

**ADDENDUM No. 2
to
CITY OF AMERICAN FORK
BIDDING DOCUMENTS FOR**

**ART DYE SPORTS PARK
BID FILING DATE: MARCH 11, 2019 @ 4:00 PM**

MARCH 21, 2019

The bidding requirements are hereby revised to include the following addition or changes.

Contractors bidding the project shall conform to these revisions and acknowledge receipt of this Addendum on the Bid Form.

GENERAL INFORMATION AND CLARIFICATIONS

All waste material, including all rock and soil, must be removed off site by the general contractor and/or all sub-contractors to the general contractor respectively. Any soil deemed reusable for landscape and/or cut and fill balancing may be temporarily stockpiled on site for reuse as approved by the American Fork City Project Manager. In addition, there are no on-site or adjacent off-site areas that can accommodate waste as a result of construction from this project.

BIDDING REQUIREMENTS (REVIEW AND REVISE)

- 1. BID SCHEDULES – North & South Sites (Excel Format) – Dated March 19, 2019**
 - a. Replace Bid Schedules for both North and South Sites to accommodate updated infield quantities, the addition of one new Alternate Bid Item No. A1.0 (North Site), change former Alternate Bid Item No's, A1.0 and A2.0 to A2.0 and A3.0 (South Site), and change the descriptions for updated Alternative Bid item No.'s 2.0 and 3.0 (South Site). Note that there is now a total of three (3) Alternate Bid Items. These Alternate Bid Items have been renumbered as follow; A1.0, A2.0, A3.0 respectively.
 - b. Replace Page 12 of the Bid Form to accommodate new Alternate Bid item.
 - c. Replace Measurement & Payment to accommodate new Alternate Bid Item.

ADDITIONAL TECHNICAL SPECIFICATIONS

1. Replace SECTION 32 92 23.00 – TURF SOD specification.
2. Replace SECTION 1.2 Measurement & Payment for both North & South Sites.



**AMERICAN FORK - ART DYE PARK (NORTH SITE-BALL FIELDS)
 BID SCHEDULE FOR MARCH 21, 2019**

ITEM NO.	ITEM DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SITE EXCAVATION					
1	MOBILIZATION / DEMOBILIZATION	1	LUMP		
2	CLEAR/GRUBB/CUT & FILL/ADJUST IRR. VALVES (INCLUDE STOCKPILE, SCREENING & REUSE OF SOIL)	1	LUMP		
3	CONSTRUCTION MANAGEMENT AND MATERIALS TESTING & INSPECTION	1	LUMP		
4	EROSION CONTROL & SWPPP (CONTRACTOR TO PROVIDE FINAL PLAN, NOI, AND INSPECTIONS)	1	LUMP		
5	COMPACTED IMPORT GRANULAR FILL FOR PIPE TRENCHES (UTILITIES: WATER, SEWER, STORM)	90	CUBIC YARD		
SUB TOTAL					\$ -

WEST SIDE CURB & GUTTER AND EXISTING SOUTH/SOUTHEAST PARKING IMPROVEMENTS					
6	24" CURB (INCLUDES 6" UNTREATED BASE COURSE (UTBC) & NEW ISLANDS IN EXISTING PARKING)	862	LINEAR FOOT		
7	ADA RAMPS	2	EACH		
8	REMOVE EXISTING CONCRETE SIDEWALK (WEST SIDE PLAZA CELL TOWER ENTRANCE)	1,240	SQUARE FOOT		
9	SAW-CUT AND REMOVE EXISTING ASPHALT (SOUTH/SOUTHEAST PARKING AREA)	2,140	SQUARE FOOT		
10	PARKING STALL STRIPING (NEW ADA STALLS ONLY- EXISTING PARKING)	1	LUMP		
11	12" STOP BAR & CROSSWALK STRIPING (NEW INTERSECTIONS - EXISTING PARKING AREA)	40	LINEAR FOOT		
12	PARKING AND ROADWAY SIGNAGE	32	EACH		
SUB TOTAL					\$ -

SITE UTILITIES					
13	CULINARY WATER - PROVIDE STUB TO RECONNECT EXISTING WATER TO FUTURE BUILDING (6" PVC-SDR35 W/ FITTINGS) - COORDINATE WITH BUILDING CONTRACTOR	1	LUMP		
14	6" WATER SERVICE LATERAL (BLUE BRUTE, VALVE & FITTINGS)	546	LINEAR FOOT		
15	2" WATER SERVICE LATERAL (BLUE CTS POLY & FITTINGS)	160	LINEAR FOOT		
16	2" WATER SERVICE METER & VAULT W/ STOP & WASTE & FITTINGS	1	EACH		
17	FIRE HYDRANT ASSEMBLY (INCLUDES 6" PVC WATERLINE) - KEEP PARTS AND PROVIDE TO CITY	1	EACH		
18	SANITARY SEWER - PROVIDE STUB TO RECONNECT EXISTING SANITARY SEWER TO FUTURE BUILDING (8" PVC-SDR35 W/ FITTINGS) - COORDINATE WITH BUILDING CONTRACTOR	1	LUMP		
19	6" SANITARY SEWER CLEANOUT	1	EACH		
20	STORM DRAIN CATCH BASINS	12	EACH		
21	48" STORM DRAIN MANHOLES	4	EACH		
22	STORM DRAIN CLEANOUTS (ROOF DRAINS)	4	EACH		
23	8" STORM SEWER ADS	520	LINEAR FOOT		
24	15" STORM SEWER ADS	1,320	LINEAR FOOT		
25	18" STORM SEWER ADS	235	LINEAR FOOT		
26	24" STORM SEWER ADS	350	LINEAR FOOT		
27	STORMWATER TREATMENT (TRASH GUARD, CONCRETE END SECTION, RIP RAP)	1	LUMP		
28	ELECTRICAL (PANELS, EQUIPMENT, ALL CONDUIT & WIRE, STUB UP'S TO NEW BUILDING)	1	LUMP		
29	INSTALL MUSCO LED LIGHTING SYSTEM FOR PARKING, PLAZA, AND SIDEWALKS (COMBINE W/ SPORTS LIGHTING INSTALL AS LUMP SUM (SEE ITEM 30))				
SUB TOTAL					\$ -

BALL FIELDS (3-EXISTING UPGRADED FIELDS, 1-NEW 300' FIELD, AND 1-NEW 260' FIELD)					
30	INSTALL MUSCO LED SPORTS FIELD LIGHTING SYSTEM (INCLUDES ALL WIRE & CONDUIT)	1	LUMP		
31	SHADE SAIL 8' X 20' X 8'	10	EACH		
32	SHADE SAIL 14' X 25' X 8'	10	EACH		
33	ALUMINUM 15' DUGOUT BENCH WITH BACK	10	EACH		
34	ALUMINIUM BLEACHERS	10	EACH		
35	SCOREBOARD	5	EACH		
36	BASES/LINE EQUIPMENT/FOUL BARS	3	LUMP		
37	BALL FIELD SIGNAGE (IDENTIFY FIELDS BY INDIVIDUAL FIELD NUMBERS 1 THROUGH 5)	5	EACH		
38	REINFORCED CONCRETE MOW STRIP (16" WIDE - UNDER ALL NEW PERIMETER FENCING)	2,200	SQUARE FOOT		
39	BASEBALL INFIELD MIX (24,600 FT ² @ 4 INCH DEPTH) REPLACE ALL 5- FIELDS)	285	CUBIC YARD		
40	22' GALVANIZED BACKSTOPS WITH 45° TOP CANTILEAVER	2	EACH		
41	6' GALVANIZED CHAINLINK PERIMETER BALLFIELD FENCE (SIDE FIELD FENCING)	450	LINEAR FOOT		
42	12' GALVANIZED CHAINLINK PERIMETER FENCE (OUTFIELD FENCING FOR 3 SOUTH FIELDS ONLY)	1,450	LINEAR FOOT		
43	4" PERFORATED FLEX-DRAIN PIPE (ALONG OUTFIELD PERIMETER FENCING ONLY)	690	LINEAR FOOT		
SUB TOTAL					\$ -

PARK & PLAZA HARDSCAPE					
44	CONSTRUCTION SURVEY	1	LUMP		
45	CONCRETE (5" DEPTH) PLAZA AREA/ SIDEWALK / DUGOUT	51,000	SQUARE FOOT		
46	UNTREATED BASE COURSE (UTBC) (6" DEPTH OVER 51,000 FT ²) PLAZA, SIDEWALK & DUGOUTS	1,780	TON		
47	14' WIDE (6" DEPTH) REINFORCED CONCRETE W/ UNTREATED BASE COURSE - FIRELANE	3,950	SQUARE FOOT		
48	14' WIDE (6" DEPTH) REINFORCED CONCRETE W/ UNTREATED BASE COURSE - CELL TOWER	3,380	SQUARE FOOT		
49	CAST IN PLACE RAISED CONCRETE PLANTERS	5	EACH		
50	4" X 6" CONCRETE LANDSCAPE MOW CURB	600	LINEAR FOOT		
51	INTERNAL DIRECTIONAL SIGNAGE	6	EACH		
52	RETRACTABLE BOLLARDS	7	EACH		
53	BIKE RACKS	3	EACH		
54	TABLES & CHAIRS (COVERED PLAZA AREA)	10	EACH		
55	TRASH RECEPTACLES	12	EACH		
SUB TOTAL					\$ -

