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ECI 6-19 ASSEMBLY, SEE SHEET A194

TYPICAL 100MM PT-PLUS DUCT TO 100MM PT-PLUS DUCT FUSION WELD CONNECTION, SEE SHEET A311

FOR VERTICAL GROUTING OPTIONS, SEE SHEET A372

TYPICAL 100MM PT-PLUS DUCT TO 100MM PT-PLUS DUCT VENTED CONNECTION, SEE SHEET A375

GROUT VENT CONFIGURATION, SEE SHEET A382

OVERALL ASSEMBLY
TRUMPET INSTALLATION

INSTALLATION PROCEDURES (INSTALLATION PROCEDURE IS GENERIC. FOLLOW THE PROJECT SPECIFIC REQUIREMENTS AND THE FOOT SPECIFICATIONS)

1. PRE-ASSEMBLE TRUMPET INTO THE BEARING PLATE. APPLY BONDUIT ALL AROUND SPIRAL TO ALIGN PLATE AND TRUMPET. INSERT TRUMPET UNTIL LOCKING TABS ENGAGE.

2. CUT OUT GRouting EXTENSION TO USE MOUNTING HOLES IN BEARING PLATE TO MOUNT BEARING PLATE ASSEMBLY TO FORM. SECURE BEARING PLATE ASSEMBLY WITH ANCHORAGE CAP BOLTS. USE CARE NOT TO DAMAGE THREADS.

3. INSTALL AND SECURE SPIRAL.

4. INSTALL FILLER PORT CONNECTIONS. SEAL ALL TEMPORARY CONNECTIONS WITH FIRE STOP SEALANT (BY OTHERS), AND SEAL ALL PERMANENT CONNECTIONS WITH BONDUIT OR SILOX (BY OTHERS). BONDUIT OR SILOX (BY OTHERS).

5. SECURE DUCT SUPPORTS @ 2' MAX. INSERT MANDRELS INTO TRUMPETS.

6. CONCRETE PLACEMENT.

7. ONLY STRESS STRANDS IF CONCRETE HAS REACHED REQUIRED STRENGTH SPECIFIED ON DRAWINGS.

8. INSTALL STRAND. LEAVE SUFFICIENT STRAND FOR STRESSING EQUIPMENT.

9. INSTALL ANCHOR HEADS. MAKE SURE WEDGE CAVITIES ARE CLEAN AND RUST FREE.

10. ELONGATION SHOULD BE WITHIN ±7%.

11. REINSTALL O-RING INTO ANCHORAGE CAP.

12. AFTER ENGINEERS APPROVAL, STRAND TAILS MAY BE CUT. AFTER FORM WORK IS REMOVED, USE MOUNTING BOLTS TO INSTALL ANCHORAGE CAP. REPOSITION CHIRG INTO ANCHORAGE CAP.

13. SYSTEM IS NOW READY TO AIR TEST.

14. PER THE FOOT SPECIFICATION SECTION 462-8.2.2, A SECOND AIR PRESSURE TEST IS REQUIRED AFTER STRAND STRESSING AND PRIOR TO GROUT INJECTION.

15. GROUT TENDON PER GROUT SPEC.

NOTE: ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
**Installation Procedures**

1. Cut Duct half way between 2 Major ribs (See Detail A).
2. Install duct into coupler half. Place coupler half over Major rib. See Detail B.
3. Place second coupler half over duct, using interlocking pins to center second coupler half.
4. Partially install coupler clips in direction indicated by arrows shown on coupler half.
5. Insure both ducts are secured in coupler.
6. Finish installation of clips.

---

**Table**

<table>
<thead>
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<td>02DT0443</td>
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<tr>
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<td></td>
<td>Seal (included in coupler half)</td>
<td></td>
<td>Included W/ 02DT0044</td>
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<tr>
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<td>2</td>
<td>Coupler half, 100 MM PT-PLUS</td>
<td>ASTM D4101</td>
<td>02DT0044</td>
</tr>
</tbody>
</table>

*See Sheet C623 for Coupler half, 100 MM PT-PLUS Vented*
INSTALLATION PROCEDURES
1) CUT DUCT HALF WAY BETWEEN 2 MAJOR RIBS SEE DETAIL A
2) INSTALL DUCT INTO COUPLER HALF, PLACE COUPLER HALF OVER MAJOR RIB. SEE DETAIL B
3) PLACE SECOND COUPLER HALF OVER DUCT, USING INTERLOCKING PINS TO CENTER SECOND COUPLER HALF
4) PARTIALLY INSTALL COUPLER CLIPS IN DIRECTION INDICATED BY ARROWS SHOWN ON COUPLER HALF.
5) INSURE BOTH TRUMPET AND DUCT ARE SECURED IN COUPLER.
6) FINISH INSTALLATION OF CLIPS.

ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY NUMBER
--- | --- | --- | --- | ---
5 | 1 | ECI 6-19 TRUMPET | HDPE | 02BP4322
4 |  | DUCT, WHT PP, 100 MM PT-PLUS | ASTM D4101 | 02DT0443
3 | 2 | COUPLER CLAMP, 100 MM PT-PLUS | ASTM D4101 | 02DT0046
2 | 2 | SEAL (INCLUDED IN COUPLER HALF) | INCLUDED W/ 02DT0044
*1 | 2 | COUPLER HALF, 100 MM PT-PLUS | ASTM D4101 | 02DT0044

* SEE SHEET C623 FOR COUPLER HALF, 100 MM PT-PLUS VENTED PART NUMBER 02DT0045
THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES / VSL POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES / VSL BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES / VSL TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND STRUCTURAL TECHNOLOGIES / VSL DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES / VSL EMPLOYEE ON THESE SHOP DRAWINGS PERTAINS ONLY TO THE TRANSFER OF THE FORCES REQUIRED BY THE ENGINEER OF RECORD ON THE STRUCTURAL DRAWINGS, AND NOT TO THE ADEQUACY OF THE STRUCTURAL DESIGN. NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ADEQUACY OF THE STRUCTURAL DESIGN IS MADE BY VIRTUE OF ANY SUCH STAMP OR SEAL.

ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY #
--- | --- | --- | --- | ---
1A | 1 | 6-19 GROUT CAP W/ 3/4" HORIZONTAL PORT | ABS | 02GC61901V
1B | 1 | 6-19 GROUT CAP W/ 3/4" VERTICAL PORT | ABS | 02GC61901
2 | 1 | ECI 6-19 BEARING PLATE W/ 23MM PORT, GALV | A536 GR 80-55-06 | 02BP0038
3 | 1 | 1/2"-13 THREADED ROD X 7" | (316L) STAINLESS | 02WX5033D
4 | 1 | 1/2"-13 NUT | (316L) STAINLESS | 02WX5033D
5 | 1 | 1/2" WASHER | (316L) STAINLESS | 02WX5033D

1/2"-13 THREADED ROD

1/2" WASHER

1/2"-13 NUT
NOTES:
1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
3. MINIMUM CONCRETE COVER SHALL BE 2" AND MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.
4. COMPONENTS MAY BE ASSEMBLED AS A VENT OR A DRAIN AS REQUIRED.
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Title: System Drawing

Structural Technologies, LLC
Dallas Office
15600 Trinity Blvd, Suite 118
Fort Worth, TX 76155
Phone: (817) 545-4807
Fax: (817) 545-4827
WWW.VSL.NET

Project Information:

Sheet No: [Blank]
Project No: [Blank]
Scale: NTS

Electrical File Location:
I:\VSL System Drawings\Work In Progress Drawings\Work In Progress Drawings\Florida DOT Test 2017\ECI 6-19 Grouted System

File Name: A369 ECI 6-19 Alternative Vent.dwg
9:51 AM 17Jul2018

Plot Date/Time:
18May2012

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Note: Items marked with a "T" are temporary and are not a permanent part of the system.
NOTES:

1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
3. THE MINIMUM CONCRETE COVER SHALL BE 2" AND MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.
4. COMPONENTS MAY BE ASSEMBLED AS A VENT OR A DRAIN AS REQUIRED.
5. BEARING PLATE SHOWN IS GENERIC. THESE INJECTION OPTIONS WILL WORK WITH ECI 6-7, ECI 6-12, ECI 6-19, ECI 6-22, NCS 6-27, AND NCS 6-31.
6. USE BEARING PLATE REQUIRED FOR SPECIFIC JOB.
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Title: System Drawing

Item | Qty | Description | Material | Inventory Number
--- | --- | --- | --- | ---
1 | 2 | Duct PT-PLUS 100 | ASTM D4101 Polypropylene | 02D0443

Notes:
1. 100mm PT-PLUS Duct Meets FDOT 960 spec.
2. See VSL Butt-Welding Procedure in Appendix.
3. Adjust the location of the last fusion butt weld so that the final duct coupler connection can be applied properly.

Elevation View

Fusion Butt Weld
Use Inspected & Approved Fusion Pipe Welder

A381


drafting@vsl.net  •  800-521-3763  •  www.vsl.net

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Dallas, TX / Washington, DC / Denver, CO / Pompano Beach, FL

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A381

Sheet No. 1 of 1

PROJECT NO:

SCALE:

NTS

SYSTEM DRAWING

WEAR DEED DRAWING

ELEVATION VIEW

FUSION BUTT WELD
USE INSPECTED & APPROVED FUSION PIPE WELDER

1

1

NOTES:
1. 100MM PT-PLUS DUCT MEETS FDOT 960 SPEC.
2. SEE VSL BUTT-WELDING PROCEDURE IN APPENDIX.
3. ADJUST THE LOCATION OF THE LAST FUSION BUTT WELD SO THAT THE FINAL DUCT COUPLER CONNECTION CAN BE APPLIED PROPERLY.

