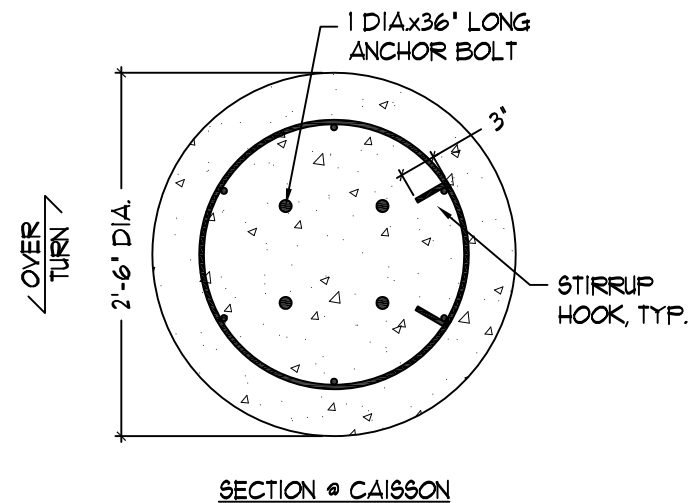
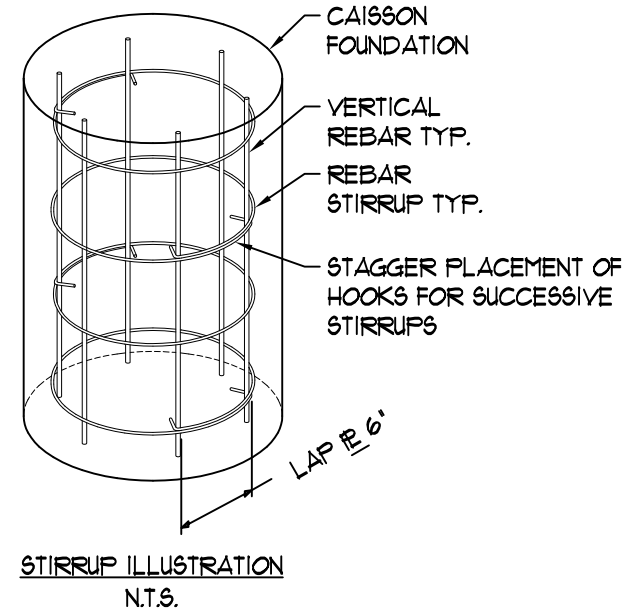
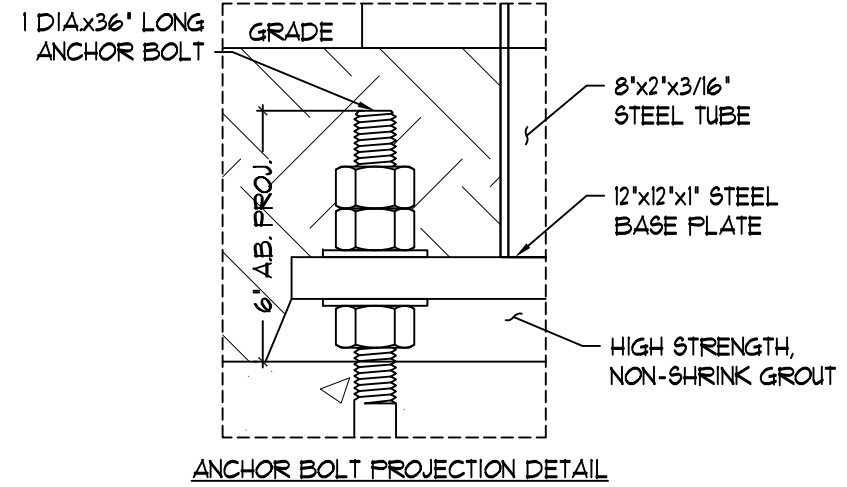


ALL STEEL BELOW GRADE (INCLUDING EXPOSED ANCHOR BOLTS) SHALL BE COATED WITH CARBOLINE BITUMASTIC 50 COAL TAR OR EQUAL AFTER INSTALLATION AND PRIOR TO LANDSCAPING.



