of the Locality to Terminate Contract

In the event that any of the provisions of this contract are violated by the Contractor, or by any of his subcontractors, the Locality may serve written notice upon the Contractor 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 Locality shall immediately serve notice to the Contractor. In such event the Locality make 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.

B. Liquidated Damages for Delays

If the work is not completed within the time stipulated in the applicable bid contract provided, the Contractor shall pay to the Locality as fixed, agreed, and liquidated damages (it being impossible to determine the actual damages occasioned by the delay) the amount of \$100.00 for each calendar day of delay, until the work is completed. The Contractor shall be liable to the Locality for the amount thereof.

C. Excusable Delays

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:

1. 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.
2. Any acts of the Locality
3. Causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or the public enemy, acts of another Contractor in the performance of some other contract with the Locality, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions.

Provided, however, that the Contractor promptly notifies the Locality within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the Locality 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 Locality shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

ASSIGNMENT OR NOVATION

The Contractor shall not assign or transfer, whether by an assignment or novation, any of its rights, duties, benefits, obligations, liabilities, or responsibilities under this Contract without the written consent of the Locality; provided however, that assignments to banks or other financial institutions may be made without the consent of the Locality. 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, firms, or corporations rendering such labor or services or supplying such materials, tools or equipment.

DISPUTES

- A. All disputes arising under this Contract or its interpretation except those disputes covered by FEDERAL LABOR STANDARDS PROVISIONS whether involving law or fact or both, or extra work, and all claims for alleged breach of contract shall, within then (10) days of commencement of the dispute, be presented by the Contractor to the Locality for decision. Any claim not presented within the time limit specified in this paragraph shall be deemed to have been waived, except that if the claim is of a continuing character and notice of the claim is not given within ten (10) days prior to the receipt of the Locality.
- B. The Contractor shall submit in detail his claim and his proof thereof
- C. If the Contractor does not agree with any decision of the Locality, he shall in no case allow the dispute to delay the work but shall notify the Locality promptly that he is proceeding with the work under protest.

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 Locality, without whose decision, said discrepancy shall not be adjusted by the Contractor, save only at his own risk and expense.

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 Locality shall decide the question of equality.
- B. The Contractor shall furnish to the Locality 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 Locality may require the Contractor to dismiss from the work such employee or employees as the Locality may deem incompetent, or careless, or insubordinate.

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 Locality promptly after award of the contract. 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. 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 detailed information which will assist the Locality 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 Locality's right to demand full compliance with Contract requirements. After actual deliveries, Locality 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 Locality 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 Locality;
 - 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 Locality will pay all other expenses.

PERMITS AND CODES

- A. The Contractor shall give all notices required by and comply with all applicable 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 Locality. Where the requirements of the drawings and technical specifications fail to comply with such applicable ordinances or codes the Locality 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.

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 Locality.

- B. 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.
- C. 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.

CARE OF WORK

- A. The Contractor shall be responsible for all damages to person or property that occur as a result of his 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. The Contractor shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays, and holidays, from the time the work is commenced until final completion and acceptance.
- C. In an emergency affecting the safety of life, limb or property, including adjoining property, the Contractor, without special instructions or authorization from the Locality is authorized to act at his discretion to prevent such threatened loss or injury, and he shall so act. He shall likewise act if instructed to do so by the Locality.
- D. 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 he shall at his own expense completely repair any damage thereto caused by his operations.
- E. 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 Locality 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 Locality

may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.

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 Secretary 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 Locality with reports concerning these matters.
- D. The Contractor shall indemnify and save harmless the Locality 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 protection for all trenches in excess of a depth of five (5) feet, in the manner specified in the technical specifications and drawings.

SANITARY FACILITIES

The Contractor shall furnish, install and maintain ample sanitary facilities for the workmen. 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 for 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.

USE OF PREMISES

- A. The Contractor shall confine his 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 Locality, and shall not unreasonably

encumber the site or public rights of way with his materials and construction equipment.

- B. The Contractor shall comply with all reasonable instructions of the Locality and all existing state and local regulations regarding signs, advertising, traffic, fires, explosives, danger signals, and barricades.

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 right of way reasonable 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.

INSPECTION

- A. All materials and workmanship shall be subject to inspection, examination, or test by the Locality at any and all times during manufacture or construction and at any and all places where such manufacture or construction occurs. The Locality 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 Locality 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 Locality.
- B. The Contractor shall furnish promptly all materials reasonably necessary for any tests which may be required. All tests by the Locality 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 Locality sufficiently in advance of the back filling or concealing any facilities to permit proper inspection. If any facilities are concealed without approval or consent of the Locality, the Contractor shall uncover for inspection and recover such facilities at his own expense, when so requested by the Locality.
- D. Should it be considered necessary or advisable by the Locality at any time before final acceptance of the entire work to make an examination of work already completed by uncovering the same, 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 his 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 allowed the Contractor and he shall, in addition, if completion of the work of the entire Contract has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

- 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 (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 Locality or its agents shall relieve the Contractor of full responsibility for materials furnished or work performed not in strict accordance with the Contract.

