

SECTION 00911 - ADDENDUM 3

PART 1 - GENERAL

1.1 PROJECT INFORMATION

- A. Project Name: South Main Corridor Improvement Project
- B. Engineer: SK Design Group, Inc.
- C. Engineer's Project Number: 16-108.
- D. Date of Addendum: March 5, 2021

1.2 NOTICE TO BIDDERS

- A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.
- C. The date for receipt of bids is *revised* by this Addendum to be **March 15, 2021** at same time and location.

1.3 ATTACHMENTS

- A. This Addendum includes the following attached Documents:
 - 1. Revised UNIT PRICE BID FORM
 - 2. Revised specification section 01270 UNIT PRICES.
 - 3. Revised specification section 01400 QUALITY REQUIREMENTS.
 - 4. C00.51
 - 5. C00.52
 - 6. C00.61
 - 7. C04.00
 - 8. C04.31
 - 9. C08.01
 - 10. C09.00
 - 11. C09.01
 - 12. C09.02
 - 13. C09.11
 - 14. C09.12
 - 15. C09.13

16. C09.14
17. C09.15
18. C09.16
19. C09.17
20. C09.18
21. C09.19
22. C09.20
23. C09.21
24. C09.51
25. C10.02
26. C10.03

1.4 GENERAL REVISIONS

A. The following is a list of additional people that attended the pre-bid meeting by Zoom:

1. Amy Dowis, NWMO Regional Council
2. Trevor (only info given)
3. Bryan Jones, Herzog
4. Jim Lyle, Star Signs
5. Doug Picker, Indigo
6. Will Melton, PSI
7. Jonathon
8. Ken Ashmore, Amino Brothers (asked the prevailing wage law question)
9. Coby Crowl, Kissick
10. Justin Clay, Terracon
11. David Haggard, Capital Electric

B. Questions and Responses

1. Wall Thickness and Reinforcing
 - a. Question: Sheet 10.03 inlet notes note #5 says they have to design the wall thickness and reinforcing. It is about \$850 per inlet to have it designed. Some have thick walls when they are next to the sidewalk per 10.04
 - b. Response: Schedule of wall thickness and reinforcing for inlets requiring special design are shown on sheet C08.01.
2. Pipe
 - a. Question: Item 21 of the bid tab says it is a concrete pipe, but the profile says polymer coated CMP.
 - b. Response: Item 21 is revised to indicate polymer coated CMP.
3. Existing Waterline
 - a. Question: Please provide the size and material for existing waterline being removed or abandoned.
 - b. Response: South Main Street waterline is believed to be 8" cast iron and ductile iron. South Avenue water line is believed to be 12" ductile iron.
4. 6" Concrete Pavement
 - a. Question: What is 6" concrete pavement in bid item 71 intended for?
 - b. Response: The additional 6" concrete pavement as directed by Engineer is mainly intended for residential driveway.
5. Sheet C04.32

- a. Question: Sheet C04.32 is shown 3 times on sheet C04.00 (Overall Site Plan), but there is no sheet C04.32 included in the bid set plans.
 - b. Response: Sheet C04.32 is not included in plans. See sheet C04.81 for intended information. See revised sheet C04.00.
6. Sheet C04.41
- a. Question: Sheet C04.41 is labeled twice on sheet C04.00.
 - b. Response: See revised sheet C04.00. Refer to sheet C04.51 for additional drawing information.
7. Overtime Pay Calculation – Fringe Benefits
- a. Question: Do fringe benefits need to be included in the hourly rate when you calculate overtime pay rate. Some entities interpretation is to include fringe benefits.
 - b. Response: No.

1.5 SPECIFICATION REVISIONS

- A. General: All instances of the March 10, 2021 Bid Date shall be deleted and replaced with March 15, 2021.

The specification sections revised include:

- a. Invitation to Bid
- b. Notice to Contractors
- c. Bid Bond

- B. Unit Price Bid Form: replace the unit price form with the attached updated unit price form.
- C. DBE Submittal Forms: Page 1, Items A and B. Move 6% from Item B to Item A. See red text below:

(A) DBE Contract Goal: By submitting this bid, the bidder certifies that the bidder is familiar with the DBE Program Requirements in this contract. The contract DBE goal for the amount of work to be awarded is **6%** of the total federal project price. The bidder shall also complete the DBE Submittal Form in accordance with the program requirements.

(B) DBE Participation: The bidder certifies that it will utilize DBE's as follows:

 % OF TOTAL FEDERAL CONTRACT

- D. Section 01270 UNIT PRICES: Delete entire section 01270 and replace with attached section 01270.
- E. Section 01400 QUALITY REQUIREMENTS: Paragraph 1.7 Quality Control, sub-paragraph A has been added to assign testing responsibilities. Delete entire section 01400 and replace with attached section 01400

1.6 DRAWING REVISIONS

- A. Delete the following drawing sheets in their entirety and replace with attached revised and clouded drawings, with the revision date of 03/05/2021.
1. C00.51 Revised general sequence of work and Utility notes.
 2. C00.52 Revised Base Bid Quantities.

3. C00.61 Added Typical Section #7 for Highway V
4. C04.00 Revised Sheet number on views
5. C04.31 Added note for Straight Curb and Pavement patch.
6. C08.01 Added note and Schedule.
7. C09.00 Added General Waterline notes and Legend.
8. C09.01 Added stationing to profile view and Revised note in plan view.
9. C09.02 Added stationing to profile view and Revised note in plan view.
10. C09.11 Added stationing to profile view and Revised note in plan view.
11. C09.12 Added stationing to profile view, Revised note in plan view and Added Gate Valve.
12. C09.13 Added stationing to profile view and Revised note in plan view.
13. C09.14 Added stationing to profile view, Revised note in plan view and added 2 gate valves.
14. C09.15 Added stationing to profile view and Revised note in plan view.
15. C09.16 Added stationing to profile view, Revised note in plan view and added gate valve.
16. C09.17 Added stationing to profile view and Revised note in plan view.
17. C09.18 Added stationing to profile view and added gate valve.
18. C09.19 Added stationing to profile view and Revised note in plan view.
19. C09.20 Added stationing to profile view and Revised note in plan view.
20. C09.21 Added stationing to profile view and Revised note in plan view.
21. C09.51 Revised Electrical General notes.
22. C10.02 Added Straight curb and Pavement Patch Details.
23. C10.03 Cleaned Up Notes.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION - NOT USED

END OF SECTION 00911

ITEMIZED BID: The bidder proposes to furnish all labor, materials, equipment, services, etc. required for the performance and completion of the work, as follows:

Note: Refer to Section 01270 for measurement and payment of unit price items. Section 01270 supersedes any other references to measurement and payment in the contract documents.

