

<p>BID FORM</p> <p>CONCRETE WORK</p>
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The undersigned agrees to perform work in accordance with specifications and ordinances of the City of Mount Pleasant for installation of curb and gutter, valley gutter, and/or street installations at locations designated by the City of Mount Pleasant.

		Unit Price:	Estimated Need:	Total
1)	Curb and Gutter (per linear foot)	\$ _____	1,600 L.Ft.	\$ _____
2)	Valley Gutter (per square foot)	\$ _____	3,000 Sq.Ft.	\$ _____
3)	Driveway Approaches (per square foot)	\$ _____	2,000 Sq.Ft.	\$ _____
4)	Streets (pavement) (per square foot)	\$ _____	10,000 Sq.Ft.	\$ _____
5)	Culverts (per square foot)	\$ _____	2,000 Sq. Ft.	\$ _____
6)	Miscellaneous (Rip Rap, Headwalls, Toe Ditches, etc.) (per square foot)	\$ _____	1,000 Sq Ft.	\$ _____
7)	Price for Sidewalks (per square foot)	\$ _____	2,000 Sq. Ft.	\$ _____
8)	Saw Cut			
	Per Curb Cut	\$ _____	50 Cuts	\$ _____
	Per Foot	\$ _____	500 Ft.	\$ _____
9)	Backfilling of Structures (per cubic yard)	\$ _____	100 CY	\$ _____
Total				\$ _____

NAME OF COMPANY:

(If Applicable)

AUTHORIZED SIGNATURE:

(Signature)

(Please Print or Type)

ADDRESS:

TELEPHONE:

DATE:

SPECIFICATIONS FOR CONCRETE WORK

These specifications are intended to provide information by which prospective bidders may understand the requirements of the City of Mount Pleasant relative to concrete work, which would include curb and gutter, valley gutter, street installations, and other miscellaneous concrete items.

Any exceptions to these specifications by any contractor must be noted in the Remarks section of the "Bid Sheet" furnished or listed on a separate sheet of paper labeled "Exceptions to Specifications". If no exceptions are listed the bidder will be contractually obligated to comply with all of the provisions of these specifications if the bid or a portion thereof is accepted by the City of Mount Pleasant. The City of Mount Pleasant reserves the right to award this bid on a "Total Bid" basis.

A. GENERAL

1. Upon request from the City of Mount Pleasant, the contractor is to install curb and gutter, valley gutter, street installations, driveway approaches, drainage structures, sidewalks, and/or other miscellaneous concrete items at locations designated by the City in accordance with city specifications and ordinances. If work is not completed in a timely manner the City may exercise its right to have work completed by whatever method deemed expedient.
2. The contractor will furnish all necessary equipment, materials and labor for placement of all curb and gutter, valley gutter, street installations, driveway approaches, drainage structures, sidewalks, and/or other miscellaneous concrete items in accordance with city requirements pertaining to such installations.
3. The contractor will take all necessary precautions to protect private property and the public while on the job site.
4. The contractor will be responsible for backfilling, compacting and leveling at all construction locations with the appropriate materials. This work in area's that require 10 cubic yards or less of backfill shall be considered subsidiary to various bid items. Area's that require in excess of 10 cubic yards of backfill will be paid for under the bid price for "Backfilling of Structures". Only the cubic yards in excess of 10 cubic yards will be paid for separately.
5. The City of Mount Pleasant will supply all backfill materials and remove all excess dirt, aggregate and/or obliterated concrete.

B. SPECIFICATIONS

1. Excavation

Excavation shall be made to the required depth and of sufficient width to construct the work to grade form and dimensions. If the excavation is carried below the grade called for, the concrete shall be thickened to compensate for the additional depth of excavation or the area of excess excavation should be backfilled with compact base material or sandy soil stabilized with two (2) sacks of cement per cubic yard.

All concrete work constructed under this item shall be placed on approved natural ground, compacted base material as specified for street construction or on sandy soil stabilized with cement and thoroughly compacted.

2. Forms

The forms shall be of wood or metal, straight and free from warp, and of sufficient strength to resist springing during the process of depositing and compacting the concrete. Straight forms of wood shall be 2" nominal thickness surfaced plank or of metal of an approved section with a flat surface on top and bottom. Forms for use on radii may be of flexible wood or metal. The forms shall be of a depth equal to the depth of concrete section in which they are in contact, and so designed as to permit securely fastening together in correct position. Forms shall be securely staked, braced and firmly held to the required line and grade, refusing leakage of mortar. All forms shall be cleaned thoroughly and wetted before concrete is placed against them.

