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

INSTALLATION PROCEDURES [INSTALLATION PROCEDURE IS GENERIC; FOLLOWS THE SPECIFIC PROJECT REQUIREMENTS AND THE FOOT SPECIFICATIONS]:

1. ASSEMBLE TRUMPET INTO THE BEARING PLATE. APPLY 1/4" BONDOUT ALL AROUND UP OF BEARING PLATE PRIOR TO INSTALLING TRUMPET. USE 5110 TO ALIGN PLATE AND TRUMPET. INSERT TRUMPET UNTIL LOCKING TABS ENGAGE.

2. LIGHTLY GLEACE ANCHORAGE CAP BOLTS. 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 FILLER PORT CONNECTIONS. SEAL ALL TEMPORARY CONNECTIONS WITH TUBE (DISCOURAGED USE BY OTHERS) AND SEAL ALL PERMANENT CONNECTIONS WITH BONDOUT OR SIMILAR MATERIAL.

4. INSTALL STRAND INTO BEARING PLATE. USE MOUNTING BOLTS TO INSTALL ANCHOR HEAD TO BEARING PLATE USING AN ANCHORAGE CAP.

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

6. PER FOOT SPECIFICATION 462-2.2.1, A VACUUM TEST IS REQUIRED PRIOR TO CONCRETE PLACEMENT.

7. CONCRETE PLACEMENT OCCURS BY OTHERS.

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

9. ELONGATION SHOULD BE WITHIN ±7%.

10. AFTER ENGINEERS APPROVAL, STRAND TAILS MAY BE CUT.

11. TRUMPETS.

12. anschoring anchorage cap bolts. 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.

13. install filler port connections. seal all temporary connections with tube (discouraged use by others) and seal all permanent connections with bondout or similar material.

14. secure duct supports @ 2 max. insert mandrels into trumpets.

15. per foot specification 462-2.2.1, a vacuum test is required prior to concrete placement.

16. concrete placement occurs by others.

17. install strand into bearing plate. use mounting bolts to install anchor head to bearing plate using an anchorage cap.

18. only stress strands if concrete has reached required strength specified on drawings.

19. blowout should be within 47.

20. after engineers approval, strand tails may be cut.

21. form work is removed. use mounting bolts to install anchorage cap with 9 rings.

22. system is now ready to air test.

23. per the fdot specification section 462-8.2.2, a second air pressure test is required after strand stressing and prior to main injection.

24. box tension per axi spec.
NOTES:

1. HDPE 4" IPS/DR-17 MEETS FDOT 960 SPEC.
2. SEE VSL BUTT-WELDING PROCEDURE IN APPENDIX.

ELEVATION VIEW
TRUMPET TO HDPE PIPE ASSEMBLY

NOTES:
1. HDPE 4" IPS/DR-17 MEETS FDOT 960 SPEC.
2. SEE VSL BUTT-WELDING PROCEDURE IN APPENDIX

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<tr>
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ECI 6-19 ANCHORAGE CAP

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

ITEM QTY DESCRIPTION MATERIAL INVENTORY # DWG #
1A 1 ECI 6-19 ANCHORAGE CAP W/ 1/4" VERT. PORT ABS ULTRIAN EDI PER ASTM D4673 02GC61903 C746
1B 1 ECI 6-19 ANCHORAGE CAP W/ 1/4" HORIZ. PORT ABS ULTRIAN EDI PER ASTM D4673 02GC61902 C546
2 1 1/4" NPT STEEL NIPPLE SCH 80 STEEL 00DT01944 C746
3 1 STEEL 1/4 TURN BALL VALVE W/ 1/4" FNPT SCH 80 STEEL 00DT01924 A337
4 1 3/16" PAN HEAD SCREW (316L) STAINLESS PER ASTM A240 02WX7001 A337
5 1 1/4" NPT PE PLUG HDPE BLACK PER ASTM D3350 00DT01919 C693

VERITCAL PORT
SECTION A-A
HORIZONTAL PORT

AFTER WAX
AFTER WAX

NOTE: ITEMS MARKED WITH A "T" ARE TEMPORARY AND NOT A PERMANENT PART OF THE SYSTEM.
INSTALLATION PROCEDURE (SEE MANUFACTURER INSTRUCTION MANUAL FOR DETAILED INSTALLATION INSTRUCTIONS):