REVIEW BY LOCALITY

The Locality 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 Locality through its authorized representatives or agents.

FINAL INSPECTION

When the Improvements included in this Contract are substantially completed, the Contractor shall notify the Locality in writing that the work will be ready for final inspection on a definite date which shall be stated in the notice. The Locality will make the arrangements necessary to have final inspection commenced on the date stated in the notice, or as soon thereafter as is practicable.

DEDUCTION FOR UNCORRECTED WORK

If the Locality 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 Locality and subject to settlement, in case of dispute, as herein provided.

INSURANCE

The Contractor shall not commence work under this contract until he has obtained all the insurance required under this paragraph and such insurance has been approved by the Locality.

- A. 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 Special Conditions)
- C. Proof of Insurance: The Contractor shall furnish the Locality 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 Locality."

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 him to the Locality 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 in the hands of the Locality. The provisions of this paragraph shall be inserted in all subcontractors 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.

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 Locality 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.

COMPLIANCE WITH AIR AND WATER ACTS

In compliance with the Clean Air Act, as amended, 41 U.S.C. Sec. 7401 et. Seq. and the regulations of the Environmental Protection Agency with respect thereto, the Contractor agrees that:

1. Any facility to be used utilized in the performance of this contract or any subcontract shall not be a facility listed on the EPA List of Violating Facilities pursuant to 40 CFR 15.20.
2. He will comply with all requirements of Section 114 of the Clean Air Act, as amended.

EQUAL EMPLOYMENT OPPORTUNITY

- A. The Contractor will not discriminate against any employee or the applicant for employment because of race, color, religion, sex, 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, or national origin. Such action shall include, but not be limited to the following: employment, promotion, 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 by the owner.

- 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 consideration for employment without regard to race, color, religion, sex or national origin.
- C. The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts for subcontracts for standard commercial supplies or raw materials.
- D. The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions.
- E. Contractors are encouraged to participate in voluntary associations which assist in fulfilling their affirmative action obligations.
- F. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standard of compliance or upon the application of requirements for the hiring of local or other area residents.

PARTIAL USE OF SITE IMPROVEMENTS

The Locality 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.
- C. The period of guarantee stipulated in the Section 132 hereof shall not begin to run until the date of the final acceptance of all work which the Contractor is required to construct under this Contract.

CONTRACT DOCUMENTS AND DRAWINGS

The Local Public Agency will furnish the Contractor without charge copies of the Contract Documents, including Technical Specifications and Drawings. Additional copies requested by the Contractor will be furnished at cost.

CONTRACT PERIOD

The work to be performed under this contract shall commence within the time stipulated by the Locality in the Notice to Proceed, and shall be fully completed within 60 calendar days thereafter.

LIQUIDATED DAMAGES

Since the actual damages for any delay in completion of the work under this contract are impossible to determine, the Contractor shall be liable for and shall pay to the Locality the sum of one hundred (100) dollars as fixed, agreed and liquidated damages for each calendar day of delay from the above stipulated time for completion.

GENERAL REQUIREMENTS TO PROJECT

FENCES, DRAINAGE CHANNELS AND CROP DAMAGE

Boundary fences or other improvements removed to permit this construction shall be replaced in the same location and left in a condition as good or as better than that in which they were found.

Where surface drainage channels are disturbed or blocked during construction, they shall be restored to their original condition of grade and cross section after the work of construction is completed.

The Contractor shall not be held liable for unavoidable damage to crops provided such damage occurs on the construction site provided by the Owner.

DISPOSAL OF WASTE AND SURPLUS EXCAVATION

All trees, stumps, slashing, brush or other debris removed from the site as preliminary to the construction shall be removed from the property and disposed of in a manner approved by the Locality.

All excavated earth in excess of that required for backfilling shall be removed from the job site and disposed of in a satisfactory manner except in the locations where, in the judgment of the Locality, it can be neatly spread over the adjacent area.

WATER FOR CONSTRUCTION

Water used for the mixing of concrete, jetting or flooding trenches, or testing, or any other purposes incidental to this project, will be furnished by the Contractor. If water is obtained from the City's water supply, the Contractor shall make the necessary arrangements for securing and transporting such water and shall take such water in a manner and at such times that will not produce a harmful drain or decrease pressure in the City water system.

CLEAN UP

1. During Construction

The Contractor shall at all times keep the job site as free from all material, debris and rubbish as is practicable and shall remove same from any portion of the job site, when it becomes objectionable, in the opinion of the Locality.

2. Final

Upon completion of the work the Contractor shall remove from the site, all plant materials, tools and equipment belonging to him, and leave the site with an appearance acceptable to the Locality.

The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver over such materials and equipment in a bright, clean, polished and new appearing condition.