South Main Corridor Improvement Project
 Project No. STP-4300 (112)

Line	Item Description:	Unit	Quantity	Unit Price	Total
1	Mobilization	Lump Sum	1.0		
2	Temporary Traffic Control	Lump Sum	1.0		
3	Temporary Erosion Control	Lump Sum	1.0		
4	Clearing and grubbing	Lump Sum	1.0		
5	General Demolition	Lump Sum	1.0		
6	Remove existing tree	Each	4.0		
7	Remove existing asphaltic pavement	SY	16370.0		
8	Remove existing concrete pavement	SY	10214.0		
9	Remove existing sidewalk	SY	241.0		
10	Remove existing gravel	SY	5030.0		
11	Remove existing curb and gutter	LF	9353.0		
12	Remove existing wall	LF	154.0		
13	Remove existing water line	LF	7657.0		
14	Abandon existing water line in place and fill with slurry	LF	1530.0		
15	Remove existing storm line	LF	4201.0		
16	Abandon existing storm line in place and fill with slurry	LF	1718.0		
17	Earthwork	Lump sum	1.0		
18.1	15" Dia. RCP Class III Pipe	LF	994.0		
18.2	18" Dia. RCP Class III Pipe	LF	150.0		
18.3	24" Dia. RCP Class III Pipe	LF	148.0		
18.4	30" Dia. RCP Class III Pipe	LF	43.0		
18.5	36" Dia. RCP Class III Pipe	LF	394.0		
18.6	42" Dia. RCP Class III Pipe	LF	46.0		
18.7	48" Dia. RCP Class III Pipe	LF	54.0		
18.8	54" Dia. RCP Class III Pipe	LF	323.0		
18.9	60" Dia. RCP Pipe	LF	58.0		
19.1	54" RCP End Section	Each	1.0		
19.2	60" RCP End Section	Each	2.0		
20	7'x5' RCB Pipe	LF	61.0		
21	57"x38" ARCH Polymer-Coated Pipe	LF	28.0		
22.1	15" Dia. Polymer Coated CMP Pipe	LF	1755.0		
22.2	18" Dia. Polymer Coated CMP Pipe	LF	1228.0		
22.3	24" Dia. Polymer Coated CMP Pipe	LF	1537.0		
22.4	30" Dia. Polymer Coated CMP Pipe	LF	503.0		
22.5	36" Dia. Polymer Coated CMP Pipe	LF	1206.0		
22.6	42" Dia. Polymer Coated CMP Pipe	LF	913.0		

22.7	48" Dia. Polymer Coated CMP Pipe	LF	713.0		
22.8	60" Dia. Polymer Coated CMP Pipe	LF	130.0		
23.1	15" CMP End Section	Each	3.0		
23.2	18" CMP End Section	Each	1.0		
23.3	24" CMP End Section	Each	1.0		
23.4	60" CMP End Section	Each	1.0		
24.1	12" Dia. HDPE Pipe	LF	10.0		
24.2	15" Dia. HDPE Pipe	LF	41.0		
24.3	18" Dia. HDPE Pipe	LF	16.0		
25	6" Dia. PVC-SDR-26 Pipe	LF	31.0		
26	12" Slotted Drain - ADS Duraslot 1260-DS	LF	1415.0		
27	12" Trench Drain - ACO S300K Power Drain	LF	30.0		
28.1	5x3 Curb Inlet	Each	43.0		
28.2	5x4 Curb Inlet	Each	14.0		
28.3	5x5 Curb Inlet	Each	4.0		
28.4	5x6 Curb Inlet	Each	2.0		
28.5	6x5 Curb Inlet	Each	3.0		
28.6	6x6 Curb Inlet	Each	1.0		
28.7	8x4 Curb Inlet	Each	6.0		
28.8	8x5 Curb Inlet	Each	5.0		
28.9	8x6 Curb Inlet	Each	6.0		
28.10	8x7 Curb Inlet	Each	1.0		
28.11	11x4 Curb Inlet	Each	1.0		
29.1	4x4 Grate Inlet	Each	3.0		
29.2	5x5 Grate Inlet	Each	1.0		
29.3	6x5 Grate Inlet	Each	1.0		
29.4	8x6 Grate Inlet	Each	1.0		
30.1	4x4 Area Inlet	Each	1.0		
30.2	8x7 Area Inlet	Each	1.0		
31.1	4x4 Junction Box	Each	4.0		
31.2	5x5 Junction Box	Each	4.0		
31.3	6x5 Junction Box	Each	1.0		
31.4	9x9 Junction Box	Each	1.0		
32	2x3 Nyloplast Curb Inlet	Each	2.0		
33	24" Dia. Nyloplast Inlet	Each	3.0		
34	APWA 18" light blanket rock	CY	16.0		
35	APWA 24" light blanket rock	CY	47.0		
36.1	12" Dia. PVC C900 Waterline including fittings, gate valves, tees, sleeves, reducers, etc.	LF	6732.0		
36.2	10" Dia. PVC C900 Waterline including fittings, gate valves, tees, sleeves, reducers, etc.	LF	226.0		
36.3	8" Dia. PVC C900 Waterline including fittings, gate valves, tees, sleeves, reducers, etc.	LF	689.0		

36.4	6" Dia. PVC C900 Waterline including fittings, gate valves, tees, sleeves, reducers, etc.	LF	1029.0		
36.5	4" Dia. PVC C900 Waterline including fittings, gate valves, tees, sleeves, reducers, etc.	LF	251.0		
37.1	5/8" Water Service Line (Type K copper)	Each	1.0		
37.2	3/4" Water Service Line (Type K copper)	Each	26.0		
37.3	1" Water Service Line (Type K copper)	Each	9.0		
37.4	2" Water Service Line (Type K copper)	Each	11.0		
38	2" Cold Milling	SY	34200.0		
39.1	4" APWA RC Type 1-01 Asphaltic Concrete Base Course with Asphalt Binder PG 64-22 (2 lifts)	TONS	7403.0		
39.2	7" APWA RC Type 1-01 Asphaltic Concrete Base Course with Asphalt Binder PG 64-22 (3 lifts)	TONS	1457.0		
40	Additional asphaltic concrete base course beyond plan quantities as directed by the engineer	TONS	1110.0		
41	2" APWA Type 5-01 Asphaltic Concrete Surface Course with Asphalt Binder PG 64-22	TONS	4713.0		
42	Additional asphaltic concrete surface course beyond plan quantities as directed by the engineer	TONS	707.0		
43	Temporary 6" thick APWA RC Type 1-01 asphaltic concrete base course for temporary traffic access and control	TONS	1200.0		
44.1	6" thick concrete for new pavement full depth base	SY	6613.0		
44.2	8" thick concrete for new pavement full depth base	SY	728.0		
45	4" thick concrete sidewalk	SY	7220.0		
46	APWA untreated compacted aggregate	TONS	13502.0		
47	Concrete curb and gutter	LF	25776.0		
48	Install ADA Ramp	SY	1549.0		
49	Adjust top of existing manhole	Each	10.0		
50	Reinforced Concrete Retaining Wall (any height)	SF of face	3130.0		
51	Retaining wall railing	LF	316.0		
52	Permanent signage	Lump sum	1.0		
53	Traffic signalization at South Main Street / South Avenue	Lump sum	1.0		
54	Traffic signalization at South Main Street / Walmart Drive	Lump sum	1.0		
55	Traffic signalization at South Main Street / Highway "V"/ East South Drive	Lump sum	1.0		
56	Traffic signal interconnect between South Avenue and Highway V	Lump sum	1.0		
57	Wayfinding monument	Each	5.0		
58	Street Lighting	Lump sum	1.0		
59	Underground conduits on the primary and secondary side along with equipment bases. Coordinate with Evergy.	Lump sum	1.0		
60	New Tree Planting	Lump sum	1.0		
61	Erosion control mat	SY	17500.0		
62	Hydro-seeding	Acres	11.0		
63	Sodding	SY	12558.0		
64	Pavement Markings	Lump sum	1.0		
65	6" Residential Concrete Driveway	SY	146.0		
66	8" Concrete Commercial Entrance	SY	9188.0		
67	Fire Hydrant Assembly	Each	13.0		