PARK, PLAZA, AND BALL FIELDS LANDSCAPE					
56	TOP SOIL FOR PLANTER BEDS (3,642 FT ² @ 6" DEPTH)	68	CUBIC YARD		
57	TOP SOIL FOR TURF SOD AREAS (188,856FT ² @ 4" DEPTH)	2,308	CUBIC YARD		
58	TURF SOD	188,856	SQUARE FOOT		
59	WEED BARRIER FABRIC	3,642	SQUARE FOOT		
60	SHREDDED BARK MULCH (3,645 FT ² @ 4" DEPTH - PLANTER BEDS)	45	CUBIC YARD		
61	2" CALIPER TREE (EXACT PLACEMENT TO BE COORDINATED WITH CITY PM)	73	EACH		
62	5 GALLON SHRUB	97	EACH		
63	1 GALLON SHRUB	188	EACH		
64	IRRIGATION FOR TURF AND PLANTER AREAS	192,498	SQUARE FOOT		
SUB TOTAL					\$ -

NOTE: The quantities within this Bid Schedule are provided as a convenience for the bidder to aid in the bidding process. It will be the responsibility of each bidder to verify all quantities and provide all prices respectively. If additional items are identified beyond what is provided within this bid schedule, the bidder shall provide information and pricing for the item or items as part of their bid. The items will be reviewed by PEC and approved by the City. Any approved items will be added as an addendum accordingly.

BASE BID (NORTH SITE) TOTAL \$ -

Purchased by City and Installed by Contractor

ALTERNATE BID ITEM 1.0 - MUSCO LIGHTING (UTILIZE EXISTING CELL TOWERS (2) IN PLACE OF PROVIDING TWO (2) NEW LIGHT POLES & BASES)					
A.1.0	ADD MUSCO LIGHTING FIXTURES TO EXISTING CELL TOWERS ON EXISTING TWO NORTH FIELDS. (PROVIDE DIFFERENTIAL INSTALL PRICE UTILIZING CELL TOWERS, AND DEDUCT PRICE OF INSTALLING TWO NEW (2) POLES & BASES)	2	EACH		
SUB TOTAL					\$ -

SOCCER FIELDS



AMERICAN FORK - ART DYE PARK (SOUTH SITE-SOCCER FIELDS)
 BID SCHEDULE FOR MARCH 21, 2019

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION/DEMOBILIZATION & SITE EXCAVATION					
1	MOBILIZATION / DEMOBILIZATION	1	LUMP		
2	CLEAR/GRUBB/CUT & FILL (INCLUDE STOCKPILE, SCREENING & REUSE OF SOIL ON-SITE)	1	LUMP		
3	CONSTRUCTION MANAGEMENT & MATERIALS TESTING (PROVIDED BY CONTRACTOR)	1	LUMP		
4	EROSION CONTROL & SWPPP (CONTRACTOR TO PROVIDE FINAL PLAN, NOI, AND INSPECTIONS)	1	LUMP		
5	OVER EXCAVATE NEW PARKING AREAS 12"	1,720	CUBIC YARD		
6	COMPACTED IMPORTED FILL 12"	1,720	CUBIC YARD		
7	COMPACTED IMPORT GRANULAR FILL FOR PIPE TRENCHES (UTILITIES)	560	CUBIC YARD		
SUB TOTAL					\$ -

PARKING LOTS (2) (127 STALLS)					
8	SAW CUT & REMOVE 24" CURB & GUTTER ALONG 550 E. (NEW APPROACHES TO PARKING LOTS, SOUTH WEST SIDE SECTION OF 550 EAST, NORTH EAST CORNER & ADA RAMPS)	660	LINEAR FOOT		
9	24" CURB & GUTTER (INCLUDES 6" UNTREATED BASE COURSE)	2,550	LINEAR FOOT		
10	ADA RAMPS	6	EACH		
11	ASPHALT PAVING (52,535 FT ² @ 3" DEPTH)	985	TON		
12	UNTREATED BASE COURSE (UTBC) (52,535 FT ² @ 6" DEPTH)	1,839	TON		
13	SAW CUT & REMOVE EXISTING ASPHALT	1,750	SQUARE FOOT		
14	8" CONCRETE WATERWAY WITH 6" UTBC BASE	2	EACH		
15	PARKING STALL STRIPING (127 STALLS + 1 @ 18' LONG)	2,304	LINEAR FOOT		
16	12" STOP BAR STRIPING & CROSSWALK STRIPING (2 CROSSINGS)	176	LINEAR FOOT		
17	PARKING AND ROADWAY SIGNAGE (PURCHASED BY CITY INSTALLED BY CONTRACTOR)	10	EACH		
SUB TOTAL					\$ -

SITE UTILITIES					
18	STORM DRAIN CATCH BASINS	3	EACH		
19	48" STORM DRAIN MANHOLES	2	EACH		
20	15" STORM SEWER ADS	420	LINEAR FOOT		
21	24" STORM SEWER ADS	98	LINEAR FOOT		
22	STORMWATER TREATMENT (TRASH GUARD)	1	LUMP		
23	LED LIGHTING - PARKING & STREET (PURCHASED & INSTALLED BY CITY) CONDUIT INSTALLED BY CONTRACTOR (SEE BID ITEM 24 BELOW)				
24	1.5" RIGID PVC CONDUIT W/ DETECTABLE TAPE & PULL ROPE (BURIED AT A MIN. 24" DEPTH)	3,000	LINEAR FOOT		
SUB TOTAL					\$ -

PARK HARDSCAPE					
25	CONSTRUCTION SURVEY	1	LUMP		
26	CONCRETE SIDEWALK (5' WIDE)	9,495	SQUARE FOOT		
27	UNTREATED BASE COURSE (UBC)(6")	414	TON		
28	4" x 6" CONCRETE MOW CURB	50	LINEAR FEET		
29	INTERNAL DIRECTIONAL SIGNAGE	2	EACH		
SUB TOTAL					\$ -

PARK LANDSCAPE / SOCCER FIELDS					
30	TOP SOIL (389,500 FT ² @ 4" DEPTH)	4,761	CUBIC YARD		
31	TOP SOIL (1,100 FT ² @ 6" DEPTH - PLANTER BED NORTH EAST)	21	CUBIC YARD		
32	KENTUCKY BLUE GRASS BLEND SEED MIX	389,500	SQUARE FOOT		
33	WEED BARRIER FABRIC	1,255	SQUARE FOOT		
34	SHREDDED BARK MULCH 1,100FT ² @ 4" DEPTH-PLANTER BED NORHT EAST)	14	CUBIC YARD		
35	2" CALIPER TREE (EXACT PLACEMENT TO BE COORDINATED WITH CITY PM)	64	EACH		
36	5 GALLON SHRUB	12	EACH		
37	1 GALLON SHRUB	9	EACH		
38	IRRIGATION FOR TURF SOD & PLANTER BEDS	390,600	SQUARE FOOT		
SUB TOTAL					\$ -

NOTE: The quantities within this Bid Schedule are provided as a convenience for the bidder to aid in the bidding process. It will be the responsibility of each bidder to verify all quantities and provide all prices respectively. If additional items are identified beyond what is provided within this bid schedule, the bidder shall provide information and pricing for the item or items as part of their bid. The items will be reviewed by PEC and approved by the City. Any approved items will be added as an addendum accordingly.

BASE BID (SOUTH SITE) TOTAL \$ -

Purchased by City and Installed by Contractor

(NIC) Purchased and Installed by City
 (SUPPLY & INSTALL CONDUIT AS REQUIRED.)

