

BRIDGE QUANTITY CALCULATIONS

PID No. 104613

**BRIDGE NO. TRU-CH43-WARNER RD.
(HARTFORD #1) OVER SOUTH BRANCH YANKEE RUN**

SFN 7832002

Prepared for:

Trumbull County Engineer
650 North River Road, NW
Warren, OH 44483



Prepared by:

MS Consultants, Inc.
333 E. Federal Street
Youngstown, Ohio 44503

May 18, 2020

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 503E11100 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 2 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
ITEM NAME COFFERDAMS AND EXCAVATION BRACING PAY UNIT LS

| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
|--------------|--|---------------|--|--|--|--|--|-----------|----------|
| | | | | | | | | | |
| | | LUMP SUM ITEM | | | | | | | |
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| TOTAL | | | | | | | | - | 0 |

| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 503E21100 | | | | | | |
|---|-----------------|---------------|------------------------|------------|-------------|-------------|-----|------------|------------|
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | | | | | | |
| PID NO. <u>104613</u> PROJECT <u>TRU-Warner</u> STRUCTURE <u>TRU-C0043-0001</u> | | | | | | | | | |
| ITEM NAME <u>UNCLASSIFIED EXCAVATION</u> PAY UNIT <u>CY</u> | | | | | | | | | |
| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
| Excavation is 1'-0" around Perimeter of Footing x Excavation Depth | | | | | | | | | |
| Location | Length | Width | Area (SF) | Avg. Depth | Volume (CF) | Volume (CY) | | | |
| Rear Abut | 42.5 | 7.00 | 298 | 4.33 | 1288 | 48 | | | |
| Fwd Abut | 55.0 | 7.00 | 385 | 4.33 | 1667 | 62 | | | |
| Rear WW | 46.25 | 6.00 | 278 | 4.50 | 1249 | 46 | | | |
| Fwd WW | 27.0 | 6.00 | 162 | 4.50 | 729 | 27 | | | |
| Total | | | | | 4933 | 183 | 183 | | |
| TOTAL | | | | | | | | 183 | 183 |

| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 509E10000 | |
|--|--------------------|--------------------------|------------------------|---------------|
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | |
| PID NO. 104613 | PROJECT TRU-Warner | STRUCTURE TRU-C0043-0001 | | |
| ITEM NAME EPOXY COATED REINFORCING STEEL | PAY UNIT LB | | | |
| DESCRIPTION | | | SUB TOTAL | TOTAL |
| From Reinforcing Schedules | | | | |
| | | LB | | |
| | Abutments | 15450 | | |
| | Diaphragms | 4052 | | |
| | Piers | 7970 | | |
| | Wingwalls | 2078 | | |
| | Superstructure | 29240 | | |
| | TOTAL | 58790 | 58,790 | |
| TOTAL | | | 58,790 | 58,790 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 511E21522 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE PAY UNIT CY

| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
|---|-------------------|----------------|---------------|-------------|---------------|-------------|------|-----------|-------|
| Deck (Area Measured from Microstation) | | | | | | | | | |
| | Area (SF) | Thickness (ft) | Volume (ft^3) | Volume (CY) | | | | | |
| | 3219.3 | 0.708 | 2280.3 | 84.5 | | | 84.5 | | |
| Typical Haunch | | | | | | | | | |
| Beam # | Fillet Width (in) | Height (in) | Area (sq in) | Length (ft) | Volume (ft^3) | Volume (CY) | | | |
| 1 | 10.4 | 2 | 20.8 | 101.5 | 14.7 | 1 | | | |
| 2 | 10.4 | 2 | 20.8 | 101.5 | 14.7 | 1 | | | |
| 3 | 10.4 | 2 | 20.8 | 101.5 | 14.7 | 1 | | | |
| 4 | 10.4 | 2 | 20.8 | 101.5 | 14.7 | 1 | | | |
| | | | | Total = | 58.7 | 4 | 4.0 | | |
| Additional Haunch Overhang | | | | | | | | | |
| Beam # | Width (in) | Height (in) | Area (ft^2) | Length (ft) | Volume (ft^3) | Volume (CY) | | | |
| 1 | 30 | 9.5 | 1.98 | 101.5 | 201.0 | 8 | | | |
| 4 | 30 | 9.5 | 1.98 | 101.5 | 201.0 | 8 | | | |
| | | | | Total = | 401.9 | 16.0 | 16.0 | | |
| TOTAL | | | | | | | | 104.5 | |