68	Relocate Pylon sign	Each	3.0		
69	Removal of unsuitable subgrade and replacing with untreated compacted aggregate as directed by the engineer	TONS	2100.0		
70	Additional removal of existing pavement beyond plan quantities as directed by the engineer	SY	400.0		
71	Additional 6" thick concrete beyond plan quantities as directed by the engineer	SY	200.0		
72	New commercial monument sign	Each	2.0		
PART A SUBTOTAL ITEMS 1 - 72*					
73	Conversion of above ground power service to underground power service	Lump sum	1.0		
PART B SUBTOTAL ITEM 73*					
TOTAL PRICE INCLUDES PART A AND PART B					
* due to separate funding sources Bid Form is divided int Part A and Part B					

NOTICE TO BIDDER:
 Bidder must complete the submitted section in its entirety

SECTION 01270 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 01250 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.2 DEFINITIONS

- A. Unit price is a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Methods of measurement and payment for unit prices are specified in this Section.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Section 00412. Specification Sections requirements for materials described under each unit price.
- E. Items Not Listed in the Proposal: There will be no measurement or separate payment for any items of work not specifically identified and listed in the proposal and all costs pertaining thereto will be included in the contract unit price for other items listed in the proposal.

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICE MEASUREMENT AND PAYMENT DESCRIPTIONS

1. Mobilization
 - a. Method of Measurement.
 - 1) There will be no measurement of mobilization. It will be considered a lump sum unit.
 - b. Basis of Payment.
 - 1) Based on the contract lump sum price for mobilization, partial payments will be allowed:
 - a) When 5% or more of the original contract amount is earned, 25% of the mobilization amount will be paid.
 - b) When 10% or more of the original contract amount is earned, another 25% of the mobilization amount will be paid.
 - c) When 25% or more of the original contract amount is earned, another 25% of the mobilization amount will be paid.
 - d) When 50% or more of the original contract amount is earned, the final 25% of the mobilization amount will be paid.
2. Temporary Traffic Control
 - a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) Work shall include, but not be limited to, installing barricades, channelizing devices, temporary construction fence, temporary traffic control signing, temporary pavement markings, utility coordination, coordination with other work, and other incidental items necessary to complete the work shown on the plans.
 - 3) The work shall also include furnishing of flaggers and other traffic control measures and personnel as required for appropriate traffic flow, and the removal of temporary traffic control and restoration to original conditions.
 - b. Basis of Payment.
 - 1) The work will be paid for at the contract lump sum price and will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) The contractor will be required to use an approved schedule of values to determine partial payments.
3. Temporary Erosion Control
 - a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) Temporary Erosion control shall include labor, material, and equipment required for installation of temporary silt fences, temporary protections for curb inlet, grate inlet, area inlets, and pipe outlets, temporary seeding, covering of stockpiles, installation and removal of any and all erosion control devices as designated on the Plans or as determined by the Design Professional for interim conditions of construction to control sediment and erosion in accordance with the requirements of City erosion and sediment

- control standards and MoDOT's requirements where applicable, removal of temporary erosion control measures and restoration to original grades or finish grades shown.
- b. Basis of Payment.
 - 1) Temporary Erosion Control will be paid at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
4. Clearing and Grubbing
- a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) Clearing and Grubbing includes the subsidiary items of topsoil stripping to the depths required by the Geotechnical Engineer, hauling, and stockpiling excess stripped materials, protection of existing trees and vegetation, coordination for relocation / removal of existing utilities, dust control in accordance with specifications, and all related work.
 - 3) The work also includes saw cutting, excavation, removal of items identified including foundations, proper disposal of materials off site, backfilling and restoration as required.
 - b. Basis of Payment.
 - 1) Clearing and Grubbing will be paid at the contract lump sum price, which will be considered full compensation for all labor, materials, equipment, tools and incidentals necessary to perform the described work.
 - 2) Progress payments for this item will be made based on approved schedule of values.
5. General Demolition
- a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) General Demolition shall include removal and legal disposal off project site of existing pipes, concrete islands, walks, trails, roadway signs and all other items being demolished that are not being paid for separately.
 - 3) This item shall also include the salvaging of material as designated on the Plans, and the backfilling of the resulting trenches, holes and pits, and any grading work required to shape, smooth and finish the disturbed areas.
 - b. Basis of Payment.
 - 1) General Demolition will be paid at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
6. Remove Existing Tree
- a. Method of Measurement
 - 1) The pay quantity for Remove Existing Tree will be per required to be removed and actually removed.
 - 2) Work shall include removal of the tree with tree stump and legally disposing of off project site.
 - b. Basis of Payment.

- 1) Remove Existing Tree will be paid at the contract unit price, multiplied by the pay quantity for each tree removed, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
7. Remove Existing Asphaltic Pavement
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Asphaltic Pavement will be per square yard of Asphaltic Pavement actually removed and legally disposed of off project site.
 - b. Basis of Payment.
 - 1) Payment for Remove Existing Asphaltic Pavement will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
8. Remove Existing Concrete Pavement
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Concrete Pavement will be per square yard of Concrete Pavement actually removed and legally disposed of off project site.
 - b. Basis of Payment.
 - 1) Payment for Remove Existing Concrete Pavement will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
9. Remove Existing Sidewalk
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Sidewalk will be per square yard of Sidewalk actually removed and legally disposed of off project site.
 - b. Basis of Payment.
 - 1) Payment for Remove Existing Sidewalk will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
10. Remove Existing Gravel
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Gravel will be per square yard of Gravel actually removed and legally disposed of off project site.
 - b. Basis of Payment.
 - 1) Payment for Remove Existing Gravel will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
11. Remove Existing Concrete Curb and Gutter
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Concrete Curb and Gutter will be the actual length in linear feet of Existing Concrete Curb and Gutter removed and legally disposed of off project site.
 - b. Basis of Payment
 - 1) Payment for Remove Existing Concrete Curb and Gutter will be made at the contract unit price per linear foot of Existing Concrete Curb and Gutter removed multiplied by the pay quantity for said Remove Existing Concrete