ALTERNATE BID ITEM 2.0 - TURF SOD INSTEAD OF SEED					
A.2.0	TURF SOD (PROVIDE DIFFERENTIAL INSTALL UNIT PRICE FOR TURF SOD INSTEAD OF GRASS SEED AS PER LINE ITEM 34 - (E.G., .52 CENTS FOR SOD LESS .12 CENTS FOR SEED = .40 CENTS/FT ²))	398,720	SQUARE FOOT		
SUB TOTAL					\$ -

ALTERNATIVE BID ITEM 3.0 - ANGLED PARKING ALONG 500 EAST (35 STALLS)					
A.3.0	REMOVE EXISTING CURB & GUTTER, SIDEWALK, & LANDSCAPE ALONG 500 E. ADD NEW STORM DRAIN SYSTEM. CORRELATE NEWLY PROPOSED CURB & GUTTER, SIDEWALK AND LANDSCAPE FOR ANGLED PARKING ALONG 500 East PER RELATED BID ITEMS BELOW.	1	LUMP		
A.3.1	24" CURB & GUTTER (INCLUDES 6" UNTREATED BASE COURSE)	560	LINEAR FOOT		
A.3.2	ASPHALT PAVING (6,515 FT ² @ 3" DEPTH)	115	TON		
A.3.3	UTBC (6,515 FT ² @ 6" DEPTH) - PARKING	230	TON		
A.3.4	PARKING STALL STRIPING (35 STALLS + 1 @ 20' LONG)	720	LINEAR FOOT		
A.3.5	48" WIDE CONCRETE WATERWAY	2,000	SQUARE FOOT		
A.3.6	CONCRETE SIDEWALK (10' WIDE)	5,435	SQUARE FOOT		
A.3.7	UTBC (6" DEPTH OVER 18,085 FT ²) - SIDEWALK	138	TON		
A.3.8	TOP SOIL (1,740 FT ² @ 6" DEPTH - PLANTER BEDS)	33	CUBIC YARD		
A.3.9	WEED BARRIER FABRIC	1,740	SQUARE FOOT		
A.3.10	BARK MULCH (1,740FT ² @ 4" DEPTH)	22	CUBIC YARD		
A.3.11	2" CALIPER TREE	5	EACH		
A.3.12	5 GALLON SHRUB	15	EACH		
A.3.13	1 GALLON SHRUB	30	EACH		
A.3.14	IRRIGATION	1,800	SQUARE FOOT		
SUB TOTAL					\$ -

COMBINED ALT. BID TOTALS \$ -

ARTICLE 5 - BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

American Fork – Art Dye Sports Park

BASE BID

TOTAL BASE BID (North Site): \$ _____

TOTAL BASE BID (South Site): \$ _____

TOTAL BASE BID (Combined): \$ _____

ALTERNATE BID

ALTERNATE BID ITEM No. 1.0 (North Site): \$ _____

ALTERNATE BID ITEM No. 2.0 (South Site): \$ _____

ALTERNATE BID ITEM No. 3.0 (South Site): \$ _____

TOTAL ALTERNATE BID (Combined): \$ _____

Unit Prices computed in accordance with paragraph 13.03 B of the General Conditions.

Bidder acknowledges that any quantities shown are not guaranteed and are the sole responsibility of the bidder to confirm. Final payment for all Unit and Lump Price Bid items will be based on actual quantities, as provided in the construction documents and as verified by the bidder. It is the responsibility of the bidder to verify ALL quantities and to provide unit prices and total estimated costs for the project. If additional items are identified beyond what is provided within the bid schedule, the contractor shall provide information and pricing for the item or items prior to construction for review by the engineer and approval by the owner or owner’s representative.

ARTICLE 6 - TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with the Agreement on page 12 of these Bid Documents, Article 5 – Contract Times that include paragraphs 5.01 through 5.04.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages per Article 5, paragraph 5.04.

ARTICLE 7 - ATTACHEMENTS TO THIS BID

7.01 The following documents are attached to and made a condition of the Bid:

- A. Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check);
- B. Contractor's Qualification and Experience Affidavit;
- C. List of Subcontractors;
- D. Evidence of authority to do business in the state or jurisdiction of the Project; or a written covenant to obtain such license within the time frame for acceptance of Bids.

SECTION 1.12

MEASUREMENT AND PAYMENT

(North Site - Ball Fields)

PART 1.12.1 GENERAL

1.12.01 SECTION INCLUDES

- A. Measurement and payment for American Fork Art Dye Sports Park (North Site)

1.12.02 RELATED SECTIONS

- A. Section 1.14 - Unit Prices: Criteria applicable to work performed under a unit price or lump sum price payment method as indicated below. Note that unit prices vary based on the item and install method.

1.12.03 MEASUREMENT AND PAYMENT

- A. Measurement shall be made per bid item and at the various units as described below.
- B. Payment shall be made at the unit price in the bid schedule for the corresponding bid items described below; which shall be payment in full for all costs of furnishing labor, tools, equipment, materials, testing, etc., to complete the items of work as specified and as indicated on the drawings.
- C. Mobilization/Demobilization (Bid Item No. 1)
 - 1. Basis for Measurement: Lump Sum.
 - 2. Basis for Payment: Includes all preparatory work and operations, including, but not limited to, those necessary for movement of personnel, equipment, supplies and incidental items to the project site; for establishment of all offices, buildings and other facilities necessary for work on the project; for obtaining applicable permits; for furnishing, erecting and maintaining all necessary construction signs; for cleanup and demobilization as required; and for all other work and operations which must be performed, or costs incurred, not otherwise paid for prior to beginning work on various items on the project site.
- D. Clear/Grubb/Cut & Fill/Adjust Irrigation Valves (Include stockpile, screening & reuse of soil on-site) (Bid Item No. 2)
 - 1. Basis for Measurement: Lump Sum
 - 2. Basis for Payment: Full compensation for all labor, equipment, and materials required for earthwork operations of the Art Dye Park site including site preparation, clearing, and grubbing, potholing and the demolition of the existing items remaining to be demolished according to Drawings, excavation of the site to the depth and extents shown on the Drawings and required by the Geotechnical Report, placement, and compaction of excavated material onsite, and final site grading and restoration. Any native material reused onsite will be paid for under this item, regardless of any processing, stockpiling, or additional work by Contractor to prepare the material for reuse. Excavation shall include the removal and subsequent handling of all water, earth, shale, loose, or cemented gravel, loose rock, solid rock, and other materials of whatsoever nature excavated or otherwise removed in the performance of contract work.

- E. Construction Management and Materials Testing & Inspection (Bid Item No. 3)
 - 1. Basis for Measurement: Lump Sum
 - 2. Basis for Payment: Payment shall constitute full compensation for construction management and materials testing as required by the City of American Fork. Removal and disposal of waste materials, preparation of site including removing debris, preparing and notifying the City and engineer of all testing and inspections, and all other operations, materials and incidentals required to complete this item as required.
- F. Erosion Control & SWPPP (Include Final plan, NOI, and Inspections) (Bid Items No. 4)
 - 1. Basis for Measurement: Lump Sum
 - 2. Basis for Payment: Implementation of the SWPPP shall be paid for at the lump sum bid price as a percentage of work completed. Payment shall be considered full compensation for completing an approved SWPPP and implementation thereof. The implementation shall include installing and maintaining Best Management Practices (BMPs) defined in the SWPPP, and monitoring and maintaining the requirements of the SWPPP, preparation of required reports, and meeting all other requirements of the Utah Division of Water Quality.
- G. Compacted Import Granular Fill for Pipe Trenches (Utilities: Water, Sewer, Strom) (Bid Items No. 5)
 - 1. Basis for Measurement: Cubic Yard
 - 2. Basis for Payment: Payment shall constitute full compensation for pavement to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- H. 24" Curb & Gutter & New Islands in Existing Parking Lots (Includes 6" Untreated Base Course) (Bid Item No. 6)
 - 1. Basis for Measurement: Linear Foot
 - 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the concrete curb and gutter with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul off unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.
- I. ADA Ramps (Bid Item No. 7)
 - 1. Basis for Measurement: Each Item.
 - 2. Basis for Payment: Ramps will be measured and paid for as the actual number of wheelchair ramps, which have been completed. Such price and payment will be full compensation for excavation and backfilling; sawing; pavement repairs; furnishing and placing detectable warnings, construction joints and for all materials labor, equipment, tools, and incidentals necessary to complete the work.

- J. Remove Existing Concrete Sidewalk (West Side Plaza Cell Tower Entrance (Bid Item No. 8))
1. Basis for Measurement: Square Foot.
 2. Basis for Payment: Payment for removing concrete includes the area to demolished, excavated, removed and grade repaired to accommodate for new sidewalk, as required by the City of American Fork standard technical specifications, plans and specifications.
- K. Saw-Cut and Remove Existing Asphalt (Existing Parking Lot) (Bid Item No. 9)
1. Basis for Measurement: Square Foot.
 2. Basis for Payment: Payment for the saw-cutting includes the area to be saw cut, excavated, removed and prepared for landscape islands per plans and specifications, and as required by the City of American Fork standard technical specifications.
- L. Parking Stall Striping (New ADA Stalls Only - Existing Parking Lot) (Bid Item No. 10)
1. Basis for Measurement: Linear Foot.
 2. Basis for Payment: Payment shall be made at the contract unit bid price for each acceptable painted stripe. Payment shall be considered complete compensation for all labor, equipment, and materials necessary for paint striping on the finish surfaces as shown on the drawings and specified herein.
- M. 12" Stop Bar & Crosswalk Striping (New Intersections – Existing Parking Area) (Bid Items No. 11)
1. Basis for Measurement: Linear Foot
 2. Basis for Payment: Payment for the 12" stop bars shall be made at the contract unit bid price and not paid elsewhere. Payment shall be considered complete compensation for all coordination, labor, equipment, and materials necessary for installing the 12" stop bars including removal and restoration of all surface improvements where required and not paid elsewhere, and all other incidentals and materials as herein described and as shown on the drawings, required to complete this item.
- N. Parking and Roadway Signage (Purchased by City Installed by Contractor) (Bid Item No. 12)
1. Basis for Measurement: Per each roadway sign properly installed as required in the drawings.
 2. Basis for Payment: Payment for the ADA, parking, and roadway signs shall be made at the contract unit bid price and not paid elsewhere. Payment shall be considered complete compensation for all coordination, labor, equipment, and materials necessary for furnishing and installing the roadway signs including excavation, backfill, compaction, removal, and disposal of excess excavation materials; removal and restoration of all surface improvements where required and not paid elsewhere, and all other incidentals and materials as herein described and as shown on the drawings, required to complete this item.
- O. Culinary Water Service (Bid Items No. 13 to 16)
1. Basis for Measurement: Measurement for the culinary water service shall be made per actual number of items satisfactorily furnished and installed to provide a complete and functional system. The pipe and necessary fittings connecting the pipe and assembly to the water main shall be included in the unit price, regardless of the length necessary to connect to the existing location.
 2. Basis for Payment: Payment for the Culinary Water Service shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be

