

## A stylized illustration of a yellow and black wheel loader. The machine is shown from a side profile, facing right. It has a large black bucket at the front, a yellow chassis, and large black tires with yellow rims. The background is a solid grey.

# NC Department of Transportation

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- A detailed map of North Carolina showing county boundaries and major roads. The map is titled "North Carolina Counties" at the top. The state is divided into 100 counties. Major cities and towns are labeled, including Charlotte, Raleigh, Durham, and Winston-Salem. The map also shows the Atlantic Ocean to the east. Bluebird sightings are marked with blue pins, each labeled with a number from 1 to 25. The sightings are distributed across the state, with a higher concentration in the western and central regions.

```
graph LR; A[DoT Contract] -- Analysis --> B[Contract Bids]; B -- Awarded --> C[$];
```

The diagram illustrates a process flow. It begins with a yellow box labeled "DoT Contract". An arrow labeled "Analysis" points from this box to a stack of three light blue boxes, the top one of which is labeled "Contract Bids". From this stack, an arrow labeled "Awarded" points to a green dollar sign "\$".

## Contract Overview

- |          |              |              |          |                                | Contractor  |
|----------|--------------|--------------|----------|--------------------------------|---|
| Proposal | Line         | Item         | Quantity | Unit                           | Description                                       |
| C204988  | 1            | 0000100000-N | 1        | LS                             | MOBILIZATION                                      |
|          | 2            | 0000400000-N | 1        | LS                             | CONSTRUCTION SURVEYING                            |
|          | 3            | 0015000000-N | 3        | EA                             | SEALING ABANDONED WELLS                           |
|          | 4            | 0043000000-N | 1        | LS                             | GRADING   |
|          | 5            | 0050000000-E | 1        | ACR                            | SUPPLEMENTARY CLEARING & GRUBBING                 |
|          | 6            | 0057000000-E | 100      | CY                             | UNDERCUT EXCAVATION                               |
|          | 7            | 0134000000-E | 7140     | CY                             | DRAINAGE DITCH EXCAVATION                         |
|          | 8            | 0195000000-E | 100      | CY                             | SELECT GRANULAR MATERIAL                          |
|          | 9            | 0196000000-E | 1000     | SY                             | GEOTEXTILE FOR SOIL STABILIZATION                 |
|          | 10           | 0199000000-E | 500      | SF                             | TEMPORARY SHORING                                 |
|          | 11           | 0318000000-E | 1540     | TON                            | FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURE |
|          | 12           | 0321000000-E | 4820     | SY                             | FOUNDATION CONDITIONING GEOTEXTILE                |
|          | 13           | 0344000000-E | 124      | LF                             | 18" SIDE DRAIN PIPE                               |
|          | 14           | 0366000000-E | 272      | LF                             | 15" RC PIPE CULVERTS, CLASS III                   |
|          | 15           | 0372000000-E | 232      | LF                             | 18" RC PIPE CULVERTS, CLASS III                   |
|          | 16           | 0378000000-E | 1824     | LF                             | 24" RC PIPE CULVERTS, CLASS III                   |
|          | 17           | 0384000000-E | 280      | LF                             | 30" RC PIPE CULVERTS, CLASS III                   |
|          | 18           | 0390000000-E | 592      | LF                             | 36" RC PIPE CULVERTS, CLASS III                   |
|          | 19           | 0396000000-E | 344      | LF                             | 42" RC PIPE CULVERTS, CLASS III                   |
|          | 20           | 0402000000-E | 112      | LF                             | 48" RC PIPE CULVERTS, CLASS III                   |
|          | 21           | 0414000000-E | 48       | LF                             | 60" RC PIPE CULVERTS, CLASS III                   |
|          | 22           | 0448000000-E | 72       | LF                             | ***** RC PIPE CULVERTS, CLASS IV (54")            |
|          | 23           | 0448200000-E | 4544     | LF                             | 15" RC PIPE CULVERTS, CLASS IV                    |
|          |              |              |          | LF                             | 15" RC PIPE CULVERTS, CLASS IV                    |
| 24       | 0448300000-E | 4128         | LF       | 18" RC PIPE CULVERTS, CLASS IV |   |

## Contractor's Perspective

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- Contract Bids and Money Left on Table**
- Legend:
- \$10,000,000 (Orange)
  - \$11,000,000 (Dark Gray)
  - \$10,750,000 (Light Gray)
  - Money Left on Table = \$749,999 (Red)
- | Contractor   | Bid Amount   | Money Left on Table |
|--------------|--------------|---------------------|
| Contractor 1 | \$10,000,000 | \$749,999           |
| Contractor 2 | \$10,750,000 | \$0                 |
| Contractor 3 | \$11,000,000 | \$0                 |