Curb and Gutter, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

12. Remove Existing Wall
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Wall will be the actual length in linear feet of Existing Wall removed and legally disposed of off project site.
 - b. Basis of Payment
 - 1) Payment for Remove Existing Wall will be made at the contract unit price per linear foot of Existing Wall removed multiplied by the pay quantity for said Remove Existing Wall, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
13. Remove Existing Water Line
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Water Line will be the actual length in linear feet of Existing Water Line removed and legally disposed of off project site.
 - b. Basis of Payment
 - 1) Payment for Remove Existing Water Line will be made at the contract unit price per linear foot of Existing Water Line removed multiplied by the pay quantity for said Remove Existing Water Line, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
14. Abandon Existing Water Line in Place and Fill with Slurry
 - a. Method of Measurement
 - 1) The pay quantity for Abandon Existing Water Line in Place and Fill with Slurry will be the actual length in linear feet of Existing Water Line abandoned and filled with slurry.
 - b. Basis of Payment
 - 1) Payment for Abandon Existing Water Line in Place and Fill with Slurry will be made at the contract unit price per linear foot of Existing Water Line removed and filled with slurry multiplied by the pay quantity for said Abandon Existing Water Line in Place and Fill with Slurry, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
15. Remove Existing Storm Line
 - a. Method of Measurement
 - 1) The pay quantity for Remove Existing Storm Line will be the actual length in linear feet of Existing Storm Line removed and legally disposed of off project site.
 - b. Basis of Payment
 - 1) Payment for Remove Existing Storm Line will be made at the contract unit price per linear foot of Existing Storm Line removed multiplied by the pay quantity for said Remove Existing Storm Line, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
16. Abandon Existing Storm Line in Place and Fill with Slurry
 - a. Method of Measurement

- 1) The pay quantity for Abandon Existing Storm Line in Place and Fill with Slurry will be the actual length in linear feet of Existing Storm Line abandoned and filled with slurry.
 - b. Basis of Payment
 - 1) Payment for Abandon Existing Storm Line in Place and Fill with Slurry will be made at the contract unit price per linear foot of Existing Storm Line removed and filled with slurry multiplied by the pay quantity for said Abandon Existing Storm Line in Place and Fill with Slurry, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
17. Earthwork
 - a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) Work shall include all grading for full depth pavements, trails, areas outside of shoulders and behind curbs, and areas disturbed by equipment during construction, as necessary.
 - b. Basis of Payment.
 - 1) Earthwork will be paid at the contract lump sum price, which will be considered full compensation for all labor, materials, equipment, tools and incidentals necessary to perform the described work.
 - 2) Progress payments for this item will be made based on approved schedule of values.
18. RCP Pipe
 - a. Method of Measurement:
 - 1) The pay quantity for RCP Pipe will be the actual length in linear feet of the various sizes of RCP Pipe required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for RCP Pipe will be made at the contract unit price per linear foot of the various sizes of RCP Pipe multiplied by the pay quantity for said RCP Pipe, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Payment shall be based on the unit price per linear foot as set forth in the Unit Price Bid Form, per the type and size of pipe, and shall include all costs necessary to complete the work item including, but not limited to, all excavation (earth, rock, shale), bedding, placing, pipe to pipe connections, sealing, backfilling, compacting, grading and removal of excess or unsuitable material, as required by the drawings and specifications.
19. RCP End Section
 - a. Method of Measurement:
 - 1) The pay quantity for RCP End Section will be the actual number of required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.

- b. Basis of Payment
 - 1) Payment for RCP End Section will be made at the contract unit price, multiplied by the pay quantity, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
- 20. 7' x 5' RCB Pipe
 - a. Method of Measurement:
 - 1) The pay quantity for 7'x 5' RCB will be the actual length in linear feet of the various sizes of 7'x 5' RCB required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for 7'x 5' RCB will be made at the contract unit price per linear foot of 7'x 5' RCB multiplied by the pay quantity for said 7'x 5' RCB, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
- 21. 57" x 38" Polymer coated Arch pipe
 - a. Method of Measurement:
 - 1) The pay quantity for 57" x 38" Polymer coated Arch pipe will be the actual length in linear feet of the various sizes of 57" x 38" Polymer coated Arch pipe required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for 57" x 38" Polymer coated Arch pipe will be made at the contract unit price per linear foot of 57" x 38" Polymer coated Arch pipe multiplied by the pay quantity for said 57" x 38" Polymer coated Arch pipe, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
- 22. Polymer Coated CMP Pipe
 - a. Method of Measurement:
 - 1) The pay quantity for Polymer Coated CMP Pipe will be the actual length in linear feet of the various sizes of Polymer Coated CMP Pipe required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for Polymer Coated CMP Pipe will be made at the contract unit price per linear foot of Polymer Coated CMP Pipe multiplied by the pay quantity for said Polymer Coated CMP Pipe, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Payment shall be based on the unit price per linear foot as set forth in the Unit Price Bid Form, per the type and size of pipe, and shall include all costs necessary to complete the work item including, but not limited to, all

excavation (earth, rock, shale), bedding, placing, pipe to pipe connections, sealing, backfilling, compacting, grading and removal of excess or unsuitable material, as required by the drawings and specifications.

23. CMP End Section
 - a. Method of Measurement:
 - 1) The pay quantity for CMP End Section will be the actual number of required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for CMP End Section will be made at the contract unit price, multiplied by the pay quantity, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
24. HDPE Pipe
 - a. Method of Measurement:
 - 1) The pay quantity for will be the actual length in linear feet of HDPE Pipe required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for HDPE Pipe will be made at the contract unit price per linear foot of HDPE Pipe multiplied by the pay quantity for said HDPE Pipe, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
25. 6" PVC SDR-26 Pipe
 - a. Method of Measurement:
 - 1) The pay quantity for will be the actual length in linear feet of 6" PVC SDR-26 Pipe required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for 6" PVC SDR-26 Pipe will be made at the contract unit price per linear foot of 6" PVC SDR-26 Pipe multiplied by the pay quantity for said 6" PVC SDR-26 Pipe, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
26. Slotted Drain - ADS Duraslot 1260-DS
 - a. Method of Measurement:
 - 1) The pay quantity for Slotted Drain - ADS Duraslot 1260-DS will be the actual length in linear feet of Slotted Drain - ADS Duraslot 1260-DS required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and