INSTALLATION ADDRESS:

JOHN DEERE  
(REVELS TURF & TRACTOR)  
5118 RAWLS CHURCH RD.  
FUQUAY-VARINA, NC 27526

CLIENT:

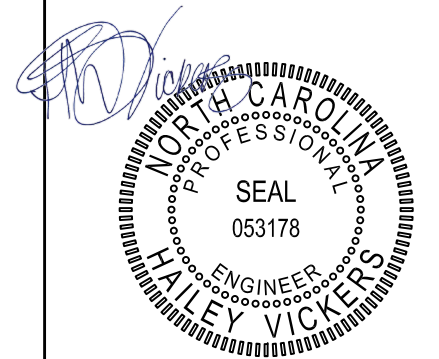


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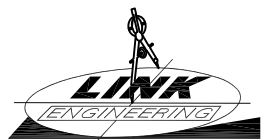
| REV | DATE | DESCRIPTION |
|-----|------|-------------|
| 1   | -/-  | -----       |
| 2   | -/-  | -----       |
| 3   | -/-  | -----       |

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SEAL & SIGNATURE:



9/20/24

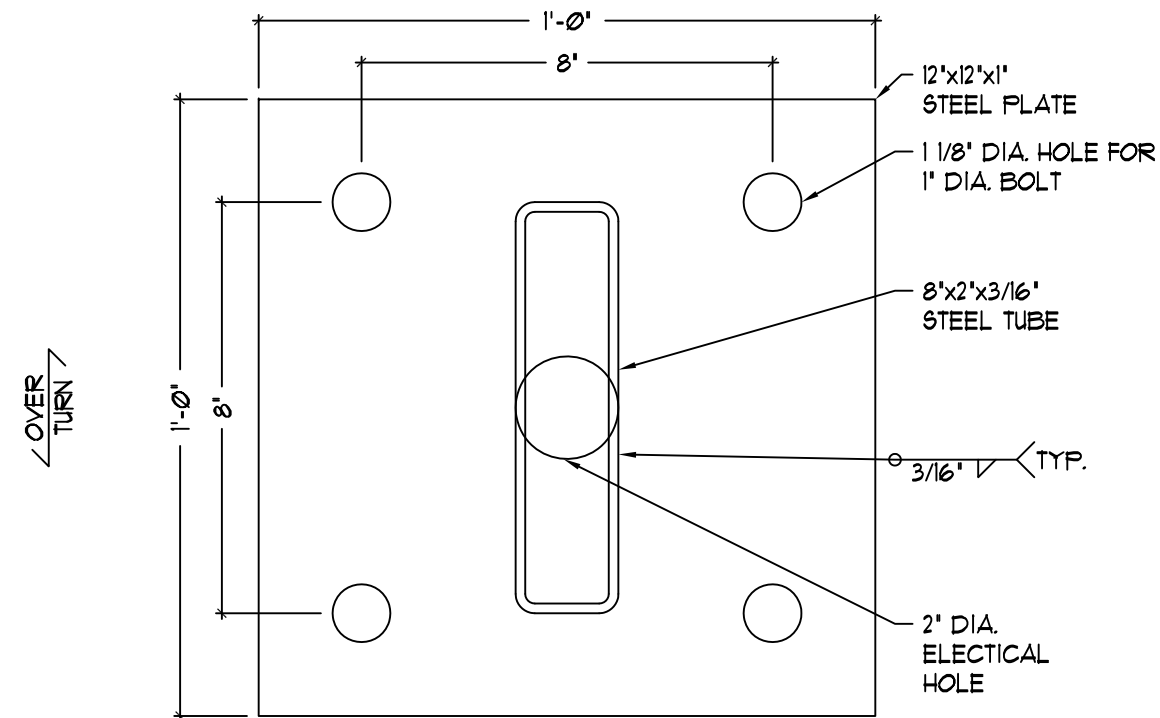


