



# Model 350A

## Double Check Valve Assembly

228A

### Application

Designed for installation on potable water lines to protect against both backsiphonage and backpressure of polluted water into the potable water supply. The Model 350A shall provide protection where a potential health hazard does not exist. Ideal for use where Lead-Free\* valves are required.

### Standards Compliance (Horizontal & Vertical)

- ASSE® Listed 1015
- AWWA Compliant C510 (with gates only), and C550
- IAPMO® Listed
- Certified to NSF/ANSI 372\* by IAPMO R&T
- CSA® Certified
- UL® Classified
- C-UL® Classified
- FM® Approved
- NYC MEA 220-04-M Vol 2 (2 1/2" - 8")
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California
- NSF® Listed-Standard 61, Annex G\*

\*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

### Materials

|                     |                                                   |
|---------------------|---------------------------------------------------|
| Main valve body     | Ductile Iron ASTM A 536 Grade 4                   |
| Access covers       | Ductile Iron ASTM A 536 Grade 4                   |
| Coatings            | FDA Approved electrostatic epoxy finish           |
| Internals           | Stainless steel, 300 Series<br>NORYL™, NSF Listed |
| Fasteners & springs | Stainless Steel, 300 Series                       |
| Seal ring           | EPDM (FDA approved)                               |
| O-ring              | Buna Nitrile (FDA approved)                       |

### Features

Sizes: 2 1/2", 3", 4", 6", 8", 10"

Maximum working water pressure 175 PSI

Maximum working water temperature 140°F

Hydrostatic test pressure 350 PSI

End connections

(Grooved for steel pipe)

(Flanged)

AWWA C606

ANSI B16.1

Class 125

### Dimensions & Weights (do not include pkg.)

| MODEL<br>350A<br>SIZE |     | WEIGHT                    |     |                                  |     |                                  |     |                                  |     |                                  |     |                                |     |                                |     |
|-----------------------|-----|---------------------------|-----|----------------------------------|-----|----------------------------------|-----|----------------------------------|-----|----------------------------------|-----|--------------------------------|-----|--------------------------------|-----|
|                       |     | LESS<br>SHUTOFF<br>VALVES |     | NRS<br>GATE<br>VALVES<br>FLANGED |     | NRS<br>GATE<br>VALVES<br>GROOVED |     | OSY<br>GATE<br>VALVES<br>FLANGED |     | OSY<br>GATE<br>VALVES<br>GROOVED |     | BUTTERFLY<br>VALVES<br>FLANGED |     | BUTTERFLY<br>VALVES<br>GROOVED |     |
| in.                   | mm  | lbs.                      | kg  | lbs.                             | kg  | lbs.                             | kg  | lbs.                             | kg  | lbs.                             | kg  | lbs.                           | kg  | lbs.                           | kg  |
| 2 1/2                 | 65  | 90                        | 41  | 184                              | 83  | 176                              | 80  | 192                              | 87  | 184                              | 83  | 142                            | 65  | 132                            | 60  |
| 3                     | 80  | 89                        | 40  | 204                              | 93  | 194                              | 88  | 210                              | 95  | 200                              | 91  | 147                            | 66  | 133                            | 61  |
| 4                     | 100 | 76                        | 34  | 220                              | 100 | 194                              | 88  | 230                              | 104 | 204                              | 93  | 147                            | 66  | 124                            | 56  |
| 6                     | 150 | 126                       | 57  | 346                              | 157 | 316                              | 143 | 362                              | 164 | 332                              | 151 | 231                            | 105 | 200                            | 91  |
| 8                     | 200 | 286                       | 130 | 738                              | 335 | 738                              | 335 | 762                              | 346 | 738                              | 335 | 476                            | 216 | 430                            | 195 |
| 10                    | 250 | 339                       | 154 | 966                              | 438 | 844                              | 383 | 1024                             | 464 | 902                              | 409 | 613                            | 278 | 555                            | 252 |