- specifications. Note, the concrete curb that encases the slotted drain is subsidiary to the slotted drain item.
- 3) Flowable fills required in trenches are subsidiary to this item.
- b. Basis of Payment
 - 1) Payment for Slotted Drain - ADS Duraslot 1260-DS will be made at the contract unit price per linear foot of Slotted Drain - ADS Duraslot 1260-DS multiplied by the pay quantity for said Slotted Drain - ADS Duraslot 1260-DS, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
27. Trench Drain - ACO S300K Power Drain
- a. Method of Measurement:
 - 1) The pay quantity for Trench Drain - ACO S300K Power Drain will be the actual length in linear feet of Trench Drain - ACO S300K Power Drain required and installed.
 - 2) Work shall include trenching, installation of bedding material, pipe installation, and trench backfill in accordance with plan details and specifications.
 - 3) Flowable fills required in trenches are subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for Trench Drain - ACO S300K Power Drain will be made at the contract unit price per linear foot of Trench Drain - ACO S300K Power Drain multiplied by the pay quantity for said trench Drain - ACO S300K Power Drain, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
28. Curb Inlet
- a. Method of Measurement:
 - 1) The pay quantity for Curb Inlet will be the number of various sizes of inlets actually installed.
 - 2) Work shall include furnishing new drainage structure, excavation, bedding, setting of curb inlet at plan location and grade, connecting pipes, grouting, setting lid or top at plan grade, installation of curb and gutter transitions per plan details, backfill and disposal of excess material.
 - b. Basis of Payment
 - 1) Curb Inlet will be paid at the contract unit price, multiplied by the pay quantity for each inlet, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
29. Grate Inlet
- a. Method of Measurement:
 - 1) The pay quantity for Grate Inlet will be the number of inlets actually installed.
 - 2) Work shall include furnishing new drainage structure, excavation, bedding, setting of grate inlet at plan location and grade, connecting pipes, grouting, setting lid or top at plan grade, installation of grate transitions per plan details, backfill and disposal of excess material.
 - b. Basis of Payment
 - 1) Grate Inlet will be paid at the contract unit price, multiplied by the pay quantity for each inlet, which will be considered full compensation for

furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.

30. Area Inlet
 - a. Method of Measurement:
 - 1) The pay quantity for Area Inlet will be the number of structures installed.
 - 2) Work shall include furnishing new drainage structure, excavating, bedding, setting structure to correct plan location and elevation, connecting pipes, grouting, setting lids or tops at plan grade, concrete apron, backfilling and all subsidiary work.
 - b. Basis of Payment
 - 1) Payment will be made at the contract unit price for each structure required, multiplied by the number of structures installed regardless of depth of structure, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Unit price shall include all costs necessary to complete the work item including, but not limited to, all excavation (earth, rock, shale), bedding, placing or building structure, invert construction, structure to pipe connections, final grade adjustments to the top, sealing, curing, backfilling, compacting, grading and removal of excess or unsuitable material, as required by the drawings and specifications.
31. Junction Box
 - a. Method of Measurement:
 - 1) The pay quantity for Junction Box will be the number of structures installed.
 - 2) Work shall include furnishing new drainage structure, excavating, bedding, setting structure to correct plan location and elevation, connecting pipes, grouting, setting lids or tops at plan grade, backfilling and all subsidiary work.
 - b. Basis of Payment.
 - 1) Payment will be made at the contract unit price for each structure required, multiplied by the number of structures installed regardless of depth of structure, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Unit price shall include all costs necessary to complete the work item including, but not limited to, all excavation (earth, rock, shale), bedding, placing or building structure, invert construction, structure to pipe connections, final grade adjustments to the top, sealing, curing, backfilling, compacting, grading and removal of excess or unsuitable material, as required by the drawings and specifications.
32. 2 x 3 Nyloplast Curb Inlet
 - a. Method of Measurement:
 - 1) The pay quantity for 2 x 3 Nyloplast Curb Inlet will be the actual number of required and installed.
 - b. Basis of Payment
 - 1) Payment for 2 x 3 Nyloplast Curb Inlet will be made at the contract unit price, multiplied by the pay quantity, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
33. 24" Diameter Nyloplast inlet
 - a. Method of Measurement:
 - 1) The pay quantity for 24" Diameter Nyloplast inlet will be the actual number of required and installed.

- b. Basis of Payment
 - 1) Payment for 24" Diameter Nyloplast inlet will be made at the contract unit price, multiplied by the pay quantity, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
- 34. APWA 18" Light Blanket Rock
 - a. Method of Measurement
 - 1) The pay quantity for APWA 18" Light Blanket Rock will be per cubic yard actually required and installed.
 - 2) APWA 18" Light Blanket Rock will be measured to the nearest cubic yard acceptably placed per lines and grades shown on the plans.
 - 3) Excavation, backfilling and geotextile fabric will not be measured for payment.
 - 4) Work shall include grading and installation per plan details.
 - b. Basis of Payment
 - 1) Payment for APWA 18" Light Blanket Rock will be made at the contract unit price per cubic yard of APWA 18" Light Blanket Rock installed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) APWA 18" Light Blanket Rock measured as provided above, will be paid for at the contract unit price per cubic yard and shall be full compensation for excavation, quarrying, furnishing, transporting, delivering, placing and maintaining all materials as specified, for all labor, tools, equipment and incidentals necessary to complete the work.
 - 3) No payment will be made for excess thickness nor for material required to replace material lost by rain, wash, wind, erosion, or otherwise, except for additional material ordered in writing by the Design Professional.
- 35. APWA 24" Light Blanket Rock
 - a. Method of Measurement
 - 1) The pay quantity for APWA 24" Light Blanket Rock will be per cubic yard actually required and installed.
 - 2) APWA 24" Light Blanket Rock will be measured to the nearest cubic yard acceptably placed per lines and grades shown on the plans.
 - 3) Excavation, backfilling and geotextile fabric will not be measured for payment.
 - 4) Work shall include grading and installation per plan details.
 - b. Basis of Payment
 - 1) Payment for APWA 24" Light Blanket Rock will be made at the contract unit price per cubic yard of APWA 24" Light Blanket Rock installed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) APWA 24" Light Blanket Rock measured as provided above, will be paid for at the contract unit price per cubic yard and shall be full compensation for excavation, quarrying, furnishing, transporting, delivering, placing and maintaining all materials as specified, for all labor, tools, equipment and incidentals necessary to complete the work.
 - 3) No payment will be made for excess thickness nor for material required to replace material lost by rain, wash, wind, erosion, or otherwise, except for additional material ordered in writing by the Design Professional.
- 36. PVC C900 DR-14 Waterline including fittings, gate valves, tees, sleeves, reducers, etc.
 - a. Method of Measurement.

- 1) The pay quantity for PVC C900 DR-14 Waterline including fittings, gate valves, tees, sleeves, reducers, etc. will be per lineal foot.
 - 2) Work shall include furnishing and installing pipe with all required fittings, gate valves, tees, sleeves, and reducers. The work also includes trenching, bedding, backfill, disposal of excess material connecting to existing and all subsidiary work.
 - b. Basis of Payment.
 - 1) Payment for PVC C900 DR-14 Waterline including fittings, gate valves, tees, sleeves, reducers, etc. will be made at the contract unit price per lineal foot of the various sizes multiplied by the pay quantity for said water service line, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
37. Water Service Line (Type K copper)
 - a. Method of Measurement.
 - 1) The pay quantity for Water Service Line (Type K copper) will be the horizontal length in lineal feet of the size of pipe actually required and installed. The length measured will include the fittings.
 - 2) Water Service Line shall include furnishing pipe, fittings, embedment material, air release valves, and all other related materials, excavating trench, connecting pipes to existing mains, meters, cleaning, testing, removal and proper disposal of existing lines, backfilling and all subsidiary work in accordance with the requirements of the Water Services Department including encasements and thrust blocks, etc.
 - b. Basis of Payment.
 - 1) Payment for Water Service Line will be made at the respective contract unit price for the various sizes and types multiplied by the pay quantity for said pipe, which shall be full compensation for all labor, materials, and equipment necessary to complete the respective unit in place.
 - 2) Meters and connection to existing service lines, where shown on plans are subsidiary to service lines, and will not be measured or paid for.
38. 2" Cold Milling
 - a. Method of Measurement
 - 1) The pay quantity for 2" Cold Milling will be per square yard of 2" Cold Milling actually required and performed.
 - b. Basis of Payment.
 - 1) Payment for 2" Cold Milling will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
39. APWA RC-Type 1-01 Asphaltic Concrete Base Course with Asphalt Binder PG 64-22
 - a. Method of Measurement
 - 1) The pay quantity for APWA RC-Type 1-01 Asphaltic Base Course will be per ton of the various depths and lifts of asphalt base actually required and installed.
 - 2) Application of tack coat on vertical surfaces of pavements and/or each lift is subsidiary to this item. Application of tack coat shall be subsidiary to this item.
 - 3) Any additional material to fill ruts shall be subsidiary to this item.
 - b. Basis of Payment