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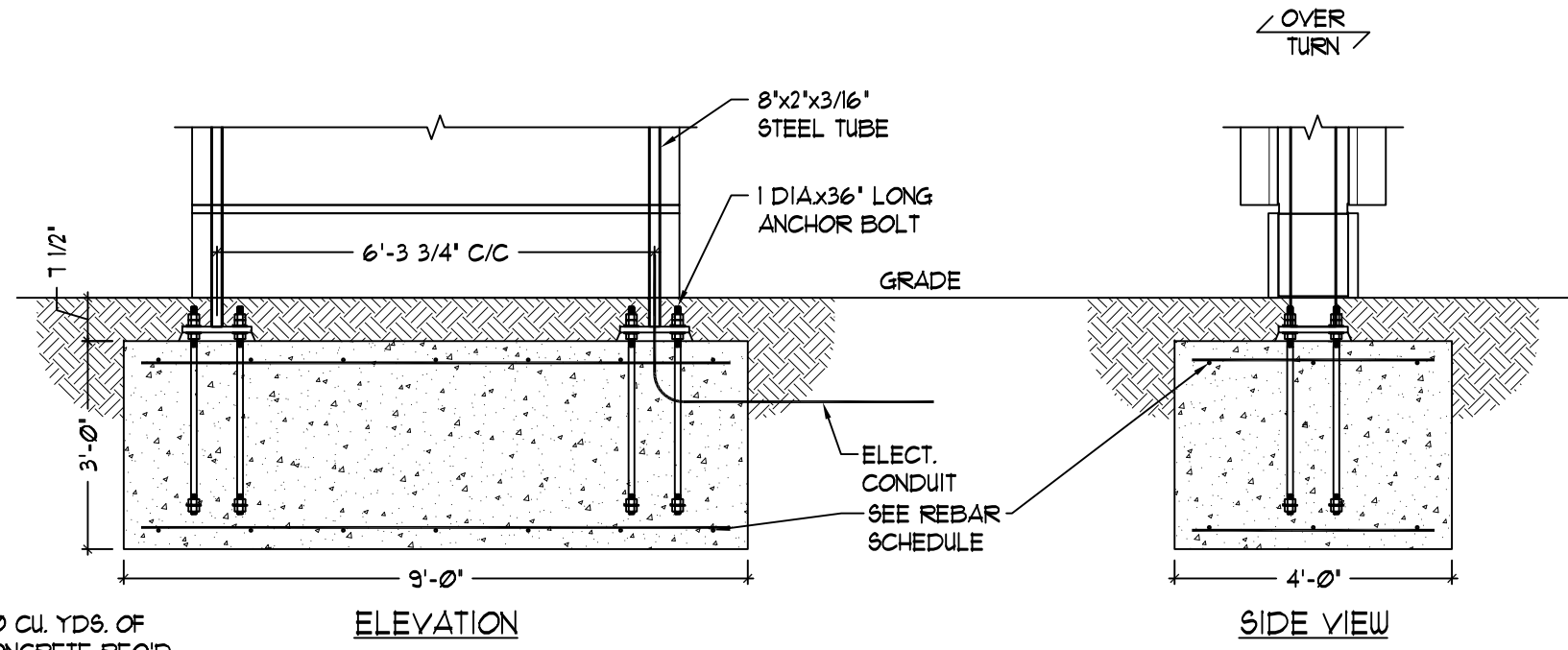
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North Carolina Certificate of Authorization No.: P-0483

|                            |         |                             |            |
|----------------------------|---------|-----------------------------|------------|
| Project Number:<br>24-0605 |         | Drawing Number:<br>B2583290 |            |
| SHT.<br>1                  | OF<br>3 | DATE:<br>9/20/24            | BY:<br>GHK |