full compensation for furnishing all labor, materials, and equipment necessary to install the water service connection including service saddle, corporation stop, water service piping, curb stops, and installing valves and meter boxes. Payment also includes excavation sheeting, shoring and bracing, backfill, compaction, grading, pressure testing, restoration, sod, and all other items required for a complete, acceptable, and operable installation.

NOTE: General contractor will tie into the existing culinary water (existing stub up (POC) south of new building) and provide a new stub up from the existing point of connection (POC) to the building location. The building contractor will tie into this new stub up at time of building construction. Coordinate stub up location and tie-in for new building with architect and building contractor (separate building contract).

P. Fire Hydrant Assembly – Includes 6" PVC Waterline (Bid Item No. 17)

1. Basis for Measurement: Measurement for Fire Hydrant Assemblies shall be made per actual number of fire hydrant assemblies satisfactorily furnished and installed to provide a complete and functional unit. The pipe and necessary restraint system connecting the fire hydrant assembly to the water main shall be included in the unit price, regardless of the length necessary to locate the hydrant.
2. Basis for Payment: Payment for the Fire Hydrant Assembly shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for furnishing all labor, materials, and equipment necessary to install the fire hydrant complete with hydrant tee, hydrant extension, pipe, fittings, isolation valve and box, thrust anchorage, and shear pad. Also included is excavation, sheeting, shoring and bracing, dewatering, backfill, compaction, grading, connection to pipes, restoration, and all other items required for a complete, acceptable, and operable installation.

Q. Sanitary Sewer Service (Bid Items No. 18 & 19)

1. Basis for Measurement: Measurement for the sanitary sewer shall be made per actual number of items satisfactorily furnished and installed to provide a complete and functional system. The pipe and necessary fittings connecting the pipe and assembly to the sewer main shall be included in the unit price, regardless of the length necessary to connect to the existing sewer location.
2. Basis for Payment: Payment for the Sanitary Sewer Service shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for all labor, materials, and equipment to construct the respective pipeline, manholes, and cleanouts including coordination with existing utilities, protection of existing utilities including service connections, tree protection, excavation, sheeting, shoring and bracing, backfill, compaction, grading, applicable pavement restoration, all testing and clean-up.

NOTE: General contractor will tie into the existing sanitary sewer (existing stub up (POC) east of new building) and provide a new stub up from the existing point of connection (POC) to the building location. The building contractor will tie into this new stub up at time of building construction. Coordinate stub up location and tie-in for new building with architect and building contractor (separate building contract).

R. Stormwater Service (Bid Items No. 20 to 27)

1. Basis for Measurement: Varies (Per Bid Schedule).
2. Basis for Payment: Payment for the Stormwater Service shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for all labor, materials, and equipment to construct the respective pipeline, manholes, catch basins, cleanouts, trash guards, pipe end sections, and rip rap including coordination with existing utilities, protection of existing utilities including service connections, tree

protection, excavation, sheeting, shoring and bracing, backfill, compaction, grading, applicable pavement restoration, all testing and clean-up.

S. Electrical (Panels, Equipment, All Wire & Conduit, Provide Stub Up's to Building) (Bid Item No. 28)

1. Basis for Measurement: Lump Sum
2. Basis for Payment: Payment shall constitute full compensation for all electrical, including running all conduit and wire, and installation of all Musco panels and equipment, as required by the City of American Fork. Removal and disposal of waste materials and preparation of site, removing debris and preparing base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

NOTES: Electrical contractor shall coordinate with general contractor and building contractor, Rocky Mountain Power (RMP), the architect, and the electrical engineer in accordance with the electrical engineering plans and specifications for the building (separate building contract).

Electrical contractor shall coordinate the electrical engineering plans for the site and for the building in conjunction with Musco and the Musco performance specifications included as part of the bid documents. All lighting and electrical installation shall be coordinated by the general contractor with regards to both site electrical and building electrical. The electrical contractor for the building shall provide connection from the transformer to the building and to the primary electrical panel within the building. The electrical contractor for the site electrical shall provide all sub up's

It is intended that the building will be completed in time so that that the power for the site and building can be established within the mechanical room within the building. However, a temporary power panel may be required depending on the time frame for completion of the building with that of the completed site electrical.

General contractor shall Coordinate with the electrical contractor and the architect throughout this process to ensure all conduit and wire are placed correctly and in accordance with the architects building plans. Coordinate all stub up's, panels, equipment, and the transformer tie-in (primary power) within the mechanical room at the direction of the architect and electrical engineer. Ensure site contract and separate building contract for electrical are

T. Install Musco LED Lighting System for Existing Parking, Plaza, and Sidewalks (Purchased by City Installed by Contractor) (Bid Item No. 29)

1. Basis for Measurement: Lump Sum
2. Basis for Payment: Payment shall constitute full compensation for all electrical, including providing and running all conduit and wire, and installation of all Musco lighting (combined with item 30) as required by the City of American Fork. Removal and disposal of waste materials, preparation of site including removing debris and preparing base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

U. Install Musco LED Sports Lighting System (Purchased by City Installed by Contractor) (Bid Item No. 30)

1. Basis for Measurement: Lump Sum
2. Basis for Payment: Payment shall constitute full compensation for all electrical and installation of all Musco lighting, as required by the City of American Fork. Removal and disposal of waste materials and preparation of site, including auguring holes for Musco poles, removing debris and preparing base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

V. Shade Sails (Dug-Outs & Bleachers) (Purchased by City Installed by Contractor)
(Bid Item No. 31-32)

Install Footings and/or Surface Base Connections and attach Shade Sails to the bases per plans, details, and specifications for Dug-Outs and Bleachers respectively.

1. Basis for Measurement: Each Item
2. Basis for Payment: Shade Sails will be measured and paid for as the actual number of shade sails, which have been purchased by the City and assembled and installed by the contractor. Such price and payment will be full compensation for assembling and installing each shade sail over each individual bleacher and for all materials labor, equipment, tools, and incidentals necessary to complete the work.

W. Aluminum 15' Dugout Bench with Back (Purchased by City Installed by Contractor) (Bid Item No. 33)
Install Surface Base Connections and attach Benches to bases per plans, details, and specifications.

1. Basis for Measurement: Each Item
2. Basis for Payment: Aluminum Benches will be measured and paid for as the actual number of benches, which have been purchased by the City and assembled and installed by the contractor. Such price and payment will be full compensation for assembling and placing each bench and for all materials labor, equipment, tools, and incidentals necessary to complete the work.

X. Aluminum Bleachers (Purchased by City Installed by Contractor) (Bid Item No. 34)

1. Basis for Measurement: Each Item
2. Basis for Payment: Aluminum Bleachers will be measured and paid for as the actual number of bleachers, which have been purchased by the City and assembled and installed by the contractor. Such price and payment will be full compensation for assembling and placing each bleacher and for all materials labor, equipment, tools, and incidentals necessary to complete the work.

Y. Scoreboard (Purchased by City Installed by Contractor) (Bid Item No. 35)

1. Basis for Measurement: Each Item
2. Basis for Payment: Scoreboards will be measured and paid for as the actual number of scoreboards, which have been furnished and installed. Such price and payment will be full compensation for furnishing and placing each scoreboard and for all materials labor, equipment, tools, and incidentals necessary to complete the work.

NOTE: Scoreboards will be operated remotely from behind each backstop respectively. Coordinate with City and electrical contractor accordingly.

Z. Bases/Line Equipment/Foul Bars (Purchased by City Installed by Contractor) (Bid Item No. 36)

1. Basis for Measurement: Each Item

Basis for Payment: Base/Line equipment will be measured and paid for as the actual number of equipment required, and which have been furnished and installed as specified. Such price and payment will be full compensation for furnishing and installing each base/line equipment including all materials, labor, equipment, tools, and incidentals necessary to complete the work.