| MODEL<br>350A<br>SIZE |     | DIMENSION (approximate) |      |                         |      |                    |     |       |     |       |     |             |      |               |     |            |     |                         |     |       |     |                    |      |                         |      |
|-----------------------|-----|-------------------------|------|-------------------------|------|--------------------|-----|-------|-----|-------|-----|-------------|------|---------------|-----|------------|-----|-------------------------|-----|-------|-----|--------------------|------|-------------------------|------|
|                       |     | A                       |      | A WITH BUTTERFLY VALVES |      | B LESS GATE VALVES |     | C     |     | D     |     | E OS&Y OPEN |      | E OS&Y CLOSED |     | E NRS GATE |     | E WITH BUTTERFLY VALVES |     | F     |     | G WITH GATE VALVES |      | G WITH BUTTERFLY VALVES |      |
|                       |     | in.                     | mm   | in.                     | mm   | in.                | mm  | in.   | mm  | in.   | mm  | in.         | mm   | in.           | mm  | in.        | mm  | in.                     | mm  | in.   | mm  | in.                | mm   | in.                     | mm   |
| 2 1/2                 | 65  | 35 1/8                  | 892  | 32 1/8                  | 816  | 20 1/8             | 511 | 4 1/2 | 114 | 7 1/4 | 184 | 17 3/4      | 451  | 15 3/8        | 391 | 11 1/2     | 292 | 8 1/4                   | 210 | 6     | 152 | 45 1/4             | 1149 | 42 1/4                  | 1073 |
| 3                     | 80  | 36 1/8                  | 918  | 33                      | 838  | 20 1/8             | 511 | 4 1/2 | 114 | 7 1/4 | 184 | 20 1/4      | 514  | 17            | 432 | 12 3/4     | 324 | 8 1/2                   | 216 | 6     | 152 | 46 7/8             | 1191 | 43 3/4                  | 1111 |
| 4                     | 100 | 38 1/4                  | 972  | 33 1/4                  | 845  | 19 7/8             | 505 | 4 1/2 | 114 | 8     | 203 | 22 1/2      | 572  | 18 1/4        | 464 | 14 1/2     | 368 | 9                       | 229 | 6     | 152 | 53 3/8             | 1356 | 48 3/8                  | 1229 |
| 6                     | 150 | 47 1/4                  | 1200 | 40 1/4                  | 1022 | 25 7/8             | 657 | 5 1/2 | 140 | 10    | 254 | 30 1/2      | 775  | 24 1/4        | 616 | 18         | 457 | 10 1/4                  | 260 | 7     | 178 | 65 3/8             | 1661 | 58 3/8                  | 1483 |
| 8                     | 200 | 62                      | 1575 | 55                      | 1397 | 38 1/2             | 978 | 10    | 254 | 11    | 279 | 37          | 940  | 28 1/2        | 724 | 21 1/8     | 537 | 12                      | 305 | 8 1/2 | 216 | 86 3/8             | 2194 | 79 3/8                  | 2016 |
| 10                    | 250 | 64 5/8                  | 1641 | 58 1/2                  | 1486 | 38 1/2             | 978 | 10    | 254 | 12    | 305 | 45 5/8      | 1159 | 34 3/4        | 883 | 24 3/4     | 629 | 13                      | 330 | 8 1/2 | 216 | 94 3/8             | 2397 | 88 1/4                  | 2242 |

Attention:  
Model 350A  
(grooved body)  
& Model 350  
(flange body)  
have different  
lay lengths.



(with OSY gates)

(with BG valves)



### Options

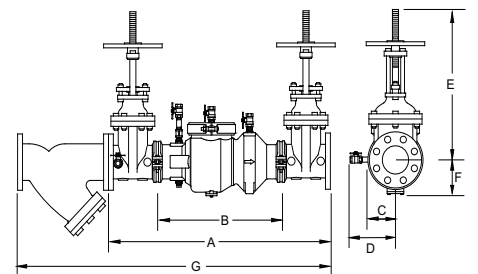
#### (Suffixes can be combined)