3. Reinforcement

The steel reinforcement shall be placed as shown on the detail drawing. Steel bars shall be of the size and length specified. The ends of the bars which protrude may be carefully bent at the right angles so as to lay along the form or header while placing concrete; immediately upon removing the forms, the bent and partially embedded portion of the bar shall be carefully pried out and straightened to its final position, care being taken to disrupt the concrete as little as possible. Any damage to concrete shall be immediately corrected.

4. Concreting

No concrete shall be placed unless the sub grade, forms and reinforcement have been checked and approved by the City's Representative. Concrete shall be deposited on a moist sub-grade. During placing, the concrete shall be thoroughly spaded next to the forms and shall be carefully tamped, using an approved tamper, in uniform layers not exceeding six (6") inches in depth, until a uniformly dense concrete is obtained. As soon as the concrete has set sufficiently to retain its shape without support of the forms, the clamps and spreaders may be removed.

5. Construction

Hand Placing. The Contractor shall be responsible for level checking the forms prior to ordering concrete to confirm that a continuous flow line is maintained without water pockets including points of flow out of gutters and valleys crossing streets. Should the forms contain any erratic grade breaks, misalignment or pockets, the contractor shall call them to the attention of the City's representative before ordering concrete. Should any curb and gutter, and/or valleys be constructed with water pockets or obviously erratic grades or misalignment, it shall be the sole option of the City representative whether such portions are removed and reconstructed, left as constructed, or corrected by grinding and/or special overlay.

All honeycombed areas disclosed by removal of forms shall be corrected immediately by use of cement mortar.

Excess working of the surface shall be applied, excess water; laitance and inert materials shall be removed from the surfaces.

The top of all the work and the face of all curbs will be checked for irregularities as soon as the surface is finished, using a ten (10') foot straightedge; all varieties greater than 1/4" in ten (10') feet shall be immediately corrected. The edges of the concrete, including edges at expansion joints, shall be neatly edged with an edging tool.

6. Finish

The exposed surfaces of curbs, curbs and gutter and separate gutters may have a monolithic finish by floating with a wooden float until a slightly excess of sand appears on the surface, or a one-half (1/2") inch mortar surface may be placed while it is perfectly green, and the surface finished by hand trowel finish. The edges shall be neatly rounded off with an edging tool, or a previously placed chamfer board.

7. Curing

Concrete shall be cured by either membrane curing, cotton mats, or two (2) thickness of heavy burlap. If cotton mats or burlap are used, they shall

be kept thoroughly wet for a period of not less than four (4) days, after which time they may be removed. If membrane curing is used, the curing compound shall be applied to concrete surfaces after finishing. Such compound shall conform to ASTM Designation: C309, Type 2, Class A. Membrane curing compound shall be applied in one coat within 30 minutes after final finishing, and at a rate not less than one gallon of compound per 150 square feet of surface. Application shall be by means of pressure type spray equipment.

8. Tests of Concrete and Concrete Aggregates

All specified testing of concrete and concrete aggregates shall be done by an independent testing laboratory selected by the City. All costs for and in connection with such laboratory tests for concrete, including sample procurement, curing storage, protection and transportation of concrete test specimens, and all laboratory fees, shall be assumed and paid by the City. Costs for any testing of concrete aggregates as required by the City will be paid for by the City.

All specified slump tests, concrete control tests of aggregates batched on the job, and the preparation of concrete tests. Specimens shall be done when required by the City and shall be done under the direct supervision of the City. The Contractor shall provide, at his own expense, the services of one or more City's helpers for whatever period of time such assistance is required in the field testing of aggregates, making slump tests, and in the preparation of concrete test specimens. All subsequent handling of test specimens, including storage, curing and delivery to the testing laboratory shall be done by the laboratory and at the expense of the City.

Concrete which contains excess water when delivered to the job site, and which has a slump more than twenty (20%) percent in excess of that of the specification, shall be rejected by the City unless the water-cement ratio is corrected by the addition of cement at the rate of five (5%) percent of the authorized batch cement per inch of excess slump, plus aggregates in regular batch proportions, and the entire batch remixed before the mixer is unloaded.

a) Concrete Aggregate Tests: The City at his discretion may require concrete aggregate tests on samples taken at the source and/or the job site. The concrete aggregates shall be sampled and tested in accordance with all applicable "Methods of Sampling and Tests" designated in ASTM Designation: C33. In addition, the bulk specific gravity of each aggregate used on the work shall be determined in accordance with applicable requirements ASTM Designations: C127 and C128.

b) Concrete Compression Tests: For concrete control and when deemed necessary by the City, two sets of compression test cylinders (two cylinders per set) shall be made each day concrete is placed; an additional set shall be made for each 100 cubic yards placed during that day. Two concrete control test specimens shall be tested at an age of 7 days, and the other two specimens shall be tested at an age of 28 days.