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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 511E21522 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 2 |

PID NO. 104613 JOB NO. TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE PAY UNIT CY

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|-----------------------------------|--------|--------|--------|--------------------|-----|------|-------------|------------|
| Diaphragm Guide Deduction | | | | | | | | |
| | Length | Width | Height | CF | CY | | | |
| RA | 3.0 ft | 3.0 ft | 2.0 ft | 18.0 | 0.7 | -0.7 | | |
| FA | 3.0 ft | 3.0 ft | 2.0 ft | 18.0 | 0.7 | -0.7 | | |
| Rear Abutment Diaphragm | | | | | | | | |
| | Length | 38.00 | ft | | | | | |
| | Width | 3.00 | ft | | | | | |
| | Height | 2.88 | ft | | | | | |
| | Add | 56.62 | CF | for area above C.J | | | | |
| | Vol | 384.37 | CF | | | | | |
| | Vol | 14.2 | CY | | | 14.2 | | |
| Forward Abutment Diaphragm | | | | | | | | |
| | Length | 38.10 | ft | | | | | |
| | Width | 3.00 | ft | | | | | |
| | Height | 2.88 | ft | | | | | |
| | Add | 56.77 | CF | for area above C.J | | | | |
| | Vol | 385.38 | CF | | | | | |
| | Vol | 14.3 | CY | | | 14.3 | | |
| TOTAL | | | | | | | 27.2 | 132 |

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|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 511E41012 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS PAY UNIT CY

| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
|---|-----------------|-------------------|--------------------|--------------------|----------------------|--------------------|---------|-----------|-------|
| Piers (Cap Area Measured from Microstation) | | | | | | | | | |
| Cap Thickness = | | 3.0 | ft | | | | | | |
| Column Diameter = | | 3.0 | ft | | | | | | |
| No. Columns = | | 3 | | | | | | | |
| Pier # | Cap Area (ft^2) | Cap Volume (ft^3) | Column Height (ft) | Column Area (ft^2) | Column Volume (ft^3) | Pier Volume (ft^3) | | | |
| 1 | 117.6 | 352.77 | 10.94 | 7.07 | 232 | 584.76 | | | |
| 2 | 107.4 | 322.08 | 10.20 | 7.07 | 216 | 538.38 | | | |
| | | | | | | Total = | 1123.14 | ft^3 | |
| | | | | | | Total = | 42.0 | yd^3 | |
| Pier Volume = | | | | | | | | 42.00 | |
| TOTAL | | | | | | | | 42 | 42 |

| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 511E43512 | | | | | | |
|---|-----------------|-----------------|------------------------|----------------|-------------|---------------|---------------|--------------------------|-------|
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | | | | | | |
| PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001 | | | | | | | | | |
| ITEM NAME CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING PAY UNIT CY | | | | | | | | | |
| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
| Rear Abutment (Left and Right looking downstation) | | | | | | | | | |
| | Item | Avg Height (ft) | CAD Area (ft^2) | Thickness (ft) | Length (ft) | Volume (ft^3) | Volume (yd^3) | | |
| | Stem | 5.6 | | 3.00 | 38.00 | 638.40 | 23.6 | | |
| | Footing | | 366.5 | 3.000 | | 1099.50 | 40.7 | | |
| | SW Wing | | 352.4 | 1.500 | | 528.60 | 19.6 | | |
| | SE Wing | | 92.4 | 1.500 | | 138.60 | 5.1 | | |
| | | | | | Total = | 2405.10 | 89.08 | | |
| | | | | | | | | Total Rear Abut = | 90.00 |
| Forward Abutment | | | | | | | | | |
| | Item | Avg Height (ft) | CAD Area (ft^2) | Thickness (ft) | Length (ft) | Volume (ft^3) | Volume (yd^3) | | |
| | Stem | 3.1 | | 3.00 | 38.10 | 352.04 | 13.0 | | |
| | Footing | | 381.1 | 3.000 | | 1143.21 | 42.3 | | |
| | NW Wing | | 215.0 | 1.500 | | 322.50 | 11.9 | | |
| | NE Wing | | 68.4 | 1.500 | | 102.57 | 3.8 | | |
| | | | | | Total = | 1920.32 | 71.12 | | |
| | | | | | | | | Total Fwd Abut = | 72.00 |
| TOTAL | | | | | | | | 162 | 162 |

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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 512E10100 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) PAY UNIT SY

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|-----------------------------------|-------------|-----------------|------------------|------------------------|-----------|------|-----------|-------|
| Piers 1 Cap Areas | | | | | | | | |
| Front (ft^2) | Back (ft^2) | Left End (ft^2) | Right End (ft^2) | Bottom (ft^2) | Area (SY) | | | |
| 117.60 | 117.60 | 12.12 | 9.75 | 76.29 | 37.04 | 37.0 | | |
| Piers 2 Cap Areas | | | | | | | | |
| Front (ft^2) | Back (ft^2) | Left End (ft^2) | Right End (ft^2) | Left Underneath (ft^2) | Area (SY) | | | |
| 107.40 | 107.40 | 10.00 | 9.75 | 76.29 | 34.54 | 34.5 | | |
| Pier 1 Column Areas | | | | | | | | |
| Diameter (ft) | Avg Ht (ft) | No of Col (ft) | Area (ft^2) | Area (YD^2) | | | | |
| 3 | 10.94 | 3 | 309.3 | 34.4 | | 34.4 | | |
| Pier 1 Drilled Shaft Areas | | | | | | | | |
| Diameter (ft) | Avg Ht (ft) | No of Col (ft) | Area (ft^2) | Area (YD^2) | | | | |
| 4 | 1.00 | 3 | 37.7 | 4.2 | | 4.2 | | |
| Pier 2 Column Areas | | | | | | | | |
| Diameter (ft) | Avg Ht (ft) | No of Col (ft) | Area (ft^2) | Area (YD^2) | | | | |
| 3 | 10.20 | 3 | 288.4 | 32.0 | | 32.0 | | |
| Pier 2 Drilled Shaft Areas | | | | | | | | |
| Diameter (ft) | Avg Ht (ft) | No of Col (ft) | Area (ft^2) | Area (YD^2) | | | | |
| 4 | 1.00 | 3 | 37.7 | 4.2 | | 4.2 | | |
| Total Piers | | | | | | 146 | | |

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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 512E10100 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 3 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
ITEM NAME SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) PAY UNIT SY

| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
|--|-------------|-------------|-------------|--|--|--|------|-----------|-------|
| Rear Abutment Wingwalls | | | | | | | | | |
| SE Wingwall Front Face | | | | | | | | | |
| CAD Area (ft^2) | Area (YD^2) | | | | | | | | |
| 64.0 | 7.1 | | | | | | 7.1 | | |
| Side of SE Wingwall | | | | | | | | | |
| Height (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | |
| 1.1 | 1.5 | 1.65 | 0.2 | | | | 0.2 | | |
| Top and backside of SE Wingwall | | | | | | | | | |
| Length (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | |
| 16 | 2 | 32 | 3.6 | | | | 3.6 | | |
| SW Wingwall Front Face | | | | | | | | | |
| CAD Area (ft^2) | Area (YD^2) | | | | | | | | |
| 133.0 | 14.8 | | | | | | 14.8 | | |
| Side of SW Wingwall | | | | | | | | | |
| Height (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | |
| 0.5 | 1.5 | 0.75 | 0.1 | | | | 0.1 | | |
| Top and backside of SW Wingwall | | | | | | | | | |
| Length (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | |
| 35 | 2 | 70 | 7.8 | | | | 7.8 | | |
| TOTAL | | | | | | | | | |