BASE PLATE DETAIL



OPTIONAL SPREAD FOUNDATION

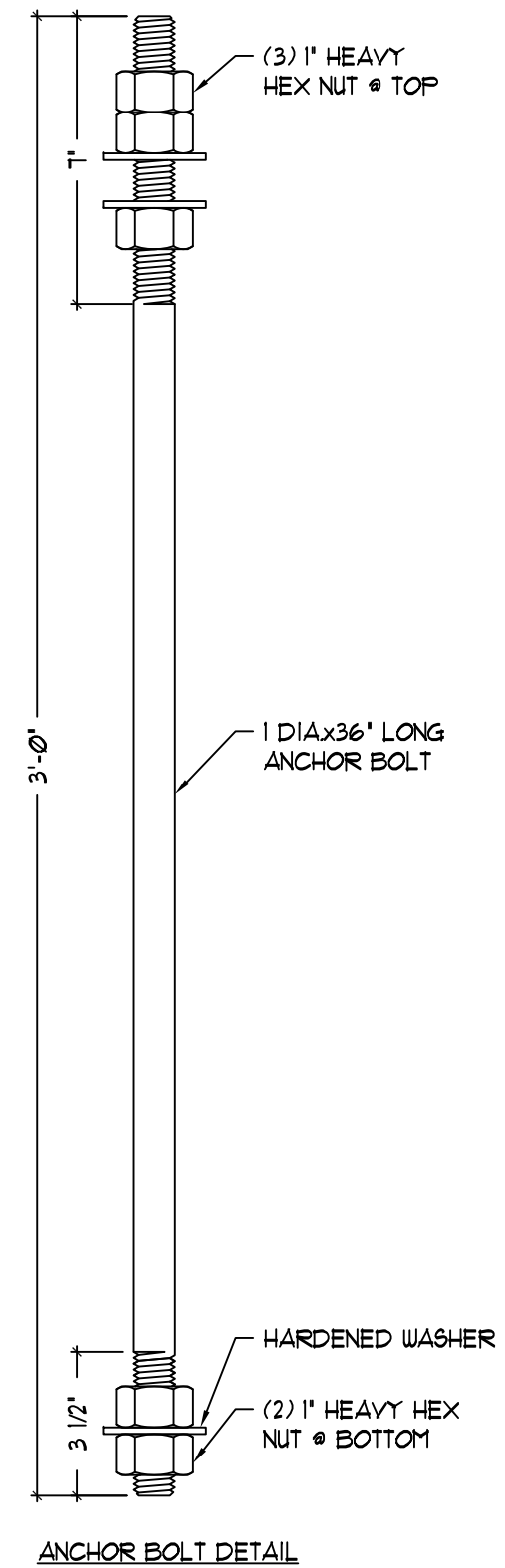
4.0 CU. YDS. OF CONCRETE REQ'D

ALL STEEL BELOW GRADE (INCLUDING EXPOSED ANCHOR BOLTS) SHALL BE COATED WITH CARBOLINE BITUMASTIC 50 COAL TAR OR EQUAL AFTER INSTALLATION AND PRIOR TO LANDSCAPING.

REBAR SCHEDULE SPREAD FOUNDATION

| PLACEMENT              | SIZE | SPACING | QUANTITY |
|------------------------|------|---------|----------|
| OVER TURN BOTTOM STEEL | #4   | 16'     | 7        |
| OVER TURN TOP STEEL    | #4   | 16'     | 7        |
| BOTTOM CROSS STEEL     | #4   | 18'     | 3        |
| TOP CROSS STEEL        | #4   | 18'     | 3        |

DO NOT WELD REBAR  
3' MIN. CONC. COVER



ANCHOR BOLT DETAIL

INSTALLATION ADDRESS:

JOHN DEERE  
(REVELS TURF & TRACTOR)  
5118 RAWLS CHURCH RD.  
FUQUAY-VARINA, NC 27526

CLIENT:

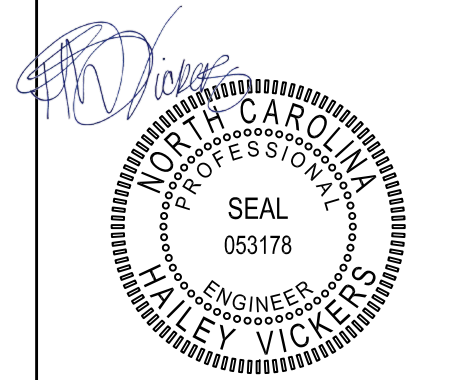


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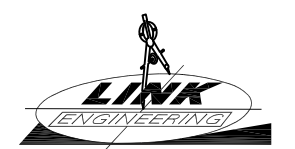
| REV | DATE | DESCRIPTION |
|-----|------|-------------|
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|                            |         |                             |            |
|----------------------------|---------|-----------------------------|------------|
| Project Number:<br>24-0605 |         | Drawing Number:<br>B2583290 |            |
| SHT.<br>2                  | OF<br>3 | DATE:<br>9/20/24            | BY:<br>GHK |

|                    |          |                    |                                      |
|--------------------|----------|--------------------|--------------------------------------|
| PROJECT #          | 24-0605  | OWNER:             | JOHN DEERE - (REVELS TURF & TRACTOR) |
| September 20, 2024 |          |                    | 5118 RAWLS CHURCH RD.                |
| DRAWING #          | B2583290 |                    | FUQUAY-VARINA, NC 27526              |
| WIND LOAD          | 20.592   | PSF                |                                      |
| WIND SPEED         | 120      | MPH                | CLIENT: PATTISON ID.                 |
| # COLUMNS          | 2        | NCBC 2018/IBC 2015 | 520 WEST SUMMIT DR., STE 702         |
| DESIGNER           | GHK      |                    | KNOXVILLE, TN                        |

| ITEM     | HEIGHT | WIDTH | SHAPE FACTOR | CENTROID HEIGHT | AREA   | TOTAL FORCE | MOMENT | BASE MOMENT | CENTROID | ADJUSTED MOMENT |
|----------|--------|-------|--------------|-----------------|--------|-------------|--------|-------------|----------|-----------------|
| SIGN     | 6.934  | 7.031 | 1.000        | 3.841           | 49.109 | 1.011       | 3.885  |             |          |                 |
| SIGN     | 2.344  | 7.031 | 1.000        | 1.289           | 16.479 | 1.351       | 6.692  |             |          |                 |
| BASE     | 1.339  | 7.031 | 1.000        | 0.736           | 9.412  | 1.544       | 8.643  | 7.545       | 4.896    | 8.389           |
| SUBGRADE | 0.625  | 0.000 | 1.000        | 0.313           | 0.000  | 1.544       | 9.354  |             |          |                 |
| OAH      | 10.667 |       |              |                 |        |             |        |             |          |                 |

| ITEM       | COLUMN WIDTH | COLUMN DEPTH | COLUMN WALL | lx   | MODULUS COLUMN | OBLIQUE LOAD MOMENT | AVAILABLE FLEXURAL STRENGTH | COLUMN CENTER DISTANCE | OBLIQUE LOAD FACTOR | UNTY  |
|------------|--------------|--------------|-------------|------|----------------|---------------------|-----------------------------|------------------------|---------------------|-------|
| T SIGN     | 2.030        | 8.000        | 0.174       | 22.4 | 7.51           | 2.831               | 17.23                       | 6.146                  | 1.458               | 0.164 |
| T SIGN     | 2.030        | 8.000        | 0.174       | 22.4 | 7.51           | 4.877               | 17.23                       |                        |                     | 0.283 |
| T BASE     | 2.030        | 8.000        | 0.174       | 22.4 | 7.51           | 6.299               | 17.23                       |                        |                     | 0.365 |
| T SUBGRADE | 2.030        | 8.000        | 0.174       | 22.4 | 7.51           | 6.817               | 17.23                       |                        |                     | 0.396 |

| ITEM     | MOMENT | BOLT SPACING | BOLTS/ PLATE | OBLIQUE TENSION/ BOLT | BOLT DIA. V. | ALLOW. STRESS | ALLOWABLE TENSION |
|----------|--------|--------------|--------------|-----------------------|--------------|---------------|-------------------|
| BASE PL. | 9.354  | 8.000        | 4.000        | 5.113                 | 1.000        | 19.100        | 15.001            |