- 1) Payment for APWA RC-Type 1-01 Asphaltic Surface Course will be made at the contract unit price per ton of asphalt base installed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Price adjustment for asphalt cement shall be per MoDOT Standard Specification Section 109.15.
40. Additional asphaltic concrete base course beyond plan quantities as directed by the engineer
- a. Method of Measurement
 - 1) The pay quantity for additional asphaltic concrete base course will be per ton actually required and installed as directed by Engineer.
 - b. Basis of Payment
 - 1) The work will be paid for at the contract unit price multiplied by the measured quantity, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Price adjustment for asphalt cement shall be per MoDOT Standard Specification Section 109.15.
41. 2" APWA Type 5-01 Asphaltic Concrete Surface Course with Asphalt Binder PG 64-22
- a. Method of Measurement
 - 1) The pay quantity for 2" APWA Type 5-01 Asphaltic Surface Course will be per ton actually required and installed.
 - 2) Application of tack coat on vertical surfaces of pavements and/or each lift is subsidiary to this item. Application of tack coat shall be subsidiary to this item.
 - 3) Any additional material to fill ruts shall be subsidiary to this item.
 - b. Basis of Payment
 - 1) Payment for 2" APWA Type 5-01 Asphaltic Surface Course will be made at the contract unit price per ton of asphalt surface installed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Price adjustment for asphalt cement shall be per MoDOT Standard Specification Section 109.15.
42. Additional asphaltic concrete surface course beyond plan quantities as directed by the engineer
- a. Method of Measurement
 - 1) The pay quantity for additional asphaltic concrete surface course will be per ton actually required and installed as directed by Engineer.
 - b. Basis of Payment
 - 1) The work will be paid for at the contract unit price multiplied by the measured quantity, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Price adjustment for asphalt cement shall be per MoDOT Standard Specification Section 109.15.
43. Temporary 6" thick asphaltic concrete base course for temporary traffic access and control
- a. Method of Measurement
 - 1) The pay quantity for temporary 6" thick asphaltic concrete base course for temporary traffic access and control will be per ton actually required and installed.

- 2) This item will be used for providing convenient access to the adjoining property owners and to maintain three lanes of traffic for as long as possible. This unit price includes
 - 3) The work shall include removal of existing materials, adding 6" of temporary APWA Type 1-01 base course asphalt and removal of the pavement as necessary. Contractor shall work with the Engineer, the city, and the adjoining property owners to maintain access.
 - b. Basis of Payment
 - 1) The work will be paid for at the contract unit price multiplied by the measured quantity, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
 - 2) Price adjustment for asphalt cement shall be per MoDOT Standard Specification Section 109.15.
44. Concrete for New Pavement Base
 - a. Method of Measurement
 - 1) The pay quantity for Concrete for New Pavement Base will be per square yard for various thicknesses actually required and installed.
 - b. Basis of Payment
 - 1) Payment for Concrete for New Pavement Base will be made at the contract unit price per square yard of New Pavement Base constructed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
45. 4" Thick Concrete Sidewalk
 - a. Method of Measurement
 - 1) The pay quantity for 4" Thick Concrete Sidewalk will be per square yard of sidewalk actually required and installed.
 - 2) Work shall include, concrete placement, finishing, curing and form removal.
 - b. Basis of Payment.
 - 1) Payment for 4" Thick Concrete Sidewalk will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
46. APWA Untreated Compacted Aggregate
 - a. Method of Measurement
 - 1) The pay quantity for APWA Untreated Compacted Aggregate will be per ton of various depth of compacted aggregate actually required and installed.
 - 2) Work shall include sub-grade compaction and installing compacted aggregate.
 - b. Basis of Payment.
 - 1) Payment for APWA Untreated Compacted Aggregate will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
47. Concrete Curb and Gutter
 - a. Method of Measurement.
 - 1) The pay quantity for Concrete Curb and Gutter will be the length in lineal feet of Concrete Curb and Gutter actually required and constructed regardless of type of curb and gutter.
 - 2) This quantity includes vertical curb and the patching in front of the curb is subsidiary to the curb quantity.

- 3) The quantities in the contract include the monolithic curbs along both edges of commercial drives.
 - 4) The quantity for the type C curb at commercial entrance is subsidiary to the concrete commercial drive quantity.
 - b. Basis of Payment.
 - 1) Payment for Concrete Curb and Gutter will be made at the contract unit price per lineal foot of Curb and Gutter multiplied by the pay quantity for Concrete Curb and Gutter, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
48. Install ADA Ramp
 - a. Method of Measurement:
 - 1) Install ADA Ramp will be paid for per square yard.
 - 2) Landings, Transitions and detectable warning areas are included in this pay item.
 - 3) The actual detectable warning surface, where shown on the plans, will be subsidiary to this item and will not be separately measured or paid for.
 - b. Basis of Payment
 - 1) Payment for Install ADA Ramp will be made at the contract unit price per square yard multiplied by the pay quantity, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
49. Adjust Top of Existing Manhole
 - a. Method of Measurement:
 - 1) The pay quantity for Adjust Top of Existing Manhole will be the number required and adjusted.
 - 2) Work shall include adjusting of the top of the manhole to raise or lower the elevation of the rim and shall include inspection, removing or adding structure, excavation, backfill, all subsidiary work and, if necessary, repair of the manhole.
 - 3) Adjustment of manhole top may consist of removing adjustment rings, adding adjustment rings, and or replacing the cone section to achieve the new top elevations per the grading plans and as indicated on the demolition drawings. Contractor's unit price per each adjustment shall include any of the conditions listed herein.
 - b. Basis of Payment:
 - 1) Payment will be made at the contract unit price for each manhole top required and adjusted, multiplied by the number of adjusted covers, which shall be full compensation for all labor, materials and equipment necessary to perform the described work.
50. Reinforced Concrete Retaining Wall (any height)
 - a. Method of Measurement
 - 1) The pay quantity for "Reinforced Concrete Retaining Wall (any height)" will be per square foot of face actually required and installed.
 - 2) Reinforced concrete retaining walls shall be constructed per plans, profiles, and the retaining wall details included in the contract drawings.
 - 3) Note, thickness for the wall stem and footings, widths for footing, and wall reinforcing depends on the height of retaining wall. Refer to reinforced concrete retaining wall details on the drawings for specific requirements for different height walls.