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|--|---|-----------------|---------------|------------------------|----------------|--|--|--|-----------|-------|-----|
| QUANTITY CALCULATIONS | | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 512E10100 | | | | | | | |
| | | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 4 | | | | | | | |
| PID NO. | 104613 | PROJECT | TRU-Warner | STRUCTURE | TRU-C0043-0001 | | | | | | |
| ITEM NAME | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) | | | PAY UNIT | SY | | | | | | |
| DESCRIPTION | | | | | | | | | SUB TOTAL | TOTAL | |
| Forward Abutment Wingwalls | | | | | | | | | | | |
| NE Wingwall Front Face | | | | | | | | | | | |
| CAD Area (ft^2) | Area (YD^2) | | | | | | | | | | |
| 45.1 | 5.0 | | | | | | | | 5.0 | | |
| Side of NE Wingwall | | | | | | | | | | | |
| Height (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | | | |
| 1.3 | 1.5 | 1.95 | 0.2 | | | | | | | | 0.2 |
| Top and backside of NE Wingwall | | | | | | | | | | | |
| Length (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | | | |
| 11.6 | 2 | 23.2 | 2.6 | | | | | | | | 2.6 |
| NW Wingwall Front Face | | | | | | | | | | | |
| CAD Area (ft^2) | Area (YD^2) | | | | | | | | | | |
| 88.00 | 9.8 | | | | | | | | 9.8 | | |
| Side of NW Wingwall | | | | | | | | | | | |
| Height (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | | | |
| 0.5 | 1.5 | 0.75 | 0.1 | | | | | | | | 0.1 |
| Top and backside of NE Wingwall | | | | | | | | | | | |
| Length (ft) | Depth (ft) | Area (ft^2) | Area (YD^2) | | | | | | | | |
| 31 | 2 | 62 | 6.9 | | | | | | | | 6.9 |
| Total Abutments | | | | | | | | | 80 | | |

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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 512E10100 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 5 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
ITEM NAME SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) PAY UNIT SY

| DESCRIPTION | | | | | | SUB TOTAL | TOTAL |
|-----------------------------|-----------------------|------------------------|------------------|-------------|-------------|------------|------------|
| Superstructure | | | | | | | |
| Right Edge of Deck | | | | | | | |
| | Width (ft) | Length (ft) | Area (ft^2) | Area (yd^2) | | | |
| | 2.00 | 102 | 204.0 | 22.7 | | 22.7 | |
| Left Edge of Deck | | | | | | | |
| | Width (ft) | Length (ft) | Area (ft^2) | Area (yd^2) | | | |
| | 2.00 | 102 | 204.0 | 22.7 | | 22.7 | |
| Rear Abutment | | | | | | | |
| Diaphragm Front Face | | | | | | | |
| | Left Side Height (ft) | Right Side Height (ft) | Length (ft) | Area (ft^2) | Area (YD^2) | | |
| | 3.1 | 3.1 | 38.0 | 117.80 | 13.1 | 13.1 | |
| Ends | | | | | | | |
| | Left Side Height (ft) | Right Side Height (ft) | Width (Avg) (ft) | Area (ft^2) | Area (YD^2) | | |
| | 3.9 | 3.9 | 1.75 | 13.65 | 1.5 | 1.5 | |
| Forward Abutment | | | | | | | |
| Diaphragm Front Face | | | | | | | |
| | Left Side Height (ft) | Right Side Height (ft) | Length (ft) | Area (ft^2) | Area (YD^2) | | |
| | 3.1 | 3.1 | 38.0 | 117.80 | 13.1 | 13.1 | |
| Ends | | | | | | | |
| | Left Side Height (ft) | Right Side Height (ft) | Width (Avg) (ft) | Area (ft^2) | Area (YD^2) | | |
| | 3.9 | 3.9 | 1.75 | 13.65 | 1.5 | 1.5 | |
| Total Superstructure | | | | | | 75 | |
| TOTAL | | | | | | 302 | 302 |

