DEBRIS REMOVAL, PROCESSING, AND DISPOSAL COST SHEET

ITEM	DESCRIPTION OF SERVICE	COST	UNIT
1	Mobilization and Demobilization		
2	Vegetative and C&D Debris Removal from Public Property (Right-of-Way) and Hauling to Temporary Debris Storage and Reduction Site (TDSRS) or other disposal sites		CY
3	Vegetative and C&D Debris Removal from Private Property (Right-of-Entry Program) and Publicly Owner Property (other than Right-of-Way) and hauled to TDSRS or other disposal sites		CY
4	Vegetative and C&D Debris Removal from Public Property (Right-of-Way) and Hauling Directly to Final Disposal Site		CY
5	Vegetative and C&D Debris Removal from Temporary Debris Storage and Reduction Site (TDSRS) and Hauling to Final Disposal Site		CY
6	Management of TDSRS - Temporary Debris Storage and Reduction Site		CY
7	Processing (Grinding/Chipping) of Vegetative Debris at TDSRS or Final		CY
8	Grinding or consolidation of C&D debris at TSDSRS		CY
9	Processing (Open Burning) of Vegetative Debris at TDSRS or Final Disposal		CY
10	Processing Burning of Vegetative debris using air curtain incinerators at TDSRS or final disposal		CY
11	Pick Up and Haul of White Goods to Site within County		UNIT
12	Pick Up and Disposal of Hazardous Material		LB
13	Freon Management and Recycling		UNIT
14	Dead Animal Collection, Transportation and Disposal		LB
	Extraction of hazardous stumps (50% of root ball exposed) resulting from trees growing on the right of way and Hauling to Final Disposal Site		
15	6 inch diameter to 11 inch diameter (Based on Stump Conversion Table)		CY
16	12 inch diameter to 24 inch diameter (Based on Stump Conversion Table)		CY
17	25 inch diameter to 47 inch diameter		STUMP
18	25 inch diameter to 47 inch diameter		STUMP
	Debris from leaners and hangers will be piled on right of ways and will be hauled and disposed of under items 2 – 9		
19	Removal of hazardous hanging limbs greater than 2 inches		PER TREE
20	Removal of hazardous standing trees 6" – 12" in diameter		EACH
21	Removal of hazardous standing trees 13" – 24" in diameter		EACH
22	Removal of hazardous standing trees 25" – 36" in diameter		EACH
23	Removal of hazardous standing trees 37" – 48" in diameter		EACH
24	Removal of hazardous standing trees greater than 48" in diameter		EACH
	Marine Debris Removal		
25	Canals, bayous and ditches		PER LF
26	Bays and other open waters		PER ACRE
27	Boat removal		PER LF
	The following items shall be billed on a time and material basis according to the attached schedules:		
28	Emergency Road Clearance	See Equipment & Labor Rates	
29	Demolition of Structures (Debris will be hauled and disposed of under items 2-9)		SQ/FT
30	Disaster event Generated Hazardous Wastes Abatement; Biohazardous Wastes Abatement		N/A
31	Generators, light plants, water pumps, portable toilets and other required equipment or materials		COST PLUS

Notes:

1. This price assumes that TDSRS's, final disposal site other approved disposal sites are within 30 miles. For all distances over 30 miles add _____ per cubic yard per mile.

2. This price assumes final disposal is within 30 miles of TDSRS. For all distances over 30 miles add _____ per cubic yard per mile.

3. Includes management of site remediation.

4. All stumps placed on the right of way by citizens over 24" will be converted to cubic yards per the attached FEMA Stump Conversion Chart and charged as regular debris under items 2 – 7.

5. Invoices to be based on incoming load tickets.

6. Invoices to be based on outgoing load tickets.

The amount under this contract to be paid to the debris removal services contractor shall not exceed $1,000,000 in total unless approved by Commissioner's Court, any services rendered whose costs cause the total cost of this contract to exceed the $1,000,000 cap are performed at the sole risk and cost of the contractor, if not approved by Commissioner's Court.

LABOR AND MATERIAL RATES COST SHEET

Personnel Description	Unit	Unit Price
Operations Manager	Hour	
Superintendent with truck, phone & radio	Hour	
Foreman with truck, phone & radio	Hour	
Safety/Quality Control Inspector with vehicle, phone & radio	Hour	
Inspector with vehicle, phone & radio	Hour	
Climber with gear	Hour	
Saw Hand with chainsaw	Hour	
Laborers & Flagmen	Hour	
Public Assistance Manager	Hour	
Documentation Clerk	Hour	
Timekeeper	Hour	
HazMat Professional	Hour	
Household HazMat Inspection & Removal Crew	Hour	
Materials Description	**Unit**	**Unit Price**
Fill Dirt for Stump Holes – Purchased, Placed, and Shaped	CY	

Notes:

1. The Equipment, labor and material rates shown above are for tasks requested by the County which are not covered in the rates (per cubic yard) for normal debris removal and reduction.

2. Pricing includes operator, fuel, and maintenance. Depending on the severity of the disaster, some or all of the above equipment will be required. Contractor will ensure sufficient numbers or each type of listed equipment are available to meet the needs for a particular disaster.