- 4) Work shall include surveying, excavation, forming, furnishing and installing all concrete, and reinforcing, removal of forms, underdrain, and backfill per plans and specifications, regardless of the height of wall
 - b. Basis of Payment.
 - 1) Payment for “Reinforced Concrete Retaining Wall (any height)” will be made at the contract unit price multiplied by the measured quantity, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
51. Retaining Wall Railing
- a. Method of Measurement:
 - 1) The pay quantity for Retaining Wall Railing will be the actual length in linear feet of Retaining Wall Railing required and installed.
 - 2) Work shall include furnishing and installing wall railing per plans.
 - b. Basis of Payment
 - 1) Payment for Retaining Wall Railing will be made at the contract unit price per linear foot of Retaining Wall Railing multiplied by the pay quantity for said Retaining Wall Railing, which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
52. Permanent Signage
- a. Method of Measurement:
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) Work shall include installation permanent signs indicated in the plans at the plan location in accordance with the plan details.
 - 3) This work also includes furnishing and installing solar powered Rectangular Rapid Flashing Beacon (RRFB) system.
 - b. Basis of Payment.
 - 1) Permanent Signage will be paid at the contract lump sum price, which will be considered full compensation for all labor, materials, equipment, tools and incidentals necessary to perform the described work.
 - 2) Progress payments for this item will be made based on approved schedule of values.
53. Traffic Signalization at South Main Street / South Avenue
- a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) The work shall include furnishing, installation, testing and adjusting the signals and related equipment, re-adjustment to MoDOT requirements and all subsidiary work for a complete and functioning system. Electric power rough-in will be paid under electric distribution system.
 - 3) The work shall also include removal of existing traffic signal equipment. Note, existing signal equipment to be removed upon installation and operation of the new signal equipment.
 - b. Basis of Payment.
 - 1) Signalization of the South Main Street / South Avenue intersection will be paid for at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.

54. Traffic Signalization at South Main Street / Walmart Drive
 - a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) The work shall include furnishing, installation, testing and adjusting the signals and related equipment, re-adjustment to MoDOT requirements and all subsidiary work for a complete and functioning system. Electric power rough-in will be paid under electric distribution system.
 - b. Basis of Payment.
 - 1) Signalization of the South Main Street / Walmart Drive intersection will be paid for at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
55. Traffic Signalization at South Main Street / Highway ‘V’ / East South Drive
 - a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) The work shall include furnishing, installation, testing and adjusting the signals and related equipment, re-adjustment to MoDOT requirements and all subsidiary work for a complete and functioning system. Electric power rough-in will be paid under electric distribution system.
 - 3) The work shall also include removal of existing traffic signal equipment. Note, existing signal equipment to be removed upon installation and operation of the new signal equipment.
 - b. Basis of Payment.
 - 1) Signalization of the South Main Street / Highway ‘V’ / East South Drive intersection will be paid for at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
56. Traffic signal interconnect between South Avenue and Highway V
 - a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) The work shall include furnishing and installing conduits for fiber optic interconnect, pull boxes, preformed class 5 for fiber optic interconnect. Core drill cabinet bases. Furnish and install the necessary count of fiber optic cable, underground enclosures, splice the required number of port drop cables, etc. and all subsidiary work for a complete and functioning system.
 - b. Basis of Payment.
 - 1) Traffic signal interconnect between South Avenue and Highway V will be paid for at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
57. Wayfinding Monument
 - a. Method of Measurement:

- 1) The pay quantity for Wayfinding Monument will be the number required, furnished, and installed.
 - b. Basis of Payment:
 - 1) Payment will be made at the contract unit price for each monument required and installed, multiplied by the number of installed monuments, which shall be full compensation for all labor, materials and equipment necessary to perform the described work.
58. Street Lighting
- a. Method of Measurement
 - 1) The work will not be measured for payment. It will be considered a lump sum unit.
 - 2) The work shall include removal of existing roadway lighting along the Main Street Corridor. Contractor to provide construction sequencing to ensure that the roadway remains illuminated at all times.
 - 3) All existing roadway lighting to be removed shall remain operational throughout construction and shall be removed after new lighting is installed and fully operational.
 - 4) Coordinate relocation of poles with the City of Maryville. Install new streetlighting and pedestrian lighting combination poles and lighting on shared traffic signal poles per new roadway lighting sheets SE001-SE303.
 - b. Basis of Payment
 - 1) The Work will be paid for at the contract lump sum amount, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
59. Underground Conduits on the Primary and Secondary Side Along with Equipment Bases per Evergy, Coordinate with Evergy.
- a. Method of Measurement
 - 1) The work will not be measured for payment. It will be considered a lump sum unit.
 - 2) All work shall be performed per Evergy standards and specifications. Refer to Project Manual Appendix and Drawings. Contractor shall coordinate all work with Evergy (Brent Hill, brent.hill@evergy.com, 816-387-6285 office, 816-261-5833 cell)
 - b. Basis of Payment
 - 1) The Work will be paid for at the contract lump sum amount, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
 - 3) See item 73 for conversion above ground power service to underground power service.
60. New Tree Planting
- a. Method of Measurement:
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) Work shall include furnishing and installing the various new tree types and sizes in accordance with the plan details.
 - b. Basis of Payment.

- 1) New Tree Planting will be paid at the contract lump sum price, which will be considered full compensation for all labor, materials, equipment, tools and incidentals necessary to perform the described work.
 - 2) Progress payments for this item will be made based on approved schedule of values.
61. Erosion Control Mat
- a. Method of Measurement
 - 1) The payment quantity of Erosion Control Mat will be the amount actually required and installed, measured to the nearest square yard.
 - 2) The work will include fine grading, placing herbicide and fertilizer as necessary, and furnishing and placing Erosion Control Mat, and all related subsidiary work.
 - b. Basis of Payment
 - 1) Payment for Sodding will be made at the Contract Unit Price multiplied by the measured quantity which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
62. Hydro-Seeding
- a. Method of Measurement
 - 1) The payment quantity for Hydro-Seeding will be per acre.
 - 2) All areas disturbed shall be hydro-seeded.
 - 3) The work will include fine grading, furnishing and placing hydro-seed, and all related subsidiary work.
 - b. Basis of Payment
 - 1) Payment for Hydro-Seeding will be made at a lump sum Unit Price which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
63. Sodding
- a. Method of Measurement
 - 1) The payment quantity of sod will be the amount actually required and installed, measured to the nearest square yard.
 - 2) Sprinkler heads affected by construction shall be capped for the duration of construction and the heads replaced at the completion of construction. Any sprinkler appurtenances or lines damaged during construction shall be replaced and shall be subsidiary to the bid item sod.
 - 3) The work will include fine grading, placing herbicide and fertilizer, and furnishing and placing sod, and all related subsidiary work.
 - b. Basis of Payment
 - 1) Payment for Sodding will be made at the Contract Unit Price multiplied by the measured quantity which shall be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
64. Pavement Markings
- a. Method of Measurement.
 - 1) The work provided will not be measured for payment. It will be considered a lump sum unit.
 - 2) The work shall include preparation of the surface, furnishing and applying pavement markings, traffic maintenance, damage repair and all subsidiary work for all roads and parking areas.
 - b. Basis of Payment.