| | | | |
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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 513E20000 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME WELDED STUD SHEAR CONNECTORS PAY UNIT EACH

| | | | | | | | | SUB TOTAL | TOTAL |
|--|---------------|---------------|--|--|--|--|--|--------------|--------------|
| 5.5" X 7/8 dia studs on Beams, 3 per row: | | | | | | | | | |
| Beam # | Spaces | Number | | | | | | | |
| 1 | 146 | 441 | | | | | | | |
| 2 | 146 | 441 | | | | | | | |
| 3 | 146 | 441 | | | | | | | |
| 4 | 146 | 441 | | | | | | | |
| Total | | | | | | | | 1,764 | 1,764 |
| TOTAL | | | | | | | | 1,764 | 1764 |

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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 516E13900 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |
| PID NO. 104613 | | PROJECT TRU-Warner | STRUCTURE TRU-C0043-0001 |
| ITEM NAME 2" PREFORMED EXPANSION JOINT FILLER | | | PAY UNIT SF |

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|-------------------------|--|--|--------|------|-------|--|--|--|--|-----------|-----------|
| Rear Abutment | | | | | | | | | | | |
| Left Side | | | L = | 1.50 | ft | | | | | | |
| | | | H = | 4.15 | ft | | | | | | |
| | | | Area = | 6.2 | sq ft | | | | | 6.2 | |
| Right Side | | | L = | 1.73 | ft | | | | | | |
| | | | H = | 4.41 | ft | | | | | | |
| | | | Area = | 7.6 | sq ft | | | | | 7.6 | |
| Forward Abutment | | | | | | | | | | | |
| Left Side | | | L = | 1.50 | ft | | | | | | |
| | | | H = | 4.24 | ft | | | | | | |
| | | | Area = | 6.4 | sq ft | | | | | 6.4 | |
| Right Side | | | L = | 1.73 | ft | | | | | | |
| | | | H = | 4.30 | ft | | | | | | |
| | | | Area = | 7.4 | sq ft | | | | | 7.4 | |
| TOTAL | | | | | | | | | | 28 | 28 |

| | | | |
|--|--------------------|--------------------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 516E25000 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |
| PID NO. 104613 | PROJECT TRU-Warner | STRUCTURE TRU-C0043-0001 | |
| ITEM NAME NYLON REINFORCED NEOPRENE SHEETING | | PAY UNIT SF | |

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|-------------------------|--|-----------------|--------------|---------------|------------------|-----|------------|------------|
| Rear Abutment | | | | | | | | |
| | | Location | Width | Length | Area (SF) | | | |
| | | Side | 3 | 6 | 18 | | | |
| | | Side | 3 | 6 | 18 | | | |
| | | Horizontal | 3 | 37.8 | 113.4 | | | |
| | | | | Sum | 150 | 150 | | |
| Forward Abutment | | | | | | | | |
| | | Location | Width | Length | Area (SF) | | | |
| | | Side | 3 | 6 | 18 | | | |
| | | Side | 3 | 6 | 18 | | | |
| | | Horizontal | 3 | 38 | 114 | | | |
| | | | | Sum | 150 | 150 | | |
| TOTAL | | | | | | | 300 | 300 |