- ☐ - with flanged end NRS gate valves (standard)
- ☐ FSC - with epoxy coated wye type strainer (flanged only)
- ☐ G - with grooved end connections
- ☐ GF - with grooved inlet connection and flanged outlet connection
- ☐ FG - with flanged inlet connection and grooved outlet connection
- ☐ L - less shut-off valves (grooved body connections)
- ☐ OSY - with flanged end OS&Y gate valves
- ☐ OSYG - with grooved end OS&Y gate valves
- ☐ PI - with Post Indicator Gate Valves
- ☐ BG - with grooved end butterfly valves with integral supervisory switches
- ☐ BF - with flanged end butterfly valves with integral supervisory switches

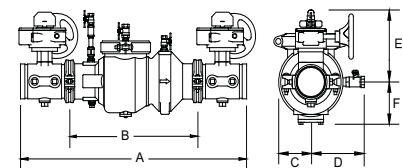
### Accessories

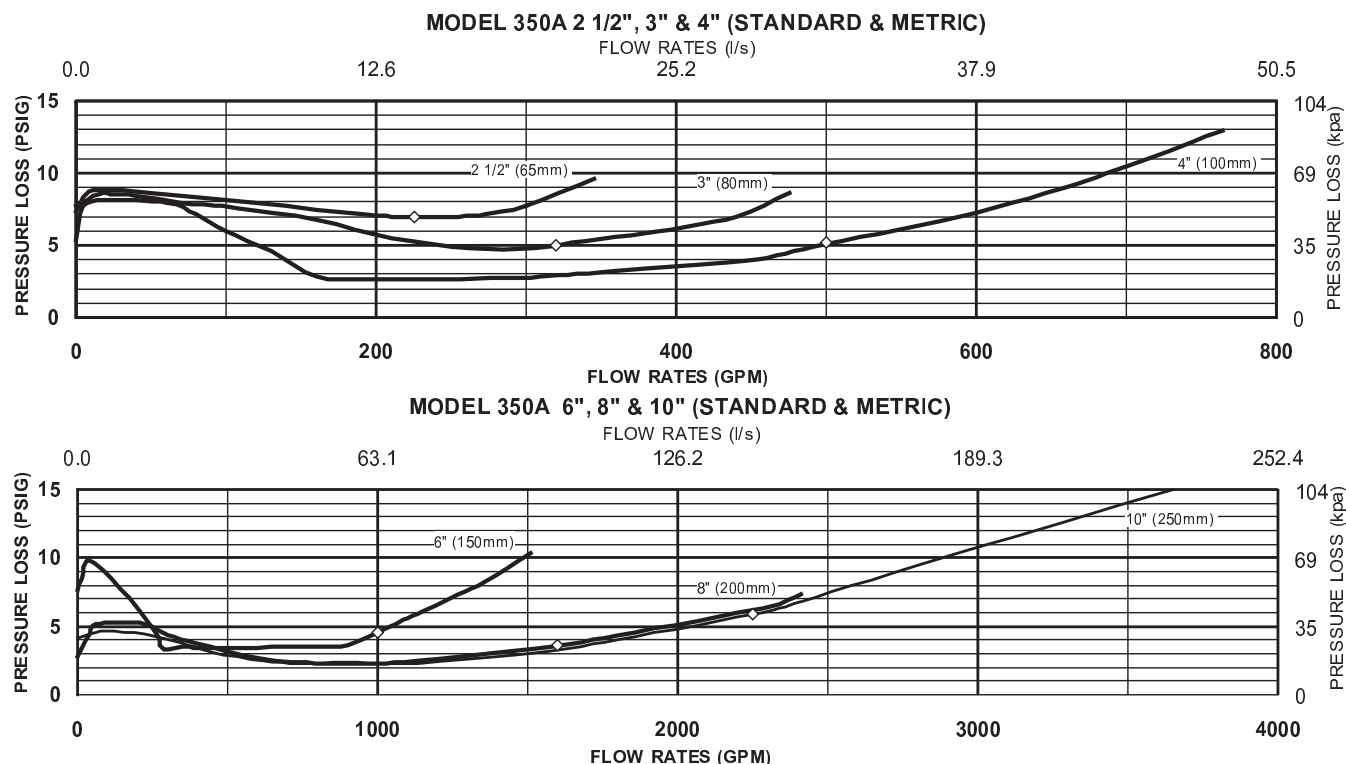
- ☐ Repair kit (rubber only)
- ☐ Thermal expansion tank (Model XT)
- ☐ OS & Y Gate valve tamper switch (OSY-40)