AA. Ball Field Signage (Bid Item No. 37)

1. Basis for Measurement: Each Item
2. Basis for Payment: Payment for the signs shall be made at the contract unit bid price and not paid elsewhere. Payment shall be considered complete compensation for all coordination, labor, equipment, and materials necessary for furnishing and installing the signs including all other incidentals and materials as herein described and as shown on the drawings, required to complete this item.

BB. Reinforced Concrete Mow Strip (16" Wide - Under All New Perimeter Fencing) (Bid Item No. 38)

1. Basis for Measurement: Square Foot
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the reinforced concrete mow curb with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul-off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.

CC. Baseball Infield Surfacing (Bid Items No. 39)

1. Basis for Measurement: Cubic Yard
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the Baseball Infield Surfacing with the dimensions, location, and grade shown in the drawings.

DD. 22' Galvanized Back Stops with 45° Cantilever (Bid Item No. 40)

1. Basis for Measurement: Each Item
2. Basis for Payment: Payment for the backstops shall be made at the contract unit bid price and not paid elsewhere. Payment shall be considered complete compensation for all coordination, labor, equipment, and materials necessary for furnishing and installing the backstops, including all other incidentals and materials as described herein and as shown on the drawings.

EE. 6' Galvanized Chainlink Perimeter Ballfield Fence (Sides Field Fencing) (Bid Item No. 41)

1. Basis for Measurement: Linear Foot for all fencing and accessories on-site
2. Basis for Payment: Work completed under this bid item shall be paid for at the contract unit bid price per linear foot listed in the bidders proposal and shall be considered complete compensation for all labor, equipment, and materials necessary to furnish and install the fencing, including: fence post hole auguring, excavation, installing individual fence posts, removal and disposal of excess excavated material, restoration of all surface improvements, installing the mesh fencing, and all other operations and materials required to complete this portion of the work as described herein and as shown on the drawings.

Fencing contractor shall coordinate with the concrete contractor installing the 16" Reinforced Mow Curb (Bid Item No. 38) to ensure proper timing of install between fencing and mow curb. Fence posts should be installed first, mow curb second, and fencing mesh last to ensure timely and less costly overall install.

FF. 12' Galvanized Chainlink Perimeter Fence (Outfield Fencing for 3 South Fields Only) (Bid Item No. 42)

1. Basis for Measurement: Linear Foot for all new fencing and accessories on-site
2. Basis for Payment: Work completed under this bid item shall be paid for at the contract unit bid price per linear foot listed in the bidders proposal and shall be considered complete compensation for all labor, equipment, and materials necessary to furnish and install the fencing, including: fence post hole auguring, excavation, installing individual fence posts, removal and disposal of excess excavated material, restoration of all surface improvements, installing the mesh fencing, and all other operations and materials required to complete this portion of the work as described herein and as shown on the drawings.

Fencing contractor shall coordinate with the concrete contractor installing the 16" Reinforced Mow Curb (Bid Item No. 38) to ensure proper timing of install between fencing and mow curb. Fence posts should be installed first, mow curb second, and fencing mesh last to ensure timely and less costly overall install.

GG. 4" Perforated Flex Pipe-Drain Pipe (Along New Outfield Perimeter Fencing Only) (Bid Item No. 43)

1. Basis for Measurement: Linear Feet
2. Basis for Payment: Work completed under this bid item shall be paid for at the contract unit bid price per linear foot listed in the bidders proposal and shall be considered complete compensation for all labor, equipment, and materials necessary to furnish and install the 4" perforated pipe and sub-surface French Drain, including: excavation, installing individual lengths of pipe, pea gravel field (French Drain Trench), removal and disposal of excess excavated material, restoration of all surface improvements and all other operations and materials required to complete this portion of the work as herein described and as shown on the drawings.

HH. Construction Survey (Bid Item No. 44):

1. Basis for Measurement: Construction Surveying shall be measured based on the percentage of work completed for the project according to the amount defined in the Bid Schedule.
2. Basis for Payment: Payment for Construction Surveying will be made at the contract lump sum bid price as provided by the Contractor and accepted and agreed to by OWNER in the Bid Schedule. Payments will be made in accordance with the following schedule:
 - a) When 10% of the original contract amount is earned, 25% of the amount bid for construction surveying will be paid.
 - b) When 25% of the original contract amount is earned, an additional 25% for a total of 50% of the amount bid for construction surveying will be paid.
 - c) When 50% of the original contract amount is earned, an additional 25% for a total of 75% of the amount bid for construction surveying will be paid.
 - d) When 75% of the original contract amount is earned, an additional 25% for a total of 100% of the amount bid for construction surveying will be paid.

II. Concrete (5" Depth) Plaza/Sidewalk/Dugout W/ Untreated Base Course (Bid Item No. 45 to 46)

1. Basis for Measurement: Measured and paid for on a square foot basis for the actual quantity of concrete, untreated base course and granular borrow required for all parking and plaza and sidewalk areas, as required by the City of American Fork standard technical specifications.

2. Basis for Payment: Payment shall constitute full compensation for concrete to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specifications.
- JJ. 14' Wide (6" Depth) Reinforced Concrete Sidewalk W/ UTBC - Fire lane (Bid Item No. 47)
1. Basis for Measurement: Square Feet
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the reinforced concrete fire lane with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul-off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.
- KK. 14' Wide (6" Depth) Reinforced Concrete Sidewalk W/ UTBC – Cell Tower (Bid Item No. 48)
1. Basis for Measurement: Square Feet
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the reinforced concrete fire lane with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul-off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.
- LL. Cast in Place Raised Concrete Planters (Bid Item No. 49)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the concrete planter with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surfaces.
- MM. 4" x 6" Concrete Landscape Mow Curb (Bid Item No. 50)
1. Basis for Measurement: Linear Foot
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the 4" x 6" concrete landscape mow curb with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul-off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.
- NN. Internal Directional Signage (Bid Item No. 51)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Internal directional signage will be measured and paid for as the actual number of signage required, and which have been furnished and installed as specified. Such price and payment will be full compensation for furnishing and installing each flag pole with downlighting including all materials, labor, equipment, tools, and incidentals necessary to complete the work.

OO. Retractable Bollards (Bid Item No. 52)

1. Basis for Measurement: Each Item
2. Basis for Payment: Each Bollard will be measured and paid for as the actual number of bollards required, and which have been furnished and installed as specified. Such price and payment will be full compensation for furnishing and installing each bollard including all materials, labor, equipment, tools, and incidentals necessary to complete the work.

PP. Bike Racks (Purchased by City Installed by Contractor) – Install Only the Surface Base Connections (surface mount), and attach the Bike Racks to the Bases (Bid Item No. 53)

1. Basis for Measurement: Each Item
2. Basis for Payment: Surface base connections for bike racks will be measured and paid for as the actual number of surface base connections required for each bike rack, and which have been furnished and installed as specified. Such price and payment will be full compensation for furnishing and installing each surface base connection for bike racks including all materials, labor, equipment, tools, and incidentals necessary to complete the work including attaching the bike racks to the bases.

Contractor required to coordinate install of concrete footings and surface base connections for Benches as per drawings and with the City as needed.

QQ. Tables & Chairs (Purchased by City Installed by Contractor) – Concession Area (Bid Item No. 54), Surface Mount Tables as specified on the drawings and as per specifications.

1. Basis for Measurement: Each Item
2. Basis for Payment: Tables & Chairs will be measured and paid for as the actual number of Tables required, and which have been installed as specified. Such price and payment will be full compensation for installing each table including all materials, labor, equipment, tools, and incidentals necessary complete the work.

Contractor required to coordinate install of Tables as per drawings and specifications, and with the City as needed.

RR. Trash Receptacles (Purchased by City Installed by Contractor) (Bid Item No. 55) - Install/Place Only the Trash Receptacles as specified on the drawings.

1. Basis for Measurement: Each Item
2. Basis for Payment: Trash Receptacles will be measured and paid for as the actual number of trash receptacles required, and which have been installed as specified. Such price and payment will be full compensation for installing each trash receptacle including all materials, labor, equipment, tools, and incidentals necessary to complete the work.
3. Contractor required to coordinate install of trash receptacles as per drawings and specifications.

SS. Top Soil (Bid Items No. 56 & 57)

1. Basis for Measurement: Cubic yard.
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the topsoil with the dimensions, location, and grade shown in the drawings, including the compaction of topsoil as specified by surface.