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| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 518E21200 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
ITEM NAME POROUS BACKFILL WITH GEOTEXTILE FABRIC PAY UNIT CY

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|-------------------------|-------------|------------|-------------|---------------|---------------|-------|-----------|-----------|
| Rear Abutment | | | | | | | | |
| Location | Height (ft) | Width (ft) | Length (ft) | Volume (ft^3) | Volume (yd^3) | | | |
| SW Wing | 10.3 | 2.0 | 24.0 | 494.40 | 19.00 | | | |
| Abut. | 8.3 | 2.0 | 41.0 | 680.60 | 26.00 | | | |
| SE Wing | 8.1 | 2.0 | 14.0 | 226.80 | 9.00 | | | |
| | | | | Sum | 54.00 | 54.00 | | |
| Forward Abutment | | | | | | | | |
| Location | Height (ft) | Width (ft) | Length (ft) | Volume (ft^3) | Volume (yd^3) | | | |
| NE Wing | 6.0 | 2.0 | 25.0 | 300.00 | 12.00 | | | |
| Abut. | 5.7 | 2.0 | 41.0 | 467.40 | 18.00 | | | |
| SE Wing | 5.8 | 2.0 | 9.0 | 104.40 | 4.00 | | | |
| | | | | Sum | 34.00 | 34.00 | | |
| TOTAL | | | | | | | 88 | 88 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 518E22300 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME STEEL DRIP STRIP PAY UNIT FT

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|--------------------------|----------|-------------------|----|-------------------------------|----|--|------------|------------|
| Superstructure | | | | | | | | |
| Left Drip Strip | | | | | | | | |
| | Length = | 101.5 | ft | From face of RA to face of FA | | | 101.50 | |
| Top Strip at Each post = | | 1.5' x 16 posts = | | 24.0 | ft | | 24.0 | |
| Right Drip Strip | | | | | | | | |
| | Length = | 101.5 | ft | From face of RA to face of FA | | | 101.50 | |
| Top Strip at Each post = | | 1.5' x 16 posts = | | 24.0 | ft | | 24.00 | |
| TOTAL | | | | | | | 251 | 251 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 518E40000 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001

ITEM NAME 6" PERFORATED CORRUGATED PLASTIC PIPE PAY UNIT FT

| DESCRIPTION | | | | | | | | SUB TOTAL | TOTAL |
|--|----------------|--|--|--|--|--|----|------------|------------|
| Rear Abutment including at Wingwalls | | | | | | | | | |
| | Length (ft) | | | | | | | | |
| | 78.0 | | | | | | 78 | | |
| Forward Abutment including at Wingwalls | | | | | | | | | |
| | Length (ft) | | | | | | | | |
| | 74.0 | | | | | | 74 | | |
| TOTAL | | | | | | | | 152 | 152 |

| | | | | | | |
|--|-----------------|---------------------------|---------------------------------|--------------------|--|--|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 518E40010 | | | |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | | | |
| PID NO. <u>104613</u> | | PROJECT <u>TRU-Warner</u> | STRUCTURE <u>TRU-C0043-0001</u> | | | |
| ITEM NAME <u>6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS</u> | | | | PAY UNIT <u>FT</u> | | |

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL | |
|-------------------------|--|--|--|--|--|--|--|--|--|-----------|-----------|--|
| Rear Abutment | | | | | | | | | | | | |
| Length (ft) | | | | | | | | | | | | |
| 4.1 | | | | | | | | | | | | |
| Use 6 | | | | | | | | | | | 6 | |
| Forward Abutment | | | | | | | | | | | | |
| Length (ft) | | | | | | | | | | | | |
| 8.8 | | | | | | | | | | | | |
| Use 10 | | | | | | | | | | | 10 | |
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| TOTAL | | | | | | | | | | 16 | 16 | |

| | | | | |
|---|------------------------|----------------------|-------------------------------|--|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 524E94604 | |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | |
| PID NO. <u>104613</u> PROJECT <u>TRU-Warner</u> STRUCTURE <u>TRU-C0043-0001</u> | | | | |
| ITEM NAME <u>DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK</u> PAY UNIT <u>FT</u> | | | | |