## Goal

- ## Bidding Dynamics

- [illegible]

## Data Collection and Processing

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- ```

graph LR
    A[(DoT Website)] -- ETL --> B[Representation]
    B -- "Pay Item Context" --> C[/Model/]
    C --> D[Pay Item $ Prediction]
  
```

## Results

- | Line | Description | Unit | QTY | Unit Price |        | Amount  | Tax    |        | Total   | Tax Code | Tax Description | Tax Amount | Total Tax |
|------|-------------|------|-----|------------|--------|---------|--------|--------|---------|----------|-----------------|------------|-----------|
|      |             |      |     | Base       | Rate   |         | Amount | Rate   |         |          |                 |            |           |
| 1    | 1.00000000  | EA   | 1   | 1.0000     | 0.0000 | 1.0000  | 0.0000 | 0.0000 | 1.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 2    | 2.00000000  | EA   | 2   | 2.0000     | 0.0000 | 2.0000  | 0.0000 | 0.0000 | 2.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 3    | 3.00000000  | EA   | 3   | 3.0000     | 0.0000 | 3.0000  | 0.0000 | 0.0000 | 3.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 4    | 4.00000000  | EA   | 4   | 4.0000     | 0.0000 | 4.0000  | 0.0000 | 0.0000 | 4.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 5    | 5.00000000  | EA   | 5   | 5.0000     | 0.0000 | 5.0000  | 0.0000 | 0.0000 | 5.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 6    | 6.00000000  | EA   | 6   | 6.0000     | 0.0000 | 6.0000  | 0.0000 | 0.0000 | 6.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 7    | 7.00000000  | EA   | 7   | 7.0000     | 0.0000 | 7.0000  | 0.0000 | 0.0000 | 7.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 8    | 8.00000000  | EA   | 8   | 8.0000     | 0.0000 | 8.0000  | 0.0000 | 0.0000 | 8.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 9    | 9.00000000  | EA   | 9   | 9.0000     | 0.0000 | 9.0000  | 0.0000 | 0.0000 | 9.0000  | 0.0000   | 0.0000          | 0.0000     |           |
| 10   | 10.00000000 | EA   | 10  | 10.0000    | 0.0000 | 10.0000 | 0.0000 | 0.0000 | 10.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 11   | 11.00000000 | EA   | 11  | 11.0000    | 0.0000 | 11.0000 | 0.0000 | 0.0000 | 11.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 12   | 12.00000000 | EA   | 12  | 12.0000    | 0.0000 | 12.0000 | 0.0000 | 0.0000 | 12.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 13   | 13.00000000 | EA   | 13  | 13.0000    | 0.0000 | 13.0000 | 0.0000 | 0.0000 | 13.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 14   | 14.00000000 | EA   | 14  | 14.0000    | 0.0000 | 14.0000 | 0.0000 | 0.0000 | 14.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 15   | 15.00000000 | EA   | 15  | 15.0000    | 0.0000 | 15.0000 | 0.0000 | 0.0000 | 15.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 16   | 16.00000000 | EA   | 16  | 16.0000    | 0.0000 | 16.0000 | 0.0000 | 0.0000 | 16.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 17   | 17.00000000 | EA   | 17  | 17.0000    | 0.0000 | 17.0000 | 0.0000 | 0.0000 | 17.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 18   | 18.00000000 | EA   | 18  | 18.0000    | 0.0000 | 18.0000 | 0.0000 | 0.0000 | 18.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 19   | 19.00000000 | EA   | 19  | 19.0000    | 0.0000 | 19.0000 | 0.0000 | 0.0000 | 19.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 20   | 20.00000000 | EA   | 20  | 20.0000    | 0.0000 | 20.0000 | 0.0000 | 0.0000 | 20.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 21   | 21.00000000 | EA   | 21  | 21.0000    | 0.0000 | 21.0000 | 0.0000 | 0.0000 | 21.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 22   | 22.00000000 | EA   | 22  | 22.0000    | 0.0000 | 22.0000 | 0.0000 | 0.0000 | 22.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 23   | 23.00000000 | EA   | 23  | 23.0000    | 0.0000 | 23.0000 | 0.0000 | 0.0000 | 23.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 24   | 24.00000000 | EA   | 24  | 24.0000    | 0.0000 | 24.0000 | 0.0000 | 0.0000 | 24.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 25   | 25.00000000 | EA   | 25  | 25.0000    | 0.0000 | 25.0000 | 0.0000 | 0.0000 | 25.0000 | 0.0000   | 0.0000          | 0.0000     |           |
| 26   | 26.         |      |     |            |        |         |        |        |         |          |                 |            |           |



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