- 1) Pavement Markings will be paid for at the contract lump sum price, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
 - 2) Progress payments for this item will be made based on an approved schedule of values.
65. 6" Residential Concrete Driveway
- a. Method of Measurement
 - 1) The pay quantity for 6" Residential Concrete Driveway will be square yards actually required and constructed.
 - 2) Work shall include, forming and concrete installation, finishing, curing, expansion joints, saw cut joints and joint sealing.
 - 3) Base aggregate as shown on plans is paid for separately.
 - b. Basis of Payment
 - 1) Payment for Residential Concrete Driveway will be made at the contract unit price per square yard of Residential Concrete Driveway constructed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
66. 8" Concrete Commercial Entrance
- a. Method of Measurement
 - 1) The pay quantity for 8" Concrete Commercial Entrance will be square yards of concrete drive actually required and constructed.
 - 2) Work shall include forming and concrete installation, Type C Curb as required by plan details, finishing, curing, expansion joints, saw cut joints and joint sealing.
 - 3) Base aggregate as shown on plans is paid for separately.
 - 4) The quantity for the Type C Curb at commercial entrance will be subsidiary to the Concrete Commercial Entrance quantity.
 - 5) The monolithic curbs along both edges of Concrete Commercial Entrance are paid for at the unit price for Curb and Gutter.
 - b. Basis of Payment
 - 1) Payment for 8" Concrete Commercial Entrance will be made at the contract unit price per square yard of Concrete Commercial Entrance constructed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
67. Fire Hydrant Assembly including 6" Gate Valve
- a. Method of Measurement
 - 1) The pay quantity for Fire Hydrant Assembly including 6" Gate Valve will be per each for the number required.
 - 2) Work shall include trenching, bedding, installation of Fire Hydrant Assembly including 6" Gate Valve according to the standard drawing at the plan location and grade and backfilling.
 - b. Basis of Payment.
 - 1) Payment will be made at the contract unit price for each Fire Hydrant Assembly including 6" Gate Valve, multiplied by the number of fire hydrant assemblies required, which shall be full compensation for all labor, materials and equipment necessary to perform the described work.
68. Relocate Pylon sign
- a. Method of Measurement:
 - 1) The pay quantity for Relocate Pylon Sign will be the number required and adjusted.

- 2) Work shall include design by professional engineer, removal of sign with associated foundation to at least 3 feet in depth, construct new foundation, relocate sign, reconnect to power to make sign operational, and all subsidiary work as necessary.
 - b. Basis of Payment:
 - 1) Payment will be made at the contract unit price for each pylon sign required to be relocated, multiplied by the number of relocated pylon signs, which shall be full compensation for all labor, materials and equipment necessary to perform the described work.
69. Removal of unsuitable subgrade and replacing with APWA untreated compacted aggregate as directed by the engineer.
 - a. Method of Measurement
 - 1) The pay quantity for removal of unsuitable subgrade and replacing with APWA untreated compacted aggregate as directed by the engineer will be per ton actually removed and replaced.
 - 2) The work shall include removal of encountered unsuitable material and replacing with untreated compacted aggregate.
 - b. Basis of Payment
 - 1) The work will be paid for at the contract unit price multiplied by the measured quantity, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
70. Additional removal of existing pavement beyond plan quantities as directed by the engineer
 - a. Method of Measurement.
 - 1) The pay quantity for additional removal of existing pavement, regardless of type, will be per square yard of pavement removal actually required and removed as directed by Engineer.
 - b. Basis of Payment.
 - 1) Payment for additional removal of existing pavement, regardless of type, will be made at the contract unit price per square yard of additional removal of existing pavement, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
71. Additional 6" thick concrete beyond plan quantities as directed by the engineer
 - a. Method of Measurement.
 - 1) The pay quantity for additional 6" thick concrete will be per square yard actually required and installed as directed by Engineer.
 - 2) This item is mainly intended for residential concrete driveway.
 - b. Basis of Payment.
 - 1) Payment for additional 6" thick concrete will be made at the contract unit price per square yard of additional 6" thick concrete required and installed, which shall be full compensation for all labor, materials, and equipment necessary to perform the described work.
72. New Commercial Monument Sign
 - a. Method of Measurement.
 - 1) The pay quantity for New Commercial Monument Sign will be the number required, furnished, and installed.
 - b. Basis of Payment.
 - 1) Payment will be made at the contract unit price for each monument required and installed, multiplied by the number of installed new Commercial Monument Signs, which shall be full compensation for all labor, materials and equipment necessary to perform the described work.

73. Conversion of Above Ground Power Service to Underground Service

a. Method of Measurement.

- 1) The work will not be measured for payment. It will be considered a lump sum unit.
- 2) The contractor is responsible for any service alterations necessary to refeed any electrical services impacted by the relocation and underground conversion.
- 3) The contractor is responsible for contracting with a qualified electrician who will need to place conduit from a pedestal or transformer to the meter location, and any conversion cost associated with the meter socket and service entrance.
- 4) The contractor is responsible for additional cost for underground cable and conduit to refeed private area lights.
- 5) Refer to item 59 for other power related items being paid for separately.

b. Basis of Payment.

- 1) The Work will be paid for at the contract lump sum amount, which will be considered full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the item.
- 2) Progress payments for this item will be made based on an approved schedule of values.

END OF SECTION 01270

SECTION 01400 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Design Professional, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 3. Specific test and inspection requirements are not specified in this Section.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Design Professional.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
 - 1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Design Professional for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Design Professional for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
 - 1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Design Professional.
 - 2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Design Professional.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.

- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 5. Other required items indicated in individual Specification Sections.

- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329 and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - d. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Design Professional with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. **Mockups:** Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by Design Professional.

2. Notify Design Professional seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain Design Professional's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 6. Demolish and remove mockups when directed unless otherwise indicated.
- K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections.

1.7 QUALITY CONTROL

- A. Testing Responsibility:
1. Field testing for pavement subgrade, trench backfill, new asphaltic concrete pavement and new concrete pavement will be performed by a qualified Testing Agency hired by the Owner.
 2. Contractor is responsible for hiring and paying for all plant testing of asphaltic concrete and concrete materials.
 3. Contractor is responsible for all water line testing and disinfection.
- B. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- C. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- D. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of

substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Design Professional and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Design Professional and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Design Professional.
4. Identification of testing agency or special inspector conducting test or inspection.

- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Design Professional's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01700 "Execution Requirements."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400