LIGHT AND POWER

The Contractor shall provide, at his own expense, temporary lighting and facilities required for the proper prosecution and inspection of the work

PUBLIC UTILITIES AND OTHER PROPERTY TO BE CHANGED

In case it is necessary to change or move the property of any owner or of a public utility, such property shall not be moved or interfered with until ordered to do so by the Locality. The right is reserved to the owner of public utilities to enter upon the limits of the project for the purpose of making such changes or repairs of their property that may be made necessary by performance of this contract.

PROJECT MAINTENANCE

The Contractor shall maintain and keep in good repair the improvements covered by these plans and specifications during the life of his contract. Existing improvements at the project location shall at all times be protected by the Contractor during the construction specified herein. All such improvements shall be left in a condition equal to that prior to the start of construction.

PROPERTY LINES AND MONUMENTS

The Contractor shall protect all property corner markers, and when any markers or monuments are in danger of being disturbed, they shall be properly referenced and if disturbed shall be reset at the expense of the Contractor.

BARRICADES, LIGHTS AND WATCHMEN

Where the work is carried on it or adjacent to any street alley or public place, the Contractor shall at his own cost and expense furnish and erect such barricades, fences, lights, and danger signals, shall provide such watchmen, and shall provide such other precautionary measures for the protection of persons or property and of the work as are necessary. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise the Contractor shall furnish and maintain at least one light at each barricade and sufficient number of barricades shall be erected to keep vehicles from being driven on or into any work under construction. The Contractor shall furnish watchmen in sufficient numbers to protect the work.

The Contractor will be held responsible for all damage to the work due to failure of barricades, signs, lights, and watchmen to protect it, and whenever evidence is found of such damage, the Locality may order the damaged portion immediately removed and replaced by the Contractor at his cost and expense. The Contractor's responsibility for the maintenance of barricades, signs, lights, and for providing watchmen shall not cease until the project shall have been accepted by the Owner.

SPECIAL CONDITIONS

GENERAL

The provisions of this section shall govern in the event of any conflict between them and the "General Contract Conditions"

ADDENDA

Bidders desiring further information or interpretation of the plans or specifications must make request for such information to the Locality, prior to 48 hours before the bid opening. Answers to all such requests will be given in writing to all bidders, in addendum form, and all addenda will be bound with, and made a part of the Contract Documents. No other explanation or interpretation will be considered official or binding. Should a bidder find discrepancies in, or omissions from, the plans, specifications, or other Contract Documents, or should he be in doubt as to their meaning, he should at once notice the Locality in order that a written addendum may be sent to all bidders. Any addenda issued prior to 24 hours of the opening of bids will be mailed or delivered to each Contractor contemplating the submission of a proposal on this work. The proposal as submitted by the Contractor will be so constructed as to include any addenda, if such are issued by the Locality prior to 24 hours of the opening of bids.

PERMITS AND RIGHT OF WAYS

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.

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.

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 Locality 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 Locality with Contractor's written notification of completion or substantial completion.

REFERENCE LINES AND GRADES

Unless otherwise specified, lines and grades shall be furnished by the Locality. 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 Locality ample notice of the time and place where lines and grades will be needed. All stakes, marks, etc. shall be replaced at the Contractors expense.

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.

CONTRACTORS INSURANCE

- A. The limits of liability for the insurance required by the General Conditions shall not be less than the following amounts or greater where required by Laws or Regulations:

Workers Compensation:

- 1. State

Statutory

2. Applicable Federal

Statutory

Contractor's Liability Insurance which shall also include completed operations and product liability coverage and eliminate any exclusion with respect to property under the care, custody and control of Contractor:

- | | |
|--|----------------|
| 1. General Aggregate
(Except Products Completed Operations) | \$1,000,000 |
| 2. Products – Completed Operations
Aggregate | \$1,000,000.00 |
| 3. Personal and Advertising
Injury (per person or organization) | \$500,00.00 |
| 4. Each Occurrence
(bodily injury and property damage) | \$500,000.00 |
| 5. Property Damage Liability Insurance
will provide Explosion. Collapse and
underground coverages where applicable | |

Automobile Liability Insurance:

1. Bodily Injury:
\$250,000 Each Person
\$500,000 Each Accident

Property Damage:
\$250,000 Each Accident

Or

2. Combined Single Limit
(Bodily Injury and Property Damage):
\$500,000 Each Person

B. Pursuant to the Texas Worker's Compensation Commission Rule, TAC § 110.110 the following language is hereby incorporated into this contract:

Worker's Compensation Insurance Coverage

A. 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 limitations, 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.

- B. The Contractor shall provide coverage based on proper reporting of classification codes and payroll amounts and filing any coverage agreements, which meet 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.
- C. The Contractor must provide a certificate of coverage to the owner prior to being awarded the contract.
- D. 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.
- E. The Contractor shall obtain from each person providing services on a project, and provide to the owner.
 - 1. 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
 - 2. No later than seven (7) 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.