MODEL 350A  
with OSY &  
FSC option



MODEL  
350A with  
BG option

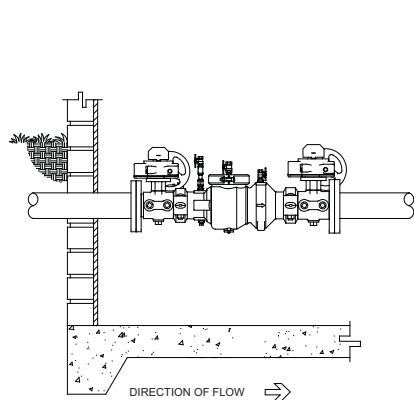




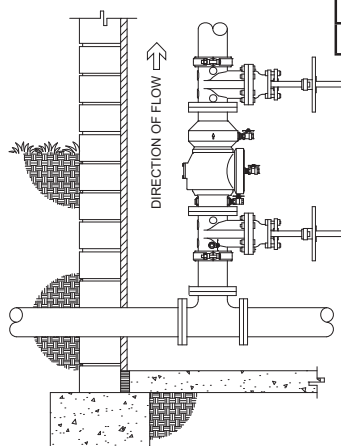
### Typical Installation

Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

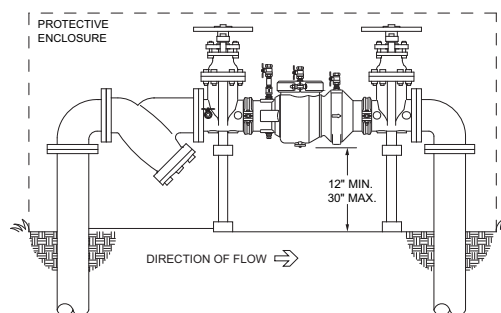
| Capacity thru Schedule 40 Pipe (GPM) |          |            |           |           |
|--------------------------------------|----------|------------|-----------|-----------|
| Pipe size                            | 5 ft/sec | 7.5 ft/sec | 10 ft/sec | 15 ft/sec |
| 2 1/2"                               | 75       | 112        | 149       | 224       |
| 3"                                   | 115      | 173        | 230       | 346       |
| 4"                                   | 198      | 298        | 397       | 595       |
| 6"                                   | 450      | 675        | 900       | 1351      |
| 8"                                   | 780      | 1169       | 1559      | 2339      |
| 10"                                  | 1229     | 1843       | 2458      | 3687      |
| 12"                                  | 1763     | 2644       | 3525      | 5288      |



**INDOOR INSTALLATION  
MODEL 350ABF**



**INDOOR INSTALLATION  
(VERT.) MODEL 350A**



**OUTDOOR INSTALLATION  
MODEL 350AFS**

### Specifications

The Double Check Backflow Prevention Assembly shall be certified to NSF/ANSI 372, ASSE® Listed 1015, and supplied with full port gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536 Grade 4), the seat ring and check valve shall be NORYL™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The checks shall be accessible for maintenance without removing the device from the line. The Double Check Backflow Prevention Assembly shall be a ZURN WILKINS Model 350A.

## Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 15, 2016

Attention: [stl-cac@cannondesign.com](mailto:stl-cac@cannondesign.com)

Contact Person / WTA Field Inspector:  
Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Whitworth (WES)

Project No. WT 14127.01  
WES 607

☐ UPS ☐ Courier ☒ **Email**

| Copies | No.       | Description                                             |
|--------|-----------|---------------------------------------------------------|
| 1 PDF  | 210523F01 | (Submittal No.'s:)                                      |
|        |           | (Cannon #210523-002) - (Paric #15051-0353) – (WES #607) |
|        |           | ➤ <b>Valves for Fire Protection Piping Product Data</b> |
|        |           |                                                         |
|        |           |                                                         |

**\*Remarks: See Submittal Review from Webb Engineering.**

c: Kelvin Patel  
[Kpatel@cannondesign.com](mailto:Kpatel@cannondesign.com)

☒ **\*Reviewed**

☒ **\*No Exceptions Taken**

☐

☐ \*Make Corrections As Noted,  
No Resubmittal Required

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.