FUSION BUTT WELD
USE INSPECTED & APPROVED FUSION PIPE WELDER

1

1
NOTES:
1. MATERIAL: AISI 11L17/12L14, PRODUCED IN STRICT ACCORDANCE WITH VSL MS 3.1.006
2. WEIGHT: 0.197 LBS. (APPROX.)
3. HEAT TREATMENT: CASEHARDENED
4. INVENTORY NO. 02WG0008

SECTION A-A

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SECTION B-B

SECTION C-C

23MM THREADED HOLE
(2 PLACES)

LETTERING REVERSE SIDE
SEE SECTION C-C

(27/64" DRILL x 3/4" DEEP)
(1/2"-13 x 1/2" DEEP)
(4 PLACES)

FRONT VIEW

HARDNESS TEST

TOLERANCES

UNLESS OTHERWISE SPECIFIED

FRACTIONAL ± 1/32

DECIMAL ± .030

± .010

± .005

± 1/2°

NOTES:

1. DIMENSIONS: INCHES

2. MATERIAL: ASTM A536 GR 80-55-06

3. INVENTORY #: 02BP0038 (GALVANIZED)
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ANCHORHEAD ECI 6-19

GENERAL CASTING NOTE:
1. ALL HOLE DIAMETERS ARE EXACT.
2. ALL HOLE SIZES ARE AS SHOWN.

INVENTORY No. 02440034
THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES / VSL POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES / VSL BY PROJECT OWNER OR IT’S REPRESENTATIVE. STRUCTURAL TECHNOLOGIES / VSL TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND STRUCTURAL TECHNOLOGIES / VSL DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES / VSL EMPLOYEE ON THESE SHOP DRAWINGS PERTAINS ONLY TO THE TRANSFER OF THE FORCES REQUIRED BY THE ENGINEER OF RECORD ON THE STRUCTURAL DRAWINGS, AND NOT TO THE ADEQUACY OF THE STRUCTURAL DESIGN. NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ADEQUACY OF THE STRUCTURAL DESIGN IS MADE BY VIRTUE OF ANY SUCH STAMP OR SEAL.
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ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY# |
--- | --- | --- | --- | --- |
1 | - | BEARING PLATE GROUT PLUG 23MM | HDPE | 02DT0341 |
THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES / VSL POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES / VSL BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES / VSL TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND STRUCTURAL TECHNOLOGIES / VSL DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES / VSL EMPLOYEE ON THESE SHOP DRAWINGS PERTAINS ONLY TO THE TRANSFER OF THE FORCES REQUIRED BY THE ENGINEER OF RECORD ON THE STRUCTURAL DRAWINGS, AND NOT TO THE ADEQUACY OF THE STRUCTURAL DESIGN. NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ADEQUACY OF THE STRUCTURAL DESIGN IS MADE BY VIRTUE OF ANY SUCH STAMP OR SEAL.

ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY# |
--- | --- | --- | --- | --- |
1 | - | 23MM GROUT HOSE CAP | HDPE | 02DT0314 |

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960
THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES / VSL POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES / VSL BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES / VSL TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND STRUCTURAL TECHNOLOGIES / VSL DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES / VSL EMPLOYEE ON THESE SHOP DRAWINGS PERTAINS ONLY TO THE TRANSFER OF THE FORCES REQUIRED BY THE ENGINEER OF RECORD ON THE STRUCTURAL DRAWINGS, AND NOT TO THE ADEQUACY OF THE STRUCTURAL DESIGN. NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ADEQUACY OF THE STRUCTURAL DESIGN IS MADE BY VIRTUE OF ANY SUCH STAMP OR SEAL.

TOLERANCES
UNLESS OTHERWISE SPECIFIED

FRACTIONAL == ± 1/32
DECIMAL == ± 0.010
= ± 0.005
= ± 1/16°

SURFACE QUALITY

NOTES:
1. BREAK SHARP EDGES .010 MAX.
2. REMOVE ALL BURRS
3. ALL RADS 1/8 in MIN.
4. DO NOT SCALE DRAWING
5. ALL DIMENSIONS SHALL CONFORM TO DIN 1685 GTB16 TOLERANCES
6. MATERIAL: HDPE

INVENTORY#: 02DT0310

01.14" O.D.
0.83" I.D.
0.028"

RUN LENGTH

26APR2004

ZX

CDL

TITLE BLOCK UPDATED

2

23MM HOSE

C587
NOTE:

USE 2 HALF SHELLS WITHOUT VENT (02DT0044) FOR STANDARD DUCT COUPLING.