- TT. Turf Sod (Bid Items No. 58)
1. Basis for Measurement: Square Feet
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to deliver and install turf sod with the dimensions and location shown in the drawings, including compaction, and/or rolling of sod to maintain an even finished surface as specified.
- UU. Weed Barrier Fabric (Bid Item No. 59)
1. Basis for Measurement: Square Feet
 2. Basis for Payment: Payment shall constitute full compensation for Weed Fabric, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- VV. Shredded Bark Mulch (Bid Item No. 60)
1. Basis for Measurement: Cubic Yard
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the Cobble mulch with the dimensions, location, and grade shown in the drawings.
- WW. 2" Caliper Tree (Bid Item No. 61)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 2" Caliper Tree, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein. Contractor shall coordinate exact placement location of trees with the City's project manager (PM).
- XX. 5-Gallon Shrub (Bid Item No. 62)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 5 Gallon Shrubs, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- YY. 1-Gallon Shrub (Bid Item No. 63)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 1 Gallon Shrubs, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

ZZ. Irrigation for Turf and Planter Areas (Bid Item No. 64)

1. Basis for Measurement: Square Feet.
2. Basis for Payment: Payment shall constitute full compensation for all labor, equipment, and materials required to deliver and install Irrigation for Turf (outside ball fields), native seed areas, and planter areas, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

ALTERNATE BID ITEMS

A.1.0 Musco Lighting (Utilize Existing Cell Towers (2) in Place of Providing Two (2) New Light Poles & Bases) – Existing Two (2) North Fields

1. Basis for Measurement: Each
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to install Musco lighting fixtures on the existing two cell towers of the two existing north fields. Provide a differential install price to utilize the two existing cell towers and deduct the price of installing two new poles and bases respectively.
3. Electrical contractor shall coordinate with Cell Tower companies, Musco, Electrical Engineer (ECE), and the City of American Fork to confirm access to the two towers and the structural and electrical requirements to mount the Musco fixtures on the existing cell towers.

PART 1.12.2 PRODUCTS - NOT USED

PART 1.12.3 EXECUTION - NOT USED

END OF SECTION

SECTION 1.12

MEASUREMENT AND PAYMENT

(South Site - Soccer Fields)

PART 1.12.1 GENERAL

1.12.01 SECTION INCLUDES

- A. Measurement and payment for American Fork Art Dye Park (South Site)

1.12.02 RELATED SECTIONS

- A. Section 1.14 - Unit Prices: criteria applicable to Work performed under a unit price or lump sum price payment method.

1.12.03 MEASUREMENT AND PAYMENT

A. Measurement shall be made per bid item and at the various units as described below.

B. Payment shall be made at the unit price in the bid schedule for the corresponding bid items described below; which shall be payment in full for all costs of furnishing labor, tools, equipment, materials, testing, etc., to complete the items of work as specified and as indicated on the drawings.

C. Mobilization/Demobilization (Bid Item No. 1)

1. Basis for Measurement: Lump Sum.
2. Basis for Payment: Includes all preparatory work and operations, including, but not limited to, those necessary for movement of personnel, equipment, supplies and incidental items to the project site; for establishment of all offices, buildings and other facilities necessary for work on the project; for obtaining applicable permits; for furnishing, erecting and maintaining all necessary construction signs; for cleanup and demobilization as required; and for all other work and operations which must be performed, or costs incurred, not otherwise paid for prior to beginning work on various items on the project site.

D. Clear/Grubb/Cut & Fill (Include Stockpile, Screening, Reuse of Soil on Site) (Bid Item No. 2)

1. Basis for Measurement: Lump Sum
2. Basis for Payment: Full compensation for all labor, equipment, and materials required for earthwork operations of the Art Dye Park site including site preparation, clearing, and grubbing, potholing and the demolition of the existing items remaining to be demolished according to drawings, excavation of the site to the depth and extents shown on the Drawings and required by the Geotechnical Report, placement, and compaction of excavated material onsite, and final site grading and restoration. Any native material reused onsite will be paid for under this item, regardless of any processing, stockpiling, or additional work by Contractor to prepare the material for reuse. Excavation shall include the removal and subsequent handling of all water, earth, shale, loose, or cemented gravel, loose rock, solid rock, and other materials of whatsoever nature excavated or otherwise removed in the performance of contract work. Any utility adjustments such as raising and lowering valve covers will be paid under this item.

- E. Construction Management and Materials Inspection (Bid Item No. 3)
1. Basis for Measurement: Lump Sum
 2. Basis for Payment: Payment shall constitute full compensation for construction management and materials testing as required by the City of American Fork. Removal and disposal of waste materials, preparation of site including removing debris, preparing and notifying the City and engineer of all testing and inspections, and all other operations, materials and incidentals required to complete this item as required.
- F. Erosion Control/SWPPP (Bid Items No. 4)
1. Basis for Measurement: Lump Sum
 2. Basis for Payment: Implementation of the SWPPP shall be paid for at the lump sum bid price as a percentage of work completed. Payment shall be considered full compensation for completing an approved SWPPP and implementation thereof. The implementation shall include installing and maintaining Best Management Practices (BMPs) defined in the SWPPP, and monitoring and maintaining the requirements of the SWPPP, preparation of required reports, and meeting all other requirements of the Utah Division of Water Quality.
- G. Over Excavation / Compacted Import Fill & Granular Fill (Bid Items No. 5 to 7)
1. Basis for Measurement: Cubic Yard
 2. Basis for Payment: Payment shall constitute full compensation for pavement to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein
- H. Saw Cut & Remove Curb & Gutter Along 550 E. (New Approaches) (Bid Item No. 8)
1. Basis for Measurement: Lump Sum
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required for earthwork operations including site preparation, clearing, and grubbing, potholing (as required) and the demolition of the existing sidewalk to be demolished, as according to Drawings, excavation of the existing to the depth and extents shown on the Drawings and required by the Geotechnical Report, placement, and compaction of excavated material onsite, and final site grading and restoration. Any native material reused onsite will be paid for under this item, regardless of any processing, stockpiling, or additional work by Contractor to prepare the material for reuse. Excavation shall include the removal and subsequent handling of all water, earth, shale, loose, or cemented gravel, loose rock, solid rock, and other materials of whatsoever nature excavated or otherwise removed in the performance of contract work.
- I. 24" Curb & Gutter w/ 6" Untreated Base Course (Bid Item No. 9)
1. Basis for Measurement: Linear Foot
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the concrete curb and gutter with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.

- J. ADA Ramps (Bid Item No. 10)
1. Basis for Measurement: Each Item.
 2. Basis for Payment: Ramps will be measured and paid for as the actual number of wheelchair ramps, which have been completed and accepted. Such price and payment will be full compensation for excavation and backfilling; sawing; pavement repairs; furnishing and placing detectable warnings, construction joints and for all materials labor, equipment, tools, and incidentals necessary to complete the work.
- K. Asphalt Paving (Bid Items No. 11)
1. Basis for Measurement: Measured on a per ton basis and paid for on a per square foot basis for the actual quantity of asphalt, UTBC and granular borrow required for all parking and roadway areas as required by the City of American Fork standard technical specifications.
 2. Basis for Payment: Payment shall constitute full compensation for pavement to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- L. Untreated Base Course (UTBC) (Bid Items No. 12)
1. Basis for Measurement: Measured on a per ton basis and paid for on a per square foot basis for the actual quantity of untreated base course (UBC) and granular borrow required for all parking and roadway areas as required by the City of American Fork technical standards.
 2. Basis for Payment: Payment shall constitute full compensation for UBC to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- M. Saw-Cut and Remove Existing Asphalt Along 550 E. (New Approaches) (Bid Item No. 13)
1. Basis for Measurement: Square Feet.
 2. Basis for Payment: Payment for the saw-cutting includes the area to be saw cut, excavated, removed and repaired as required by the City of American Fork standard technical specifications.
- N. 8" Concrete Waterway with UTBC Base (Bid Item No. 14)
1. Basis for Measurement: Linear Foot.
 2. Basis for Payment: Payment shall be made at the contract unit bid price for each acceptable painted stripe. Payment shall be considered complete compensation for all labor, equipment, and materials necessary for paint striping on the finish surfaces as shown on the drawings and specified herein.
- O. Parking Stall Striping (Bid Item No. 15)
1. Basis for Measurement: Linear Foot.
 2. Basis for Payment: Payment shall be made at the contract unit bid price for each acceptable painted stripe. Payment shall be considered complete compensation for all labor, equipment, and materials necessary for paint striping on the finish surfaces as shown on the drawings and specified herein.