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|-------------------------------------|------|----|--|--|--|--|--|--|--|-----------|-----------|
| Rear Abutment (at Wingwalls) | | | | | | | | | | | |
| Length | 5.0 | ft | | | | | | | | | |
| Number | 3.0 | | | | | | | | | | |
| Total | 15.0 | | | | | | | | | 15.0 | |
| Fwd. Abutment (at Wingwalls) | | | | | | | | | | | |
| Length | 5.0 | ft | | | | | | | | | |
| Number | 3.0 | | | | | | | | | | |
| Total | 15.0 | | | | | | | | | 15.0 | |
| TOTAL | | | | | | | | | | 30 | 30 |

| | | | | | |
|--------------------------|---|---------------|------------------------|-----------|----------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 524E94702 | | |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | | |
| PID NO. | 104613 | PROJECT | TRU-Warner | STRUCTURE | TRU-C0043-0001 |
| ITEM NAME | DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK | | | PAY UNIT | FT |

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|-------------------------------------|------|----|--|--|--|------|-----------|-----------|
| Rear Abutment (at Wingwalls) | | | | | | | | |
| Length | 10.5 | ft | | | | | | |
| Number | 3.0 | | | | | | | |
| Total | 32.0 | | | | | 32.0 | | |
| Fwd. Abutment (at Wingwalls) | | | | | | | | |
| Length | 10.1 | ft | | | | | | |
| Number | 3.0 | | | | | | | |
| Total | 31.0 | | | | | 31.0 | | |
| TOTAL | | | | | | | 63 | 63 |

| | | | | |
|---|------------------------|----------------------|-------------------------------|--|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 524E94704 | |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 | |
| PID NO. <u>104613</u> PROJECT <u>TRU-Warner</u> STRUCTURE <u>TRU-C0043-0001</u> | | | | |
| ITEM NAME <u>DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK</u> PAY UNIT <u>FT</u> | | | | |

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|---------------|--------|-------|----|--|--|--|--|--|--|-----------|-----------|
| Pier 1 | | | | | | | | | | | |
| | Length | 11.75 | ft | | | | | | | | |
| | Number | 3.0 | | | | | | | | | |
| | Total | 36.0 | | | | | | | | 36.0 | |
| Pier 2 | | | | | | | | | | | |
| | Length | 11.75 | ft | | | | | | | | |
| | Number | 3.0 | | | | | | | | | |
| | Total | 36.0 | | | | | | | | 36.0 | |
| TOTAL | | | | | | | | | | 72 | 72 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 524E94802 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
 ITEM NAME DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK PAY UNIT FT

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|---------------|------|----|--|--|--|--|--|--|--|-----------|-----------|
| Pier 1 | | | | | | | | | | | |
| Length | 4.75 | ft | | | | | | | | | |
| Number | 3.0 | | | | | | | | | | |
| Total | 15.0 | | | | | | | | | 15.0 | |
| Pier 2 | | | | | | | | | | | |
| Length | 4.0 | ft | | | | | | | | | |
| Number | 3.0 | | | | | | | | | | |
| Total | 12.0 | | | | | | | | | 12.0 | |
| TOTAL | | | | | | | | | | 27 | 27 |

| | | | |
|---|------------------------|----------------------|-------------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 524E94804 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |
| PID NO. <u>104613</u> PROJECT <u>TRU-Warner</u> STRUCTURE <u>TRU-C0043-0001</u> | | | |
| ITEM NAME <u>DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK</u> PAY UNIT <u>FT</u> | | | |