All concrete test specimens shall be made in conformity with ASTM Standard Specification C31, from concrete sampled as specified in the ASTM C172 Method, cured and stored as stipulated in subparagraphs (a) and (b) of Section 7 of ASTM C31 Standard Specification, and tested in conformity with ASTM C39 Standard Method.

c) Tests Reports: The testing laboratory shall distribute copies of all tests directly to the City, Contractor, and other parties designated by the City.

d) Slump Tests: For control of concrete consistency, the slump of the first pour each day and of each fifty (50) cubic yards (or fraction thereof) of the concrete mixed for the work, shall be sampled as specified in ASTM Standard Method C172, and shall be determined in conformity with ASTM Standard Method C1443. Slump tests of transit mixed or other concrete mixed off the site of the work shall be made after its delivery to and at the time of its unloading, at the site of the work.

9. Guaranty

The Contractor shall insure and guarantee the satisfactory operation of all the installation, the workmanship, and restoration of the project area. The project shall be guaranteed to be complete and to function correctly for a period of one year from the date of its acceptance and the Contractor hereby agrees to repair or replace any defective items occurring within that year, free of expense to the City.

C. CONCRETE

1. Materials

Materials shall conform to the requirements of the Specifications described below.

a) Cement: Cement used in concrete shall be Type I standard portland cement conforming to the requirements of the "Standard Specifications for Portland Cement", Type I, ASTM Designation: C150.

b) Aggregates: The volume ratio of fine to total aggregates used in the concrete mix shall not exceed 50%.

The fine aggregate shall be well-graded from coarse to fine and shall comply with the following size requirements:

<u>SIEVE DESIGNATIONS</u> (Square Opening)		<u>PERCENTAGE PASSING</u> (By Weight)
3/8"	Sieve	100
No. 4	Sieve	95-100
No. 8	Sieve	80-100
No. 10	Sieve	50-85
No. 30	Sieve	25-65
No. 50	Sieve	10-35
No. 100	Sieve	0-10

The fine aggregate shall have not more than thirty-five percent (35%) retained between any two consecutive sieves.

The coarse aggregate shall conform to ASTM designation: C33. Grading and size coarse aggregate within the separated size groups shall conform to the following:

<u>SIEVE DESIGNATIONS</u> (Square Opening)		<u>PERCENTAGE PASSING</u> (By Weight)
1-1/2	Inch	100
1	Inch	95-100
1/2	Inch	25-60
No. 4		0-10
No. 8		0-5

c) Reinforcement Steel: Reinforcement bars shall be deformed steel bars conforming to the requirement of ASTM designation: A615, Grade 60.

d) Limiting Requirements for Concrete: The proportions and quality of the concrete mix shall comply with the following limitations.

<u>Class</u>	<u>Sacks of Cement Per C.Y.</u>	<u>Maximum Water Per Scale</u>	<u>28 Day Compressive Strength</u>	<u>Maximum Slump</u>
B	5.0	6.5 Gal	3000 psi	4 inches

2. Construction Methods

a) Forms: Forms shall conform to the shape, lines, and dimensions of the concrete as stated herein and shall be constructed and maintained in accurate alignment, free from surface irregularities and defects which would impair the concrete surface or appearance of exposed surfaces.

Forms shall not be removed or otherwise disturbed until the concrete has attained sufficient strength to support safely all dead and live loads imposed thereon. Care

shall be taken in form removal and avoid surface gouging, corner or edge breakage, or other damage to the concrete.

b) Transporting Ready-Mix Concrete: Ready-mixed concrete shall be transported on a truck mixer, agitator, or other similar device and shall be discharged at the job within one (1) hour after the cement has been added to the water or aggregates. A truck mixer or agitator used for transporting ready-mixed concrete shall not be loaded, or rated, in excess of 80 percent of the gross volume of the drum.

c) Reinforcement: Steel reinforcement shall be fabricated to conform to the lengths and lines, and accurately positioned as stated herein. Positioning shall be by use of annealed iron wire ties or suitable clips at intersections. All bars shall be bent cold. Bars shall not be rebent or straightened in a manner which would injure or reduce the strength of the material. Reinforcement shall be free and clean of foreign material, including rust, before placement.