- P. 12" Stop Bar & Crosswalk Striping (2 Crossings) (Bid Item No. 16)
1. Basis for Measurement: Linear Foot.
 2. Basis for Payment: Payment for the 12" stop bars shall be made at the contract unit bid price and not paid elsewhere. Payment shall be considered complete compensation for all coordination, labor, equipment, and materials necessary for installing the 12" stop bars including removal and restoration of all surface improvements where required and not paid elsewhere, and all other incidentals and materials as herein described and as shown on the drawings, required to complete this item.
- Q. Parking and Roadway Signage (Purchased by City Installed by Contractor) (Bid Item No. 17)
1. Basis for Measurement: Per each roadway sign properly installed as required.
 2. Basis for Payment: Payment for the roadway signs shall be made at the contract unit bid price and not paid elsewhere. Payment shall be considered complete compensation for all coordination, labor, equipment, and materials necessary for furnishing and installing the roadway signs including excavation, backfill, compaction, removal, and disposal of excess excavation materials; removal and restoration of all surface improvements where required and not paid elsewhere, and all other incidentals and materials as herein described and as shown on the drawings, required to complete this item.
- R. Stormwater Service (Bid Items No. 18 to 22)
1. Basis for Measurement: Varies (Per Bid Schedule).
 2. Basis for Payment: Payment for the Stormwater Service shall be made based on the authorized quantity at the unit price indicated in the Bid. Payment of the applicable Contract unit price shall be full compensation for all labor, materials, and equipment to construct the respective pipeline, manholes, catch basins, trash guards, and cleanouts including coordination with existing utilities, protection of existing utilities including service connections, tree protection, excavation, sheeting, shoring and bracing, backfill, compaction, grading, applicable pavement restoration, all testing and clean-up.
- S. LED Lighting – Parking & Street (Purchased and Installed by City) (Bid Item No. 23)
1. Not in Contract (NIC).
- NOTE:** Contractor shall install conduit only for lighting per bid item No. 24.
- T. Conduit (1.5") Rigid PVC with Detectable Tape & Pull Rope (Bid Items No. 24)
1. Basis for Measurement: Linear Foot.
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to install conduit with detectable tape and pull rope, and with the dimensions and location shown in the drawings. Furnish and install all conduit as shown on electrical drawings and within specifications.
- U. Construction Survey (Bid Item No. 25):
1. Basis for Measurement: Construction Surveying shall be measured based on the percentage of work completed for the project according to the amount defined in the Bid Schedule.
 2. Basis for Payment: Payment for Construction Surveying will be made at the contract lump sum bid price as provided by the Contractor and accepted and agreed to by OWNER in the Bid Schedule. Payments will be made in accordance with the following schedule;

- a) When 10% of the original contract amount is earned, 25% of the amount bid for construction surveying will be paid.
- b) When 25% of the original contract amount is earned, an additional 25% for a total of 50% of the amount bid for construction surveying will be paid.
- c) When 50% of the original contract amount is earned, an additional 25% for a total of 75% of the amount bid for construction surveying will be paid.
- d) When 75% of the original contract amount is earned, an additional 25% for a total of 100% of the amount bid for construction surveying will be paid.

V. Concrete Sidewalks (5' Widths) W/ UTBC (Bid Item No. 26 & 27)

- 1. Basis for Measurement: Measured and paid for on a square foot basis for the actual quantity of concrete, untreated base course and granular borrow required for all parking and plaza and sidewalk areas, as required by the City of American Fork standard technical specifications.
- 2. Basis for Payment: Payment shall constitute full compensation for concrete to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specifications.

W. 4" x 6" Concrete Landscape Mow Curb (Bid Item No. 28)

- 1. Basis for Measurement: Linear Foot
- 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the concrete mow curb with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul-off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.

X. Internal Directional Signage (Bid Item No. 29)

- 1. Basis for Measurement: Each Item
- 2. Basis for Payment: Internal directional signage will be measured and paid for as the actual number of signage required, and which have been furnished and installed as specified. Such price and payment will be full compensation for furnishing and installing each sign including all materials, labor, equipment, tools, and incidentals necessary to complete the work.

Y. Top Soil – Soccer Fields & North East Planter (Bid Item No. 30 & 31)

- 1. Basis for Measurement: Cubic yard.
- 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the topsoil with the dimensions, location, and grade shown in the drawings, including the compaction of topsoil as specified by surface. Contractor shall coordinate intermittent parking on soccer field area with the City PM. This area is currently utilized for temporary parking during special events held within the City at specific times.

Z. Kentucky Blue Grass Blend Seed Mix (Bid Item No. 32)

- 1. Basis for Measurement: Square Feet
- 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to deliver and install Kentucky blue grass blend seed mix with the dimensions and location shown in the drawings, including preparation of site, removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein and as required by the City of American Fork standards.

- AA. Weed Barrier Fabric (Bid Item No. 33)
1. Basis for Measurement: Square Feet
 2. Basis for Payment: Payment shall constitute full compensation for Weed Fabric, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- BB. Shredded Bark Mulch (Bid Item No. 34)
1. Basis for Measurement: Cubic Yard
 2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the Cobble mulch with the dimensions, location, and grade shown in the drawings.
- CC. 2" Caliper Tree (Bid Item No. 35)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 2" Caliper Tree, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein. Contractor shall coordinate exact placement location of trees with the City's project manager (PM).
- DD. 5-Gallon Shrub (Bid Item No. 36)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 5 Gallon Shrubs, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- EE. 1-Gallon Shrub (Bid Item No. 37)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 1 Gallon Shrubs, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- FF. Irrigation for Turf Sod and Planter Beds (Bid Item No. 38)
1. Basis for Measurement: Square Foot.
 2. Basis for Payment: Payment shall constitute full compensation for all labor, equipment, and materials required to deliver and install Irrigation for Turf (outside ball fields), native seed areas, and planter areas, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

ALTERNATE BID ITEMS

A.2.0 Turf Sod (Install Turf Sod instead of Grass Seed) (Alternate Bid Item 1.0))

1. Basis for Measurement: Square Feet
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to deliver and install turf sod with the dimensions and location shown in the drawings, including compaction, and/or rolling of sod to maintain an even finished surface as specified.

A.3.0 Remove Existing Curb, Gutter, Sidewalk, & Landscape Along 500 E.(Alternate Bid Item 2.0))

1. Basis for Measurement: Lump Sum
2. Basis for Payment: Full compensation for all labor, equipment, and materials required for earthwork operations including site preparation, clearing, and grubbing, potholing (as required) and the demolition of the existing sidewalk to be demolished, as according to Drawings, excavation of the existing to the depth and extents shown on the Drawings and required by the Geotechnical Report, placement, and compaction of excavated material onsite, and final site grading and restoration. Any native material reused onsite will be paid for under this item, regardless of any processing, stockpiling, or additional work by Contractor to prepare the material for reuse. Excavation shall include the removal and subsequent handling of all water, earth, shale, loose, or cemented gravel, loose rock, solid rock, and other materials of whatsoever nature excavated or otherwise removed in the performance of contract work. All new storm drainage including boxes and pipes to be built in conjunction with the parking lot improvements are also included.

A.3.1 24" Curb & Gutter w/ 6" Untreated Base Course (Alternate Bid Item 2.1)

1. Basis for Measurement: Linear Foot
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the concrete curb and gutter with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.

A.3.2 Asphalt Paving (Alternate Bid Item 2.2)

1. Basis for Measurement: Measured on a per ton basis and paid for on a per square foot basis for the actual quantity of asphalt, untreated base course and granular borrow required for all parking and roadway areas as required by the City of American Fork standard technical specifications.
2. Basis for Payment: Payment shall constitute full compensation for pavement to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

A.3.3 Untreated Base Course (UTBC) (Alternate Bid Item 2.3 & 2.7)

1. Basis for Measurement: Measured on a per ton basis and paid for on a per square foot basis for the actual quantity of untreated base course (UBC) and granular borrow required for all parking and roadway areas as required by the City of American Fork standard technical specifications.
2. Basis for Payment: Payment shall constitute full compensation for UBC to the depth required by the City of American Fork, removal and disposal of waste materials,

preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

A.3.4 Parking Stall Striping (35 stalls) (Alternate Bid Item 2.4)

1. Basis for Measurement: Linear Foot.
2. Basis for Payment: Payment shall be made at the contract unit bid price for each acceptable painted stripe. Payment shall be considered complete compensation for all labor, equipment, and materials necessary for paint striping on the finish surfaces as shown on the drawings and specified herein.

A.3.5 48" Concrete Waterway (Alternate Bid Item 2.5))

1. Basis for Measurement: Square Feet.
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to construct the concrete waterway with the dimensions, location, and grade shown in the drawings, including unclassified excavation, and haul off of unsuitable material, import and compaction of structural base, control joints, and finishing of concrete surface.

A.3.6 Concrete Sidewalk (10' Widths) W/ Untreated Base Course (Alternate Bid Item 2.6)

1. Basis for Measurement: Measured and paid for on a square foot basis for the actual quantity of concrete, untreated base course and granular borrow required for all parking and plaza and sidewalk areas, as required by the City of American Fork standard technical specifications.
2. Basis for Payment: Payment shall constitute full compensation for concrete to the depth required by the City of American Fork, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specifications.

A.3.8 Top Soil –Planter Beds (Alternate Bid Item 2.8)

1. Basis for Measurement: Cubic yard.
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the topsoil with the dimensions, location, and grade shown in the drawings, including the compaction of topsoil as specified by surface.

A.3.9 Weed Barrier Fabric (Alternate Bid Item 2.9)

1. Basis for Measurement: Square Feet
2. Basis for Payment: Payment shall constitute full compensation for Weed Fabric, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

A.3.10 Bark Mulch (Alternate Bid Item 2.10)

1. Basis for Measurement: Cubic Yard
2. Basis for Payment: Full compensation for all labor, equipment, and materials required to import and place the Cobble mulch with the dimensions, location, and grade shown in the drawings.