3. The listed equipment should cover all possible equipment needs following disaster. Contractor has access and contacts for any other equipment that might be required and will negotiate a rate with the County if need arises for equipment not on list.

The amount under this contract to be paid to the debris removal services contractor shall not exceed $1,000,000 in total unless approved by Commissioner's Court, any services rendered whose costs cause the total cost of this contract to exceed the $1,000,000 cap are performed at the sole risk and cost of the contractor, if not approved by Commissioner's Court.

EQUIPMENT RATES COST SHEET

Equipment Description	Unit	Unit Price
JD 544 Wheel Loader with debris grapple	Hour	
JD 644 Wheel Loader with debris grapple	Hour	
Extendaboom Forklift with debris grapple	Hour	
753 Bobcat Skid Steer Loader with debris grapple	Hour	
753 Bobcat Skid Steer Loader with bucket	Hour	
753 Bobcat Skid Steer Loader with street Sweeper	Hour	
30-50 HP Farm Tractor with box blade or rake	Hour	
2-2 ½ Cu.Yd. Articulated Loader with bucket	Hour	
3-4 Cu.Yd. Articulated Loader with bucket	Hour	
JD 648E Log Skidder or equivalent	Hour	
CAT D4 Dozer	Hour	
CAT D6 Dozer	Hour	
CAT D8 Dozer	Hour	
CAT 125 – 140 HP Motor Grader	Hour	
JD 690 Trackhoe with debris grapple	Hour	
JD 690 Trackhoe with bucket & thumb	Hour	
Rubber Tired Trackhoe with debris grapple	Hour	
JD 310 Rubber Tired Backhoe with bucket and hoe	Hour	
Rubber Tired Excavator with debris grapple	Hour	
210 Prentiss Knuckleboom with debris grapple	Hour	
Self-Loader Scraper Cat 623 or equivalent	Hour	
Hand Fed Debris Chipper	Hour	
300 – 400 Tub Grinder	Hour	
800 – 1,000 HP Diamond Z Tub Grinder	Hour	
30 Ton Crane	Hour	
50 Tone Crane	Hour	
100 Ton Crane (8 hour minimum)	Hour	
40-60' Bucket Truck	Hour	
Service Truck	Hour	
Water Truck	Hour	
Portable Light Plant	Hour	
Equipment Transports	Hour	
Pickup Truck, Unmanned	Hour	
Self-loading Dump Truck with Knuckleboom and debris grapple	Hour	
Single Axle Dump Truck, 5 – 12 Cu.Yd.	Hour	
Tandem Dump Truck, 16 - 20 Cu.Yd.	Hour	
Trailer Dump, 24 – 40 Cu.Yd.	Hour	
Trailer Dump Truck, 61 – 80 Cu.Yd.	Hour	
Power Screen	Hour	
Stacking Conveyor	Hour	
Off Road Trucks	Hour	

Stump Conversion Table
Diameter to Volume Capacity

The qualification of the cubic yards of debris for each size of stump is the following table was derived from FEMA field studies conducted throughout the State of Florida during the debris removal operations following Hurricane Charley, Frances, Ivan and Jeanne. The following formula is used to derive cubic yards.

$$\frac{[(\text{Stump Diameter}^2 \times 0.7854) \times \text{Stump Length}] + [(\text{Root ball Diameter}^2 \times 0.7854) \times \text{Root Ball Height}]}{46656}$$

0.7854 is one-fourth Pi and is a constant.
46656 is used to convert inches to Cubic Yards and is a constant.

The formula used to calculate the cubic yardage used the following factors, based upon findings in the field:

- Stump diameter measured two feet up from ground
- Stump diameter to root ball diameter ratio of 1:3:6
- Root ball height of 31"

Stump Diameter (inches)	Cubic Yards
6	0.3
7	0.4
8	0.5
9	0.6
10	0.7
11	0.9
12	1
13	1.2
14	1.4
15	1.6
16	1.8
17	2.1
18	2.3
19	2.6
20	2.9
21	3.2
22	3.5
23	3.8
24	4.1
25	4.5
26	4.8
27	5.2
28	5.6
29	6
30	6.5
31	6.9
32	7.3
33	7.8
34	8.3
35	8.8
36	9.3
37	9.8
38	10.3
39	1.9
40	11.5
41	12
42	12.6
43	13.3
44	13.9
45	14.5
46	15.2

Stump Diameter (inches)	Cubic Yards
47	15.8
48	16.5
49	17.2
50	17.9
51	18.6
52	19.4
53	20.1
54	20.9
55	21.7
56	22.5
57	23.3
58	24.1
59	24.9
60	25.8
61	26.7
62	27.6
63	28.4
64	29.4
65	30.3
66	31.2
67	32.2
68	33.1
69	34.1
70	35.1
71	36.1
72	37.2
73	38.2
74	39.2
75	40.3
76	41.4
77	42.5
78	43.6
79	44.7
80	45.9
81	47
82	48.2
83	49.4
84	50.6