| ITEM     | TENSION/ BOLT | MOMENT ARM | MCMENT PLATE | PLATE WIDTH | PLATE DEPTH | PLATE THICK. | MINIMUM THICK. |
|----------|---------------|------------|--------------|-------------|-------------|--------------|----------------|
| BASE PL. | 5.113         | 3.031      | 15.499       | 6.031       | 12.000      | 1.000        | 0.756          |

| ANCHOR BOLT PROJECTION | ANCHOR EMBEDMENT | ANCHOR BOLT MIN. LENGTH |
|------------------------|------------------|-------------------------|
| 6.000                  | 10.172           | 17.000                  |

|   |  |        |                 |
|---|--|--------|-----------------|
| SPREAD FOUNDATION                               |  |        |                 |
| MOMENT AT GRADE                                 |  | 9.354  |                 |
| TOTAL FORCE                                     |  | 1.544  | kip             |
| WEIGHT OF SIGN                                  |  | 0.852  | kip             |
| SLAB WIDTH                                      |  | 9.000  | ft              |
| SLAB LENGTH                                     |  | 4.000  | ft              |
| SLAB DEPTH                                      |  | 3.000  | ft              |
| SLAB WEIGHT                                     |  | 16.200 | kip             |
| TOTAL WEIGHT                                    |  | 17.052 | kip             |
| OVERTURNING MOMENT                              |  | 13.987 |                 |
| FACTOR OF SAFETY                                |  | 2.438  |                 |
| e = OTM/WT                                      |  | 0.820  |                 |
| L/2 - e   |  | 1.180  |                 |
| SOIL PRESSURE 2*WT/(3*L/2-e)*WIDTH              |  | 1071   |                 |
| CONCRETE  |  | 4.000  | yd <sup>3</sup> |
| EXCAVATION                                      |  | 4.000  | yd <sup>3</sup> |
| MIN. THICKNESS W/O REBAR                        |  | 7.487  | in              |
| SQRT((M <sup>2</sup> *6*1.7*75)/(178*12*WIDTH)) |  |        |                 |
| ACTUAL THICKNESS                                |  | 36.000 | in              |

|  |               |                       |
|--|---------------|-----------------------|
| BOTTOM STEEL AREA REQ'D PER FT OF WIDTH      |               | 0.043                 |
| TOP STEEL AREA REQ'D PER FT OF WIDTH         |               | 0.025                 |
| LONG BOTTOM STEEL                            | REBAR SIZE    | 4.000                 |
|  | WEIGHT PER FT | 0.668                 |
|  | SPACING       | 16.000 in             |
|  | AREA PER BAR  | 0.200 in <sup>2</sup> |
| BOTTOM STEEL AREA REQ'D PER FT OF WIDTH      |               | 0.043                 |
|  | AREA PER FT   | 0.156                 |
|  | EST NO. REQ'D | 6.750                 |
|  | NUMBER REQ'D  | 7.000                 |
|  | LENGTH        | 3.500 ft              |
|  | WEIGHT        | 16.366                |
|  | EDGE          | 6.000                 |
| LONG TOP STEEL                               | REBAR SIZE    | 4.000                 |
|  | WEIGHT PER FT | 0.668                 |
|  | SPACING       | 16.000 in             |
|  | AREA PER BAR  | 0.200 in <sup>2</sup> |
| TOP STEEL AREA REQ'D PER FT OF WIDTH         |               | 0.025                 |
|  | AREA PER FT   | 0.156                 |
|  | EST NO. REQ'D | 6.750                 |
|  | NUMBER REQ'D  | 7.000                 |
|  | LENGTH        | 3.500 ft              |
|  | WEIGHT        | 16.366                |
|  | EDGE          | 6.000                 |
| CROSS STEEL                                  | REBAR SIZE    | 4.000                 |
|  | WEIGHT PER FT | 0.668                 |
|  | SPACING       | 18.000 in             |
|  | LENGTH        | 8.500 ft              |
|  | EST NO. REQ'D | 2.667                 |
|  | NUMBER REQ'D  | 3.000                 |
|  | EDGE          | 6.000 in              |
|  | WEIGHT        | 34.068                |
|  | TOTAL WEIGHT  | 66.800                |
| FOUNDATION WIDTH                             |               | 9.000 ft              |
| FOUNDATION LENGTH                            |               | 4.000 ft              |
| CAISSON                                      |               |                       |
| MOMENT                                       |               | 9.354 FT-KIP          |
| FORCE  |               | 1.544 KIP             |
| REFERENCE IBC 1807.3.2 & TABLE 1806.2        |               |                       |
| ASSUME SOIL CLASS #4 SW, SP, SM, SC, GM & GC |               |                       |
| LATERAL BEARING PRESSURE - PS/FT OF DEPTH    |               | 150.0 PS/FT           |
| S1   |               | 566.7                 |
| DEPTH  |               | 5.667 FT.             |
| DIAMETER                                     |               | 2.500 FT.             |
|  |               | 6.057 FT.             |
|  |               | 2.551 FT.             |
| CALCULATED DEPTH                             |               | 5.573 FT.             |
| MINIMUM THICKNESS WITHOUT REINFORCEMENT      |               | 23.783 IN.            |
| ACTUAL DIAMETER                              |               | 30.000 IN.            |
| CONCRETE                                     |               | 1.030 CU. YD.         |