- A.3.11 2" Caliper Tree (Alternate Bid Item 2.11)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 2" Caliper Tree, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- A.3.12 5 Gallon Shrub (Alternate Bid Item 2.12)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 5 Gallon Shrubs, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- A.3.13 1 Gallon Shrub (Alternate Bid Item 2.13)
1. Basis for Measurement: Each Item
 2. Basis for Payment: Payment shall constitute full compensation for 1 Gallon Shrubs, as required by the City of American Fork standards, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.
- A.3.14 Irrigation for Turf and Planter Beds (Alternate Bid Item 2.14)
1. Basis for Measurement: Square Feet.
 2. Basis for Payment: Payment shall constitute full compensation for all labor, equipment, and materials required to deliver and install Irrigation for Turf (outside ball fields), native seed areas, and planter areas, removal and disposal of waste materials, preparation of site including removing debris and preparing base and sub-base; handling, placement, compaction, and all other operations, materials and incidentals required to complete this item as shown on the drawings and specified herein.

PART 1.12.2 PRODUCTS - NOT USED

PART 1.12.3 EXECUTION - NOT USED

END OF SECTION

SECTION 32 92 23.00 – TURF SOD

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Turf sod requirements and application.
- B. Surface preparation.

1.2 RELATED SECTIONS

- A. Refer to City's Standard Specifications for Earthwork, Landscape, and Irrigation
- B. Section 32 91 19.00 Topsoil

1.3 REFERENCES

- A. Utah Seed Law
- B. Utah Agricultural Code Title 4

1.4 DEFINITIONS Not Used

1.5 SUBMITTALS

- A. Provide certification that turf sod is nursery grown and contains a minimum of three varieties of Kentucky Blue Grass.
- B. Provide certification that the sod is commercial grade.
 - a. Commercial Grade: Turfgrass sod being sold as "Commercial Grade," shall meet the density and mowing requirements of No. 1 sod. It may however contain up to 10 percent undesirable grass species and 10 weeds per 50 square feet. Any grass other than the species shown on the invoice/sales slip shall be deemed as an undesirable. Annual bluegrass (Poa Annua) shall be included in this classification.
- C. Provide certification indicating the date and time sod was cut at the nursery.
- D. Provide a sample of sod to verify that sod cut is uniform and will not contribute to an uneven playing surface.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Strip turf sod from the nursery no more than 24 hours before laying.
- B. Deliver fertilizer in containers showing weight, chemical analysis, and name of manufacturer. Store fertilizer in a weatherproof location.

1.7 SCHEDULE

- A. Turf Sod can be placed only after an irrigation system is installed and operational.
- B. Topsoil
 - 1. Place topsoil immediately prior to sodding in order to eliminate competition from weeds.
 - 2. Coordinate topsoil placement with the above sodding window.

PART 2 PRODUCTS

2.1 TURF SOD

- A. Class/Grade of Sod and Composition:
- a. Class of the turfgrass sod shall be Commercial Grade
 - i. Commercial Grade: Turfgrass sod being sold as "Commercial Grade," shall meet the density and mowing requirements of No. 1 sod. It may however contain up to 10 percent undesirable grass species and 10 weeds per 50 square feet. Any grass other than the species shown on the invoice/sales slip shall be deemed as an undesirable. Annual bluegrass (*Poa Annua*) shall be included in this classification.
 - b. This turfgrass sod shall be composed of Bluegrass Blend
 - c. Turfgrass sod classified as a "Bluegrass Blend" shall have been seeded using a blend of three or more varieties of Kentucky Bluegrass. The names of these varieties and the percentages in the original seed blend shall be available on request.
- B. Thickness of Cut: Turfgrass sod shall be machine cut at a uniform soil thickness of 0.50 inch (15 mm), plus or minus 0.125 inch (6 mm), at the time of cutting. Measurement for thickness shall exclude top growth and thatch.
- C. Big Rolls: Individual turf sod for sports field areas shall be machine cut in big rolls having a uniform width of no less than 2½ feet (30 inches) wide x 80 feet long = +/- 200 sf/roll. "Big Rolls" will be placed and installed by a landscape contractor or sod supplier.
- Individual pieces of turf sod shall be used in smaller areas where the equipment installing the Big Rolls cannot access. The turf sod shall be cut to the supplier's standard width and length, typically 1-foot x 3 feet (3 square feet). Maximum allowable deviation from standard widths and lengths shall be plus or minus (+/-) 0.5 inch (15 mm) on width and +/- five percent on length. Broken pads and torn or uneven ends will not be acceptable.
- D. Strength of Turf Sod Sections: Standard size sections of turfgrass sod shall be strong enough that it can be picked up and handled without damage.
- E. Moisture Content: Turfgrass sod shall not be harvested or transplanted when its moisture content (excessively dry or wet) may adversely affect its survival.
- F. Mowing Height: Before harvesting, the turfgrass shall be mowed uniformly at a height of 2 to 2.5 inches (25 to 60 mm) on cool season grasses (i.e., bluegrass, bent grass, rye and fescue).
- G. Time Limitations: Turfgrass sod shall be harvested delivered and installed/transplanted within a period of 24 hours, unless a suitable preservation method is approved prior to delivery. Turfgrass sod not transplanted within this period shall be inspected and approved by the inspecting officer or his representative prior to its installation.

2.2 FERTILIZER (turf sod areas only)

- A. Uniform in composition, dry, and free flowing.
 - 1. Turf sod – elemental nitrogen in granular form. Phosphorus and potassium are optional and may be applied with nitrogen in granules. Use a slow release form of a minimum 50 percent nitrogen such as sulfur coated urea or urea formaldehyde.

PART 3 EXECUTION

3.1 PREPARATION

- A. Complete all final grading, irrigation work, trench settling, topsoil placement, and surface preparation before seed or sod application.
- B. Prepare the general bed for all sodded areas.
 - 1. Verify that a suitable topsoil surface has been prepared according to Section 32 91 19 and approved by the City and/or City representative prior to sodding.
 - 2. Do not work topsoil or sod when the soil is saturated or frozen.
- C. Prepare Turf Sod Surface
 - 1. Review finish grade to confirm that topsoil is 1 inch below the top of all walks, curbs, mow strips, and other hard surfaces.
 - 2. Lightly rake and dampen with water the top $\frac{1}{8}$ to $\frac{5}{8}$ inches of soil just before laying the sod.
 - 3. Level and roll prepared areas using a 21-gallon water-filled hand roller containing 8–10 gallons of water.

3.2 TURF SOD PLACEMENT

- A. Timing
 - 1. Refer to this Section, article 1.7.
- B. Prepare sod bed and place sod with all edges and joints tightly butted.
 - 1. Do not stretch or overlap sod.
 - 2. Keep length seams in a straight line.
 - 3. Install only uniform 2½ foot wide x 80-foot-long rolls, as defined in section 2.1:C, in the sports field areas.
- C. Lay/roll turf sod with staggered joints and trim off excess material along the edges.
- D. Roll sod immediately after placing by using a hand roller half-filled with water.
 - 1. Re-roll if depressions still remain.
 - 2. Thoroughly water with a fine spray to a depth sufficient that the underside of the new sod and soil immediately below the sod are thoroughly wet.
- E. Watering: Use cycle and soak operations for the first two weeks of watering to optimize watering.

F. Fertilizing:

1. Fertilize during planting; and two weeks after planting.
2. Fertilize formulation to be determined from soil analysis taken yearly by landscape contractor.

G. Mowing:

1. Cut lawn grass for the first time when it reaches a height of 3-inches.
2. After first mowing, water to moisten soil from 3-inches to 5-inches deep.
3. After first mowing, mow on a 7-day cycle, preferably on Thursdays or Fridays.

PART 4 WARRANTY AND COMPLETION

4.1 MAINTENANCE WARRANTY

A. Maintenance Warranty for sod will be determined complete when sod:

1. Has taken root uniformly across all ball fields;
 - a. Root integration into topsoil will be determined uniform by conducting five 2" diameter or larger core samples per ball field. Core samples will be in locations determined by the city representative during a walkthrough. Core samples must be pulled, analyzed to determine if sod roots have successfully integrated into topsoil.
 - b. Contractor shall replace and repair core sample holes following testing.
2. Is alive, green, and is being appropriately irrigated;
 - a. Sod condition will be determined via visual inspection by a city representative.
3. Seams have grown together uniformly; and
 - a. Seam integration will be determined via visual inspection by a city representative.
4. Has been mowed to 2.5".
 - a. Prior to termination of the maintenance warranty period the contractor shall mow all sodded areas to a height of 2.5" and notify city representative for a final walkthrough.

B. MATERIALS AND WORKMANSHIP WARRANTY

1. Sod materials and workmanship warranty shall be in effect for 1 year (365 days) from the end of the Maintenance Warranty Period.

END OF SECTION