When necessary to splice a reinforcing bar, the full strength of each splice shall be developed within the limits of the splice which, in no case, shall have a length less than that stipulated by Building Code, ACI 318.

d) Compacting Concrete: During and immediately after depositing, all concrete shall be thoroughly compacted, and worked around all metal reinforcements and into corners of form, by means of mechanical vibrators and other suitable tools. Care shall be used not to over-vibrate the concrete such that there is segregation of the aggregate within the concrete mix.

e) Finishing Formed Surfaces: All fins and other surface projections shall be removed from formed concrete surfaces in any location except exterior surfaces in contact with earth backfill below finished grade elevations.

Finishing methods used will depend on the age and hardness of the concrete when it is surface finished. The method used in each case shall be acceptable to and approved by the City representative.

The use of a dry carborundum brick may be required for straightening molding lines or removing fins.

f) Finishing Unformed Surfaces: Under-exposed surfaces shall be finished by troweling as follows: When the floated reconsolidated surface has hardened sufficiently to prevent an excess of cement from being drawn to the surface, steel troweling shall be started and performed with a firm pressure which will flatten the sandy texture of the floats surface and produce a dense and uniform surface free of blemishes and trowel marks.

All exposed edges of floated or troweled surfaces shall be edged with a tool of small corner radius. Chamfer board shall be used on all other exposed edges. Edging shall be done in a manner that will not raise the edges or surface of the concrete, leave depressions therein, or otherwise interfere with surface drainage.

D. OTHER

1. A 1/2" premolded expansion joint filler (non-extruding) cut to the dimension (side view) as shown on the curb and gutter detail, shall be used at a spacing not to exceed 40 feet and at the ends of curb returns.
2. Plane of weakness in curb and gutter to be constructed at not to exceed 10 feet, unless otherwise approved by the City Engineer.
3. A 1/2" expansion joint shall be provided in sidewalks at a spacing not to exceed 40 feet and a joint shall be provided between the sidewalk edge and any permanent or solid structure along such walk, such as sidewalks, inlets, entrances, etc.
4. Two 1/2" x 2' deformed bars shall be installed at all construction joints in curb and gutter, and valley gutters.
5. Driveway approaches shall be constructed behind proposed back of curb per detail. Existing concrete driveways shall be saw cut at 5' behind back of curb and oil sand driveways shall be cut 3' behind proposed back of curb. Gravel or dirt driveways shall have surface excavated and stockpiled for replacement with existing material after curb and gutter installation. Existing concrete sidewalks shall be adjusted to proper curb grades by saw cutting 5' behind back of curb and replacement constructed as per standard detail.
6. Excavated material shall be used to fill behind the proposed curb and gutter. Excess fill material shall be removed from the construction area by City.
7. All clearing of existing curb and gutter, culverts, trees, walls, fences, walks, etc. shall be responsibility of contractor to remove and place in a location easily accessible to city crews. No concrete debris to be larger than 4' long and 3' wide.
8. The City will supply necessary top soil and sweep the construction area after cleanup. The City will also repair any street failures prior to concrete placement.

E. HOLD HARMLESS AGREEMENT

Contractor agrees to indemnify and save harmless the City of Mount Pleasant from and against all liabilities, costs or expenses which may accrue against or be charged to or be recovered from the City arising from negligence of the contractor.

F. TERMS OF CONTRACT

1) **Contract period for this contract shall be 1 year beginning 10/01/2020 to 09/30/2021 with the option to extend two (2) additional years** if services from the successful bidder are satisfactory and the bid prices remained unchanged.

2) Notwithstanding the foregoing the contract shall terminate thirty (30) days from the date either party shall receive written notice of termination from the other.

G. PAYMENT FOR SERVICES

Payment for services performed shall be payable on the 10th of each month after receipt of proper invoice.

H. INSURANCE

The contractor shall provide Certificates of Insurance with insurance coverage in the amount specified as follows:

1) GENERAL LIABILITY

Commercial General Liability	Gen. Agg.	-	\$500,000
Per Occurrence	Products	-	\$500,000
	Each Occur.	-	\$500,000
	Fire Damage	-	\$50,000
	Med. Exp.	-	\$5,000

2) AUTOMOBILE LIABILITY

Scheduled Autos	Comb. Single Limit	-	\$500,000
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3) WORKERS COMPENSATION AND EMPLOYEE LIABILITY

Statutory Limits		
Each Accident	-	\$500,000
Disease- Policy Limit	-	\$500,000
Disease-Employee		\$500,000

The City of Mount Pleasant shall be shown as additional insured.