- F. The Contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- G. The Contractor shall notify the Owner in writing by certified mail or personal delivery within ten (10) days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- H. 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.
- I. The Contractor shall contractually require each person with whom it contracts to provide services on a project, to:
 - 1. Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011 (44) for all of its employees providing services on the project, for the duration of the project;
 - 2. Provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of that person providing services on the project, for the duration of the project;
 - 3. 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;
 - 4. Obtain from each other person with whom it contracts, and provide to the Contractor;
 - a. A certificate of coverage, prior to the other person beginning work on the project, and
 - b. 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;
 - 5. Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
 - 6. Notify the Owner in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project, and
 - 7. 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.

- J. 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 this 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.
- K. 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 (10) days after receipt of notice of breach from the Owner.

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 he desires.

Name of Bidder: _____ Date Organized: _____

Address: _____ Date Incorporated: _____

Number of years in contracting business under current name: _____

Contracts on hand:

Contract	Dollar Amount	Completion Date

Type of work performed by your company: _____

Have you ever failed to complete any work awarded to you? _____

Have you ever defaulted on a contract? _____

List the projects most recently completed by your firm (include project of similar importance)

Project	Dollar Amount	Mo/ Yr Completed

Major equipment available for this contract:

Attach resumes for the principal member(s) of your organization, including the officers as well as the proposed superintendent for the project.

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the _____ in verification to the recitals comprising the Statement of Bidder's Qualifications.

Executed this _____ day of _____ 20 _____.

By: (signature) _____ Title: _____

(print name) _____

TECHNICAL SPECIFICATIONS

SUMMARY OF WORK

SCOPE OF WORK

This project shall consist of construction of a 4' side sidewalk as shown on the map attached to these specifications. The Contractor shall be responsible for visiting the project site and determining all materials and labor needed to complete installation of the sidewalk. Particular attention should be paid to drainage features and existing obstructions which may require relocation or modification to complete the sidewalk construction. All of the incidental costs shall be included in the Bid Schedule.

END OF SECTION

CONCRETE PAYMENT

GENERAL

SUMMARY

This section gives requirements for Portland cement concrete pavement, with or without curbs, on a prepared subgrade and / or other base material.

RELATED SECTIONS

Section 02223	Excavating, Backfilling, and Compacting for Pavement
Section 03300	Cast – In – Place Concrete

MEASUREMENT AND PAYMENT

Measurement and payment for work covered in this section will be made in accordance with the bid form

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 Materials
AASHTO	American Association of State Highway and Transportation Officials
TxDOT	Texas Department of Transportation
CRSI	Construction Reinforcing Steel Institute

QUALITY ASSURANCE

It shall be the responsibility of the Contractor to produce, concrete pavement of the strength, durability, workability and specified finished; 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 Locality if proportions appear improper in any respect. The Contractor shall comply with all testing laboratory findings and the Locality's decision 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.

DELIVERY, STORAGE, AND HANDLING

- A. Reinforcing Steel. All steel reinforcement shall be stored above the ground on platforms, skids or other supports as approved by the Locality. 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, rust, oil, paint and other material.
- B. Miscellaneous Materials. All miscellaneous materials that are to be used to properly execute the work required to construct concrete pavement shall be stored and handled in accordance with the manufacturer's instructions and / or in a manner that meets with the approval of the Locality.

PRODUCTS

MATERIALS AND / OR EQUIPMENT

- A. Concrete. Provide concrete in accordance with the applicable provisions of Section 03300, Cast – In – Place Concrete. Concrete pavement shall be “Normal Weight Structural Concrete” and shall have a minimum twenty – eight (28) day compression strength of 3,000 pounds per square inch (psi).
- B. Reinforcing Steel and Related Materials. Provide the following steel reinforcement items and related materials:
 - 1. Reinforcing Steel. All steel reinforcing shall be open hearth new billet steel manufactured in the United States and conforming to ASTM A615. All bars shall be Grade 60 with a minimum yield strength of 60,000 pounds per square inch (psi). Unless otherwise shown on the plans, all deformed steel reinforcing shall be #4 bars. All smooth steel reinforcing for doweling expansion and contraction joints shall be plain steel bars conforming to ASTM A-306 Grade 70, shop cut to length, straight, clean and free of rust or scale.
 - 2. Supports for Reinforcing. 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. Concrete blocks or brick will not be accepted.
 - 3. Tie Wire. Use 18 –gauge annealed steel for tie wire.
- C. Expansion Joints. In addition to dowels, provide the following material for expansion joints:

1. Joint Filler Material. Filler material shall be performed expansion joint filler of the bituminous type which conforms to the requirements of ASTM D1751. Unless otherwise shown on the plans, the thickness of the filler material shall be ¾ inch.
 2. Joint Sealing Compound. Joint sealing compound shall conform to the requirements of ASTM C-920, Type S, Grade P or NS.
 3. Backer Rods and Backing Materials. Provide a compressible type material such as closed-cell resilient foam or sponge rubber stock of vinyl, butyl or neoprene, or expanded polyethylene or polyurethane. The diameter of the backer rod shall be at least twenty- five (25) percent larger than the joint reservoir and shall be capable of holding the fluid joint sealing compound in the open joint in place. Backer rods shall be of such a type that it will not bond to the joint sealing compound.
 4. Sleeves. Sleeves for expansion joints shall be 26 – gauge steel or PVC tubes which are capped at one end. Sleeves shall be in accordance with ASTM A120.
- D. Forms. Provide metal or wooden forms to construct the concrete pavement. Wooden forms shall be of sound 2 X material of a depth equal to the required edge thickness of the pavement, free from warps, twists, loose knots, splits or other defects and constructed to provide a straight edge on the concrete. Metal forms shall be of an approved shape and section with a depth of the form equal to the edge depth of the pavement. The metal forms shall be free from warps, bends and kinks and shall be constructed to provide a straight edge on the concrete.

EXECUTION

PREPARATION

- A. General. In addition to any instructions specified herein, the preparations detailed in Section 03300, Cast – In – Place Concrete, paragraph 3.01, shall also apply here as if written in their entirety. This includes, but is not limited to, the minimum twenty – four (24) hour notification that shall be given to the Locality before any concrete is placed.
- B. Subgrade Preparation and Protection. Excavate, prepare, shape, and compact the subgrade to the grades and densities shown on the plans and in accordance with Section 02223, Excavating, Backfilling, and Compacting for Pavement. Subgrade shall be wetted sufficiently to minimize moisture loss from the concrete to the subgrade. Water puddles or muddy areas will not be allowed. Maintain the subgrade in a smooth, compacted condition at the proper grades until the concrete has been placed. No ready mix trucks or other equipment shall be allowed to operate within the forms unless clearance or other job conditions will not allow

operation from outside the forms. If trucks must operate between the forms, the subgrade shall be protected from damage by use of runways. Any ruts or irregularities in the subgrade caused by equipment or by trucking material shall be corrected by second rolling or hand tamping.

ERECTION / INSTALLATION / APPLICATION AND / OR CONSTRUCTION

- A. Placing or Reinforcing Steel. Reinforcing steel to be used in the construction of concrete pavement shall be placed in accordance with the plan details. Unless otherwise shown on the plans, reinforcing shall be #3 deformed bars spaced eighteen (18) inches center to center; installed in a criss – cross pattern such that the longitudinal steel is parallel and the transverse steel is perpendicular to the centerline of the pavement section; and have twelve (12) inch lap splices when joining two (2) individual lengths of rebar together. Lap splices in adjacent bars shall be staggered such that splices do not occur in the same location in adjacent bars, and, where possible, use full length reinforcing steel for executing the work. Steel reinforcing bars shall be tie wire and be securely held in place with bar supports (chairs), or other approved methods, during the placement of the concrete.
- B. Placement of Concrete. Place and compact concrete for the construction of concrete pavement in accordance with the applicable provision for “Normal Weight Structural Concrete” outlines in Section 03300, Cast – In - Place Concrete.
- C. Concrete Pavement Finish. The pavement shall be struck – off and consolidated with mechanical finishing machines or by hand – finishing methods. Associated concrete curbs shall be given the same finish as the concrete pavement.
 - 1. Mechanical Finishing. When mechanical finishing machines are used for finishing, the concrete shall be struck – off at such a height that after consolidation and final finishing, it shall be at the exact elevation as shown on the plans. The mechanical finishing machines shall consist of a power driven transverse finishing machine and a longitudinal finishing machine. Finishing machines shall be equipped with rubber tires for rolling on concrete pavement. The transverse finishing machine shall be provided with two (2) screeds that are accurately adjusted to the pavement slope or crown as indicated on the plans. The transverse finishing machine shall ride on the forms and be so designated and operated as to strike off and consolidate the concrete. The Contractor shall make at least two (2) trips over the pavement area with the transverse finisher but, shall make as many trips over the

pavement area as required to obtain the required grades. The longitudinal finishing machine shall ride on the forms and be equipped with a longitudinal float not less than ten (10) feet in length. The machine shall be so designed and operated as to finish the pavement to the grades and elevations shown on the plans. Just before the concrete becomes non-plastic, the pavement surface shall be belted with a canvas belt with a width between six (6) and ten (10) inches wide and a length at least two (2) feet longer than the pavement width. The belt shall be moved with short strokes transversely across the pavement and advanced rapidly in the longitudinal direction to produce a gritty, textured surface.