1400 S. 3<sup>rd</sup> Street, Suite 201  
St. Louis, Missouri 63104  
Phone: (314) 588-0600  
Fax: (314) 588-0604

# Letter of Transmittal

To: **wtashop@wmtao.com**

From: **Mike Whitworth**

Date: **December 11, 2016**

Re: **Webster University ISB**

WES No: **607**

☐ For your Files

☐ For Review

☐ Please Comment

☐ Please Reply

| Item No. | Description                                                                                              | No. of Copies | Date     |
|----------|----------------------------------------------------------------------------------------------------------|---------------|----------|
| 1        | Shop Drawing Review – (210523-002)<br>210523 General Duty Valves for Water-Based Fire-Suppression Piping | 1             | 12/11/16 |
|          |                                                                                                          |               |          |
|          |                                                                                                          |               |          |
|          |                                                                                                          |               |          |

•Signature: Mike Whitworth

The review of this submittal is limited to the general conformance with the designated design concept and intent of this project and with the general compliance of the information provided in the contract documents. All comments, remarks and notations made on the submittal(s) as a result of this review do not relieve the contractor from full compliance with requirements of the contract documents. Approval for a specific item shall not include approval of an assembly of which the item is not a component. The contractor is solely responsible for rough-in and installation confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordination of this work with that of other trades on this project; and in a safe and satisfactory manner. All work shall be installed in full compliance with the manufacturer's recommendation, Federal, State and Local rules and regulation and the Authority Having Jurisdiction (AHJ) and applicable adopted codes and standards.

PROJECT NAME: Webster University  
 ISB  
 LOCATION: St. Louis Missouri  
 CLIENT PROJ. NO.: N/A  
 WES PROJ. NO.: 607  
 SPECIFICATION SECTION: 210523  
 General Duty Valves for  
 Water Based Fire-  
 Suppression Piping  
 SUBMITTAL ITEM: See Below -

CONTRACTOR: J.F. Ahern Co.  
 CTR. SUBMITTAL #: 21 0523-002  
 SUBMITTAL DATE: November 29, 2016  
 DATE RECEIVED: December 07, 2016  
 RECEIVED VIA: E-Mail  
 RECEIVED FROM: WTA  
 DATE RETURNED: DECEMBER 11, 2016  
 RETURNED VIA: E-MAIL  
 RETRURNED TO: WTASHOP@WMTAO.COM

STATUS KEY:

| NO EXCEPTION TAKEN                      |     |     |     |     |                                                              |         |
|-----------------------------------------|-----|-----|-----|-----|--------------------------------------------------------------|---------|
| MAKE CORRECTIONS NOTED, NO RESUBMITTAL: |     |     |     |     |                                                              |         |
| AMEND AND RESUBMIT                      |     |     |     |     |                                                              |         |
| REJECTED, SEE REMARKS:                  |     |     |     |     |                                                              |         |
| REVIEWED ONLY                           |     |     |     |     |                                                              |         |
| NEC                                     | MCN | AAR | REJ | REV | ITEM                                                         | REMARKS |
| X                                       |     |     |     |     | Iron Body Gate Valves<br>NIBCO<br>Model - F-607-RW           |         |
| X                                       |     |     |     |     | Butterfly Valves<br>Victaulic<br>Model - Fire Lock Style 705 |         |
| X                                       |     |     |     |     | Swing Check Valve<br>Viking<br>Model - D-1 & G-1             |         |
| X                                       |     |     |     |     | Bronze Gate Valves<br>NIBCO<br>Model - T-104-0               |         |
| X                                       |     |     |     |     | Bronze Angle Valves<br>NIBCO<br>Model - T-301-W              |         |
| X                                       |     |     |     |     | Bronze Globe Valves<br>NIBCO<br>Model - KT-65-UL             |         |
| X                                       |     |     |     |     | Bronze Globe Valves<br>NIBCO<br>Model - KT-211-W-UL          |         |