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|----------------------|------|----|--|--|--|--|--|--|--|-----------|-----------|
| Rear Abutment | | | | | | | | | | | |
| Length | 7.5 | ft | | | | | | | | | |
| Number | 4.0 | | | | | | | | | | |
| Total | 30.0 | | | | | | | | | 30.0 | |
| Fwd. Abutment | | | | | | | | | | | |
| Length | 7.5 | ft | | | | | | | | | |
| Number | 4.0 | | | | | | | | | | |
| Total | 30.0 | | | | | | | | | 30.0 | |
| TOTAL | | | | | | | | | | 60 | 60 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 524E94902 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001
ITEM NAME DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK PAY UNIT FT

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL | |
|----------------------|------|----|--|--|--|--|--|--|--|-----------|-----------|--|
| Rear Abutment | | | | | | | | | | | | |
| Length | 10.5 | ft | | | | | | | | | | |
| Number | 4.0 | | | | | | | | | | | |
| Total | 42.0 | | | | | | | | | | 42.0 | |
| Fwd. Abutment | | | | | | | | | | | | |
| Length | 10.1 | ft | | | | | | | | | | |
| Number | 4.0 | | | | | | | | | | | |
| Total | 41.0 | | | | | | | | | | 41.0 | |
| TOTAL | | | | | | | | | | 83 | 83 | |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 526E25010 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001

ITEM NAME REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15") PAY UNIT SY

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|--------------------------------|--------|-------|-------|--|--|--|--|--|--|------------|------------|
| Rear Approach Slab | | | | | | | | | | | |
| (Measured from Microstation) | | | | | | | | | | | |
| | Area = | 749.6 | sq ft | | | | | | | | |
| Forward Approach Slab | | | | | | | | | | | |
| (Measured from Microstation) | | | | | | | | | | | |
| | Area = | 749.6 | sq ft | | | | | | | | |
| Combined Area (SQ FT) = | | 1499 | | | | | | | | | |
| Combined Area (SQ YD) = | | 167 | | | | | | | | | |
| Approach Slab Area = | | | | | | | | | | 167 | |
| TOTAL | | | | | | | | | | 167 | 167 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 526E90010 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001

ITEM NAME TYPE A INSTALLATION PAY UNIT FT

| DESCRIPTION | | | | | | | | | | SUB TOTAL | TOTAL |
|------------------------------|----------|------|----|--|--|--|--|--|--|-----------|-----------|
| Rear Approach Slab | | | | | | | | | | | |
| | Length = | 34.4 | ft | | | | | | | 34.4 | |
| Forward Approach Slab | | | | | | | | | | | |
| | Length = | 34.4 | ft | | | | | | | 34.4 | |
| TOTAL | | | | | | | | | | 69 | 69 |

| | | | |
|--------------------------|-----------------|---------------|------------------------|
| QUANTITY CALCULATIONS | MADE BY: SJR | DATE: 4/30/20 | ITEM NUMBER: 846E00110 |
| | CHECKED BY: WER | DATE: 5/12/20 | PAGE NUMBER: 1 |

PID NO. 104613 PROJECT TRU-Warner STRUCTURE TRU-C0043-0001

ITEM NAME POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM PAY UNIT CF

| DESCRIPTION | | | | | | | SUB TOTAL | TOTAL |
|--|----------|------|----|--|--|------|-----------|-----------|
| Rear Approach Slab (For Type A Installation) | | | | | | | | |
| | Length = | 34.4 | ft | | | | | |
| | Width = | 1.67 | ft | | | | | |
| | Thick = | 0.25 | ft | | | | | |
| | Volume = | 15.0 | CF | | | 15.0 | | |
| Forward Approach Slab (For Type A Installation) | | | | | | | | |
| | Length = | 34.4 | ft | | | | | |
| | Width = | 1.67 | ft | | | | | |
| | Thick = | 0.25 | ft | | | | | |
| | Volume = | 15.0 | CF | | | 15.0 | | |
| TOTAL | | | | | | | 30 | 30 |