2. Hand Finishing. When the pavement is finished by hand, the concrete shall be struck – off with a screed of an approved cross section and a length at least two (2) feet longer than the pavement width. The strike – off screed shall be moved forward with combined transverse and longitudinal motion in the direction the work is progressing, maintaining the screed in contact with the forms and keeping a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to thoroughly compact it and eliminate surface voids. The surface shall then be screeded to the required section. After completion of the strike – off, tamping and transverse screeding, a longitudinal float shall be operated to level the surface to the required grade. Just before the concrete becomes non – plastic, the surface shall be belted with a canvas belt as described in the preceding subparagraph to produce a gritty, textured surface.

- D. Curing the Concrete. All concrete pavement shall be cured for a period of not less than seventy – two (72) hours. Curing of all exposed concrete surfaces shall begin immediately after the completion of the finishing operations. The following are acceptable methods for curing concrete:
 1. Polyethylene Film Curing. After completion of the finishing and after the initial set of the concrete, apply a fine spray of water to the concrete and cover it with a polyethylene film. Place and secure polyethylene film in direct contact with the concrete surface such that an airtight seal is maintained for the entire duration of the specified curing time. Contractor is responsible for preventing and repairing and damage to the polyethylene film during the entire curing time. The polyethylene film blankets are subject to the approval of the Locality. The film blankets shall be rejected at any time when, in the opinion of the Locality, the required airtight seal is not maintained.

2. Curing Compound. After completion of the finishing operations and the disappearance of the free surface moisture, uniformly spray the concrete surface with an approved curing compound. The curing compound membrane shall be applied in accordance with the manufacturer's instructions. If water drops do not bead or water soaks into concrete after application of the curing compound, a full additional coat of compound shall be applied. Contractor is responsible for preventing and repairing any damage to the curing compound membrane during the entire duration of the specified curing time.
- E. Joints. All joints shall be of the types shown and at the location and spacing indicated on the plans. All joints shall be constructed true to line with their faces perpendicular to the pavement. Transverse joints shall be at right angles to the centerline of the pavement and shall extend the full width of the slab. Longitudinal joints shall be installed parallel to the centerline of the pavement. Transverse joints in succeeding lanes shall be placed in line with similar joints in the existing pavement. All joints shall be prepared, finished and cut to provide a groove of sufficient width and depth to receive and retain joint sealing material.
1. Construction Joints. Transverse construction joints of the types shown on the plans shall be placed wherever the placing of concrete is suspended for a period of more than thirty (30) minutes. These transverse joints, when planned, shall be placed at either an expansion joint or at a contraction joint. The joint shall not be allowed within eight (8) feet of a regularly spaced transverse joint. If the pouring of concrete is stopped and a joint is required in these limits, then it shall not be installed and the fresh concrete shall be removed back to the previously spaced regular joint. Dowel assemblies or other approved load transfer devices shall be installed at the joint as required by the plans. Longitudinal construction joints necessary for lane construction shall be of the dimensions and type shown on the plans. These joints shall be either a keyed joint or a butt type joint with dowels. The keyed joint shall be formed by placing a deformed metal plate against the form with the first lane adjacent to the joint is placed. This plate is to be removed with the forms. The edge of the joint shall be finished with an edging or grooving tool and a slot, of the dimensions indicated, shall be formed to receive joint sealing material.
 2. Expansion Joints. Transverse and longitudinal expansion joints shall be installed at the location and spacing as shown on the plans and shall be installed and finished to insure complete separation of the slabs. The expansion joint material shall be of the preformed type conforming to these

specifications. If joints are to be equipped with dowels, they shall be at the spacing and location indicated on the plans. They shall be firmly supported in place, accurately aligned parallel to the pavement grade and the centerline of the pavement by means of dowel support which will remain in the pavement and will insure that the dowels shall be painted with rust preventative paint and greased with an approved lubricant and, in expansion joints, shall be equipped with the specified tight fitting 26 – gauge steel or PVC sleeve. The sleeve shall provide for an unobstructed expansion space of one (1) inch to permit dowel movement. The closed end of the sleeve shall be watertight. In the construction of transverse joints in the pavement with integral curbs, special care shall be taken to see that all transverse extend continuously through the pavement curb. When dowels are not specified, the thickness of the concrete at these joints shall be increased by at least twenty – five (25) percent of the normal pavement thickness to the nearest inch, by not more than two (2) inches. This increased thickness shall slope to the normal pavement thickness in not less than five (5) feet from the joint or to the nearest joint. Following the placement of the concrete, all excess concrete shall be cleaned from the top of the expansion joint material, and before opening to traffic, this space shall be swept clean and filled with a joint sealing compound as specified herein. Following the removal of the forms, any concrete bridging the joint space at the ends shall be removed.