|   |  |  |  |  |                                                                                  |  |
|---|--|--|--|--|----------------------------------------------------------------------------------|--|
| X |  |  |  |  | Bronze Side Outlet Globe Valves<br>NIBCO<br>Model – KT-291-W3                    |  |
| X |  |  |  |  | Bronze Check Valves<br>NIBCO<br>Model – KT-403-W                                 |  |
| X |  |  |  |  | Bronze Ball Valves<br>NIBCO<br>Model – KT-585-70-UL and<br>KT-580-70-UL          |  |
| X |  |  |  |  | Fire Lock Ball Valve<br>Victaulic<br>Model - Fire Lock Series<br>728             |  |
| X |  |  |  |  | Butterball Butterfly Valves<br>Milwaukee Valve<br>Model - Various                |  |
| X |  |  |  |  | Calibrated Pressure Relief<br>Valves<br>Watts<br>Model – Series 530C             |  |
| X |  |  |  |  | Test and Drain Valve<br>AGF Manufacturing<br>Model – 1011A                       |  |
| X |  |  |  |  | Double Check Valve<br>Assembly<br>Zurn<br>Model - 350A                           |  |
| X |  |  |  |  | Forged Brass Ball Valve<br>KITZ<br>Model - 58                                    |  |
| X |  |  |  |  | Pressure Relief Valve /<br>Pump Casing Relief Valve<br>CLA-VAL<br>Model – 55L-60 |  |
| X |  |  |  |  | Air Release Valve<br>Val-Matic Valve and<br>Manufacturing Corp.<br>Model – 22.9  |  |

REVIEWED BY: Michael R. Whitworth DATE: December 11, 2016

THESE COMMENTS ARE TO BE ATTACHED TO ALL COPIES OF THE SHOP DRAWING REFERENCED ABOVE.





77 Westport Plaza  
Suite 250  
St. Louis, MO 63146

**TRANSMITTAL**

**No. 15051-0353**

*Paric Corporation*

**PROJECT:** 15051-Webster University Interdisciplinary Science Building

**DATE:** 11/29/2016

**TO:** Cannon Design  
1100 Clark Ave  
St Louis MO 63102

**Fax;**  
314-241-2203

**RE:** Valves for Fire Protection Piping Product  
Data

**ATTN:** Kelvin Patel

**JOB:** 15051

| WE ARE SENDING:                                         |  | SUBMITTED FOR:                               | ACTION TAKEN:                                     |
|---------------------------------------------------------|--|----------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Shop Drawings                  |  | <input checked="" type="checkbox"/> Approval | <input type="checkbox"/> Approved as Submitted    |
| <input type="checkbox"/> Letter                         |  | <input type="checkbox"/> Your Use            | <input type="checkbox"/> Approved as Noted        |
| <input type="checkbox"/> Prints                         |  | <input type="checkbox"/> As Requested        | <input type="checkbox"/> Returned After Loan      |
| <input type="checkbox"/> Change Order                   |  | <input type="checkbox"/> Review and Comment  | <input type="checkbox"/> Resubmit                 |
| <input type="checkbox"/> Plans                          |  |                                              | <input type="checkbox"/> Submit                   |
| <input type="checkbox"/> Samples                        |  | SENT VIA:                                    | <input type="checkbox"/> Returned                 |
| <input type="checkbox"/> Specifications                 |  | <input type="checkbox"/> Attached            | <input type="checkbox"/> Returned for Corrections |
| <input checked="" type="checkbox"/> Other: Product Data |  | <input type="checkbox"/> Separate Cover Via: | <input type="checkbox"/> Due Date:                |

| Item      | Package | Code       | Rev. | Copies | Date       | Description                                       | Status    |
|-----------|---------|------------|------|--------|------------|---------------------------------------------------|-----------|
| Submittal |         | 210523-002 | 1    |        | 11/29/2016 | Valves for Fire Protection<br>Piping Product Data | Submitted |

**NOTES:**

**CC:**

**Signed:** \_\_\_\_\_  
Devin Gates