

**BILL OF MATERIAL**

North Abutment

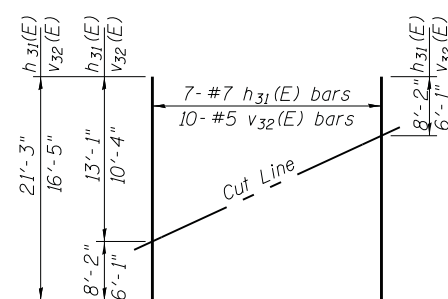
Bar	No.	Size	Length	Shape
h <sub>30</sub> (E)	56	#7	13' - 5"	▬
h <sub>31</sub> (E)	14	#7	21' - 3"	▬
h <sub>32</sub> (E)	4	#5	10' - 5"	▬
p <sub>30</sub> (E)	10	#8	20' - 6"	▬
p <sub>31</sub> (E)	10	#8	22' - 7"	▬
s <sub>31</sub> (E)	12	#5	4' - 4"	⌋
s <sub>32</sub> (E)	44	#5	13' - 11"	⌋
s <sub>34</sub> (E)	2	#5	14' - 1"	⌋
* sp(E)	12	#4	2' - 0"	⌋
u <sub>30</sub> (E)	8	#6	11' - 1"	⌋
u <sub>31</sub> (E)	8	#5	9' - 8"	⌋
v <sub>31</sub> (E)	92	#8	5' - 11"	▬
v <sub>32</sub> (E)	20	#5	16' - 5"	▬
v <sub>33</sub> (E)	8	#5	10' - 5"	▬
Structure Excavation	Cu. Yd.		389	
Concrete Structures	Cu. Yd.		29.7	
Reinforcement Bars, Epoxy Coated	Pound		6,180	
Furnishing Steel Piles HP12x84	Foot		355	
Driving Piles	Foot		355	
Test Pile Steel HP12x84	Each		1	
Geocomposite Wall Drain	Sq. Yd.		68	
Granular Backfill for Structures	Cu. Yd.		196.2	
Pipe Underdrain for Structures, 4" dia.	Foot		99	

**BILL OF MATERIAL**

South Abutment

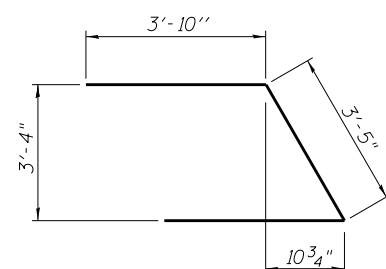
Bar	No.	Size	Length	Shape
h <sub>30</sub> (E)	56	#7	13' - 5"	▬
h <sub>31</sub> (E)	14	#7	21' - 3"	▬
h <sub>32</sub> (E)	4	#5	10' - 5"	▬
p <sub>30</sub> (E)	10	#8	20' - 6"	▬
p <sub>31</sub> (E)	10	#8	22' - 7"	▬
s <sub>31</sub> (E)	12	#5	4' - 4"	⌋
s <sub>32</sub> (E)	44	#5	13' - 11"	⌋
s <sub>34</sub> (E)	2	#5	14' - 1"	⌋
* sp(E)	12	#4	2' - 0"	⌋
u <sub>30</sub> (E)	8	#6	11' - 1"	⌋
u <sub>31</sub> (E)	8	#5	9' - 8"	⌋
v <sub>31</sub> (E)	92	#8	5' - 11"	▬
v <sub>32</sub> (E)	20	#5	16' - 5"	▬
v <sub>33</sub> (E)	8	#5	10' - 5"	▬
Structure Excavation	Cu. Yd.		389	
Concrete Structures	Cu. Yd.		29.7	
Reinforcement Bars, Epoxy Coated	Pound		6,180	
Furnishing Steel Piles HP12x84	Foot		395	
Driving Piles	Foot		395	
Test Pile Steel HP12x84	Each		1	
Geocomposite Wall Drain	Sq. Yd.		68	
Granular Backfill for Structures	Cu. Yd.		196.2	
Pipe Underdrain for Structures, 4" dia.	Foot		97	

\*Length is height of spiral.

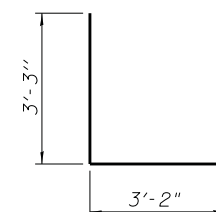


**FIELD CUTTING DIAGRAM**

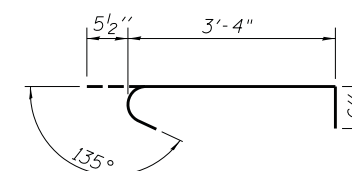
Order h<sub>31</sub>(E) and v<sub>32</sub>(E) full length. Cut as shown and use remainder of bars in opposite face.



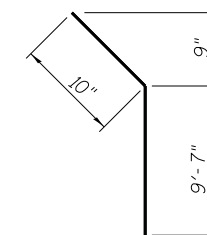
**BAR u<sub>30</sub>(E)**



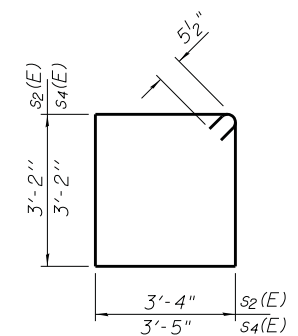
**BAR u<sub>31</sub>(E)**



**BAR s<sub>30</sub>(E)**



**BAR h<sub>32</sub>(E)**



**BARS s<sub>31</sub>(E) and s<sub>32</sub>(E)**