3. Contraction Joints. Transverse contraction joints shall be of the sawed or formed dummy groove type and shall be at the locations and spacing of the dimensions shown on the plans. The joints shall consist of a groove in the top of the slab sawed in the hardened concrete or formed in plastic concrete. When sawed, the groove shall be straight, of a uniform width and depth, and shall be sawed as soon as possible after the placement of the concrete to prevent contraction cracks in the slab. When formed, the groove shall be true to line and shall be uniform with width and depth. The sides of the groove shall be finished even and smooth with an edging tool. Reinforcing steel shall be continued through all contraction joints. Dummy groove contraction joints shall be extended vertically downward $\frac{1}{4}$ of the slab depth from the surface and prior to opening for traffic shall be cleaned and filled with the specified joint sealing material. Longitudinal contraction joints shall be of the deformed metal strip type located according to plans.

- F. Opening to traffic. The Contractor shall erect and maintain barricades to keep the public and construction traffic from traveling on the newly placed concrete pavement. All barricades are subject to the approval of the Locality. Prior to

allowing traffic on the pavement, all joints shall first be sealed, the pavement cleaned, and earth placed against the pavement edges. If approved by the Locality, traffic will be allowed on the pavement after the concrete has been in place for ten (10) days, but will be limited to vehicles with a gross weight of 14,000 pounds or less. After fourteen (14) days, if approved by the Locality, the pavement shall be opened to all traffic except any equipment not licensed for operation on public highways. The opening of the pavement to traffic shall in no way relieve the Contractor from his responsibilities for the work as stated in the Contract and any Conditions thereto.

REPAIR / RESTORATION

Any pavement which does not meet the specified thickness

FIELD QUALITY CONTROL

- A. General. Field quality control shall be in accordance with the applicable provision of Section 03300. Cast – In – Place Concrete, and any other provisions specified herein.
- B. Cores. The thickness of the completed pavement will be determined prior to final acceptance by the measurement of cores taken at such points as the Locality may select. These cores, if taken, shall be at the rate of at least one (1) core for each five-hundred (500) square yards of pavement.

END OF SECTION

CONCRETE FORMWORK

GENERAL

SUMMARY

This section defines the requirements and limitations for the design, construction, erection, and removal of concrete formwork.

RELATED SECTIONS

Section 03300 CAST – IN – PLACE CONCRETE

MEASUREMENT AND PAYMENT

There will be no separate measurement or payment for work performed under this section unless otherwise shown in the bid form.

REFERENCES

The applicable provisions of the following standards shall apply as if written here in their entirety:

ACI American Concrete Institute, "Recommended Practice for Concrete Formwork"

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 for local building codes. The maximum allowable deflection for concrete surfaces exposed to view is 1/240 of the span between structural members.

PRODUCTS

MATERIALS AND 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 Locality 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- ½) 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 affect 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.

EXECUTION

PREPARATION

- A. General. At least 24 hours prior to scheduled concrete placement, notify the Locality that formwork may be inspected. Do not place concrete until forms have been inspected and approved by the Locality.
- B. Preparation of Form Surfaces. Clean all surfaces of forms and embedded objects before placement of concrete. Remove accumulated mortar, grout, rust, debris and 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- releasing 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.

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 Locality access to inspect 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 insure 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 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 Locality 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. Approval is required before reusing any forms. 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

CONCRETE REINFORCEMENT

GENERAL

SUMMARY

This section gives the requirements for the concrete reinforcement to be used in cast – in – place concrete.

RELATED SECTIONS

Sections 03300 Cast – In – Place Concrete

MEASUREMENT AND PAYMENT

There will be no separate measurement or payment for work performed under this section unless otherwise shown in the bid form.

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”

SUBMITTALS

When required by the Locality, submit detailed shop drawings showing the bar locations, splices, sizes, length, type and spacing. Detailing of reinforcement shall be in accordance with the applicable American Concrete Institute (ACI) reference standard.

QUALITY ASSURANCE

When required by the Locality, 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.

DELIVERY, STORAGE, AND HANDLING

All steel reinforcement shall be stored above the ground on platforms, skids, or other supports as approved by the Locality. Reinforcement shall be stored in a location such that 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.

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.

PRODUCTS

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 Locality. When splicing of bars is unavoidable, the number of splices shall be kept in 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 Slices. 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.

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.

EXECUTION

PREPARATION

Notify the Locality at least 24 – hours before concrete placement so that reinforcement may be inspected and errors corrected without delaying the work.

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 the 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 or Reinforcing. No welding or reinforcing steel or splices shall be allowed without the prior approval of the Locality.
- 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 Locality so that revisions can be made before placing the concrete. Cutting of any reinforcement is strictly prohibited without the prior approval of the Locality.

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

CONCRETE JOINTS AND EMBEDDED ITEMS

GENERAL

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.

RELATED SECTIONS

Section 03300 Cast- In – Place Concrete

MEASUREMENT AND PAYMENT

There will be no separate measurement or payment for work performed under this section unless otherwise shown on the bid form.

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."

PRODUCTS

MATERIALS AND / OR EQUIPMENT

- A. Expansion Joint Filler. Use ¾ 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.