USE ONE HALF SHELL WITHOUT VENT (02DT0044) AND ONE HALF SHELL WITH VENT (02DT0045) FOR DUCT COUPLING WHERE A GROUT VENT IS NEEDED.

INVENTORY No. 02DT0044, WITHOUT VENT

INVENTORY No. 02DT0045, WITH VENT

NOTES:

1. MATERIAL: POLYPROPYLENE ELTEX PRS210 (OR EQUIVALENT)
2. DIMENSIONS ARE IN INCHES
3. DO NOT SCALE
4. COMPATIBILITY WITH PT+100-US DUCT, i.e. ADJUST GROOVE
5. ONE HALF SHELL WITH VENT AND ONE WITHOUT.

INVENTORY No. 02DT0044, WITHOUT VENT

INVENTORY No. 02DT0045, WITH VENT

NOTE:

USE ONE HALF SHELL WITHOUT VENT (02DT0044) AND ONE HALF SHELL WITH VENT (02DT0045) FOR DUCT COUPLING WHERE A GROUT VENT IS NEEDED.
THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES / VSL POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES / VSL BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES / VSL TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND STRUCTURAL TECHNOLOGIES / VSL DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES / VSL EMPLOYEE ON THESE SHOP DRAWINGS PERTAINS ONLY TO THE TRANSFER OF THE FORCES REQUIRED BY THE ENGINEER OF RECORD ON THE STRUCTURAL DRAWINGS, AND NOT TO THE ADEQUACY OF THE STRUCTURAL DESIGN. NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ADEQUACY OF THE STRUCTURAL DESIGN IS MADE BY VIRTUE OF ANY SUCH STAMP OR SEAL.

GENERAL NOTES:
1. ALL HOLES TO BE FREE FROM BURRS
2. ALL RADIUS 0.04" min.
3. MATERIAL SHALL BE PP SD502 HI-IMPACT COPOLYMER
4. MANUFACTURER'S IDENTIFICATION AND BATCH NUMBER MUST BE CLEARLY VISIBLE ON PART
5. SCALE: DRAWING NOT TO SCALE
INVENTORY#: 02DT0046

TITLE BLOCK UPDATED: 05APR2018
DRAWING DATE: 17JUN2003
GDH
PRELIMINARY NOT FOR PRODUCTION
NOTES:
I:
VSL System Drawings
Work In Progress Drawings
Work In Progress Drawings
Florida DOT Test 2017
ECI 6-22 Grouted System
ELECTRONIC FILE LOCATION:
FILE NAME:
C625 100-130mm PT-PLUS clip Rev2 02DT0046.dwg
PLOT DATE/TIME: 2:10 PM 13Jun2018
TITLE: SYSTEM DRAWING
PROJECT INFORMATION:
SHEET NO: N/A
PROJECT NO: N/A
SCALE: NTS
SYSTEM DRAWING
PROJECT: 100/130MM PT-PLUS CLIP FABRICATION
DESIGN: C625
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ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY# |
--- | --- | --- | --- | --- |
1 | - | BEARING PLATE GROUT EXTENSION | WHITE POLYPROPYLENE | 02D0318 |
SECTION VIEW

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NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960
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1. **3/4" NPT 1/4 TURN BALL VALVE**
   - **Material**: SCH 80 PVC
   - **Inventory#**: 02D01916

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960

SIDE VIEW

![Diagram of 3/4" NPT 1/4 TURN BALL VALVE](attachment:image.png)
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INVENTORY No. 02DT0443

INVENTORY

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MARKING EVERY 6'

MATERIAL: ASTM D4101 POLYPROPYLENE
MINIMUM BENDING RADIUS: 30'

DUCT PT-PLUS 100
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ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY# |
--- | --- | --- | --- | --- |
1 | - | 3/4" NPT PE PLUG | POLYETHYLENE | 02DT01913 |

ELECTRONIC FILE LOCATION:
FILE NAME: C787 3-4in NPT PVC Plug.dwg
11:16 AM
14Jun2018
PLOT DATE/TIME: 13JUN2018

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ITEM | QTY | DESCRIPTION | MATERIAL | SIZE | INVENTORY
--- | --- | --- | --- | --- | ---
1 | | 6-19 GROUT CAP O-RING | BUNA N 70 D | 8.975"x9.395"x0.21" | 02WX6520

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SECTION A-A

SECTION B-B

6-19 ANCHORAGE CAP

LETTERING SHALL BE 0.06" PROUD

GATE RELIEF PER MOLDER

-Manufacturing Month Mark

-Manufacturing Year Mark

SEE DETAIL 1