General Notes:

- Design is based on a 120 mph, 3 second gust wind design per the NCBC 2018/IBC 2015, Category II, Exposure C
- Spread foundation is based on a presumptive safe vertical soil bearing pressure minimum of 2000 psf. Caisson foundation is based on a presumptive safe lateral soil bearing pressure minimum of 150 psf per foot of depth. Isolated lateral bearing footings subject to short-term lateral loads and not adversely affected by a 1/2' motion at grade are permitted to be designed using twice the tabulated value of the corresponding soil class.
- A soil report was not provided. Foundation analysis assumes Soil Classification 4. Allowable bearing pressure should be verified prior to placement of concrete. In the event that the stated requirements are not met and conditions appear deleterious, cease and secure excavation and immediately contact PATTISON ID.
- Foundation shall not be placed at the top of, or on the side of a slope exceeding 3:1, or adjacent to a fill slope unless re-evaluated by a competent Professional Engineer. Do not place foundation in fill.
- Concrete shall be mixed to attain a minimum 28 day compressive strength of 3000 psi.
- Steel reinforcing bars shall conform to ASTM A615, Grade 60 with deformations in accordance with ASTM A305. Welding of reinforcing bars is prohibited.
- All voids between column base plate and foundation surface shall be completely filled with high-strength, non-shrink grout.
- Anchor bolts shall meet ASTM F1554 Grade 36. Exposed surfaces shall be galvanized or coated to prevent corrosion.
- All support members shall be free from defects. Steel tube shall meet ASTM A500 Grade B with a minimum yield strength of 46000 psi. Steel angle, channel and plate shall meet ASTM A36.
- Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
- All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
- The scope of this engineer does not include onsite observations.
- LINK Engineering will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
- Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from LINK Engineering voids this drawing in its entirety.
- The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

INSTALLATION ADDRESS:  
  
JOHN DEERE  
(REVELS TURF & TRACTOR)  
5118 RAWLS CHURCH RD.  
FUQUAY-VARINA, NC 27526

CLIENT:

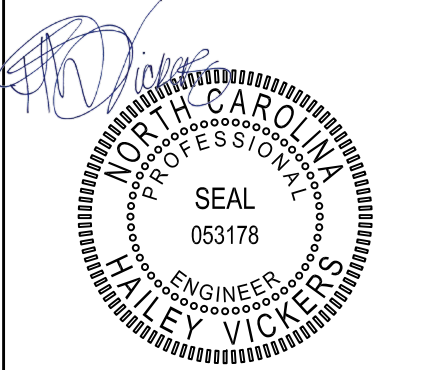


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| DATE  | DESCRIPTION |
|-------|-------------|
| -/-/- | -----       |
| -/-/- | -----       |
| -/-/- | -----       |

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|                            |                             |
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| Project Number:<br>24-0605 | Drawing Number:<br>B2583290 |
| SHT. OF<br>3 3             | DATE: BY:<br>9/20/24 GHK    |