EXECUTION

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 Locality 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 prior approval of the Locality.
- C. Construction Joints. Make construction joints only at locations shown on the plan details or as specified in these specifications. Relocation of construction joints is strictly prohibited without the prior approval of the Locality. 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 directed.
 - 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 $\frac{3}{4}$ - 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

CAST – IN – PLACE CONCRETE

GENERAL

SUMMARY

This section gives requirements for normal weight structural concrete, concrete riprap, and pneumatically placed concrete.

RELATED SECTIONS

Section 03100	Concrete Formwork
Section 03200	Concrete Reinforcement
Section 03250	Concrete Joints and Embedded Items

MEASUREMENT AND PAYMENT

There will be no separate measurement and payment for work performed under this section.

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

SYSTEM DESCRIPTION

Four 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

SUBMITTALS

Submit four (4) copies of the following information for the review and approval of the Locality:

- 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, manufacturer's 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.

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 Locality if proportions appear improper in any respect. The Contractor shall comply with all testing laboratory findings and the Locality's decisions in reference to those findings. The Contractor shall pay for the redesign of the concrete mix due to a change in the source of materials.

DELIVERY, STORAGE, AND HANDLING

- A. Cement. Store cement in weathertight buildings, bins or silos to provide protections 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.

PRODUCTS

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 C 150. 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. Fly ash will not be accepted as a substitute for a portion of the Portland Cement.
- B. 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.
- C. 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 admixture 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.
- D. 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 gavel 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.
- E. 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.

- F. 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.
- G. 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.
- H. 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. Unless noted or specified otherwise, all concrete shall be Class “C” with a minimum twenty – eight (28) day compressive strength of 3,000 psi.
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 Specifications for Ready Mixed Concrete.” The use of an on - site batch plant is strictly prohibited without the prior approval of the Locality. 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 inspection indicates that lumps or oversized particles are going into the machine, all materials shall be thoroughly mixed and passed through a ¼ inch sieve before being placed in the machine. The minimum mixing time for each batch shall not be less than 1 ½

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.

EXECUTION

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.
- B. Notification. The placement of concrete without the prior approval of the Locality is strictly prohibited. The Contractor shall notify the Locality a minimum of twenty – four (24) hours before placing concrete.
- C. Protection from Adverse Weather. Unless adequate protection is provided, or approval is obtained, 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 by the Contractor and approved by the Locality when the design mix is submitted for approval.

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 approved by the Locality. 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 the 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 approved unit of operation is completed. Placing will not be permitted when, in the opinion of the Locality, 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 meet with the approval of the Locality and 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 or more than three (3) feet in exposed work. Where greater drops are required, a tremie or other approved 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 screened 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 approved by the Locality. All surfaces shall be moist when the concrete is placed. If the surfaces are dry and not consolidated properly, the Locality 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 dimension 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 ration 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, 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 watering and consolidation may be required by the Locality before placement of the 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 foreman, gunmen, nozzle men, and rodmen shall be employed and satisfactory written evidence of such experience shall be furnished to the Locality 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 Locality before application

2. 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 ¼ 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 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: Provide smooth – rubbed finish on scheduled concrete surfaces that have received smooth – formed finish treatment not later than 1 day after form removal.

(1) Moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color or texture. Do not apply cement grout other than that created by the rubbing process.

C. 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 be 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 Locality as to color, quality, and moisture retention, may be used. Apply curing compound in accordance with manufacturer's instructions.

FIELD QUALITY CONTROL

- A. General. The owner shall obtain the services of an independent qualified testing laboratory to perform the required testing and inspection 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 Locality. The maximum permissible slump for concrete shall be as follows:

<u>Location of Concrete</u>	<u>Maximum Slump (in)</u>
Reinforced foundation walls and footings	4"
Plain footings and piers	3"
Slabs, beams and reinforced walls	4"
Pavements	2"

- 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 test cylinder 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 Locality, prevailing job site conditions

necessitate cylinders to be cured under job conditions. Testing of concrete test cylinders shall be done by the testing laboratory in accordance with the provision 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 Locality shall have the right to require changes in the mix design, require additional curing time, change the batching process, or take other necessary actions to insure that the concrete being placed in the work will meet the specified strength requirements.

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

ATTORNEY'S REVIEW CERTIFICATION

I, the undersigned, Richard C. Stevenson, the duly authorized and acting legal representative of the City of Sweeny do hereby certify as follows:

I have examined the attached contract (s) 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 of 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: _____

Ashley Wilson Road

Administrative
Office

Proposed side walk

Concrete
Ex.

Ditch line Closed

School Parking lot
open field-practice field

1102
E/m

D X

1006
E/m

D X

1004
E/m

D X

1002
E/m

Proposed Side Walk

Ditch line open

Ditch line open

Ditch line Open

Friskie lane



Note--total ft on side walk 1055'
Already concrete High school parking lot 405'

ROB
12-22-2010