1. CUT SQUARE ENDS ON PIPE TO BE FUSED
2. CLEAN BOTH PIPE ENDS
3. SCRAPE BOTH PIPES MINIMUM 0.07" WITH PROVIDED SCRAPING TOOL
4. CLEAN BOTH PIPE ENDS USING 90% OR GREATER ISOPROPYL ALCOHOL
5. USE RESHAPE TOOLS PROVIDED TO CORRECT OVAL PIPE IF NECESSARY
6. USE ALIGNMENT CLAMPS PROVIDED TO ENSURE PIPE IS ALIGNED WITH COUPLER
7. SUPPORT PIPE AND COUPLER AND RESTRAIN PIPE TO PREVENT MOVEMENT
8. CHECK FOR GAPS AND ELIMINATE AS NECESSARY
9. ATTACH LEADS OF THE PROVIDED FUSION PROCESSOR TO THE COUPLER
10. SCAN THE BARCODE ON THE COUPLER
11. START FUSION PROCESS
12. WHEN FUSION PROCESS IS COMPLETE, UNPLUG THE LEADS
13. DO NOT MOVE OR PRESSURIZE THE JOINT COMPONENTS BEFORE COOLING TIME HAS COMPLETED

NOTE:
FOLLOW COUPLER MANUFACTURER'S INSTALLATION INSTRUCTIONS
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. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.

---

ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY # | DWG # |
--- | --- | --- | --- | --- | --- |
1. | 1 | 1/4" NPT PE PLUG | HDPE BLACK PER ASTM D3350 | 02DT0199 | C693 |
2. | 1 | 1" NPT PP PLUG | BLACK POLYPROPYLENE PER ASTM D4101 | 02DT01948 | C879 |
3. | 1 | ECI 6-19 BEARING PLATE W/ 1" NPT PORT HOT DIPPED GALV. PER ASTM A325 | CAST IRON GR80-55-06 PER ASTM A536 | 02BP0038V | C738 |
4. | 1 | ECI 6-19 ANCHORAGE CAP W/ 1/4" VERT. PORT | ABS/LIST/STRAIGHT PER ASTM D4300 | 02GC61903 | C740 |
5. | 1 | ECI 6-19 ANCHORAGE CAP O-RING | BUNED TO 1/2" PEER FOOT SEE TABLE 2.1.1.1 | 02BP0038V | C741 |
6. | 1 | 1/4" TURN VALVE | SCH 40 STEEL | 02DT01906 | C742 |
7. | 1 | 11" NPT CAP | BLACK POLYPROPYLENE PER ASTM D4101 | 02DT01940 | C877 |
8. | 1 | 3/16" PAN HEAD SCREW | 316 STAINLESS STEEL | 02WX7001 | A337 |
9. | 1 | BONDZIT | COMMERCIALLY AVAILABLE | | |
10. | 1 | 1/2" FNPT X MNPT STEEL ELBOW | SCH 40 STEEL | 02DT01955 | C751 |
11. | 1 | 1" NPT F/F COUPLER | SCH 40 STEEL | 02DT01953 | C752 |
12. | 2 | 3/16" PAN HEAD SCREW | 316 STAINLESS STEEL | 02WX7001 | A337 |
13. | 1 | 1/4" NPT F/F COUPLER | SCH 40 STEEL | 02DT01965 | C750 |
14. | 2 | Sиликоновая смазка | ВСС | | |

SEE SHEET A337 FOR ANCHORAGE CAP ALTERNATIVE VENTING DETAILS.

SEE SHEET A337 FOR ANCHORAGE CAP ALTERNATIVE VENTING DETAILS.
**STEP 1**

1. Orient Bearing Plate in vertical position.
2. Insert Trumpet into Bearing Plate, rotating until locked in place.
3. Apply Bonduit around outside of Trumpet as shown (1/4" Min. bead).
4. Wait Min. 1 Hour for Bonduit to set.

**STEP 2**

1. After Bonduit has set for 1 Hour, wrap Heat Shrink Sleeve around Bearing Plate and Trumpet as shown.

**STEP 3**

1. Follow Heat Shrink Installation Instructions (Provided as a separate Appendix).

---

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**NOTE:** Butt-weld HDPE pipe to Trumpet per Sheet A326 prior to assembly. HDPE pipe length to be 2'-0" Min. length.

---

**NOTICE:** THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES, LLC POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES, LLC BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES, LLC TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES, LLC 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.
FORMING MATERIALS

FORM PLAN VIEW

FORM ELEVATION VIEW

SECTION A-A

FORMING PREPARATION GUIDE

NOTES:
1. THE "OPEN" SIDE OF THE SPIDER CLIP IS MANUALLY "SNAPPED" ONTO EITHER THE HUB (SHOWN SHEET 4) OR THE FORM TOOL (SHOWN HERE).
2. THE "CLOSED" SIDE OF THE SPIDER CLIP IS "ENGAGED" WHEN THE MANDREL IS INSERTED THROUGH THE SPIDER CLIP FROM THE "OPEN" SIDE (SEE SHEET 2).
3. THE SPIDER CLIP IS USED TO:
   3.1. SECURE THE FORM TOOL TO THE HUB IN CASE OF A WET CAST (SEE SHEETS 1-3), AND
   3.2. SECURE THE HUB OF A MATCH-CAST SEGMENT TO THE HUB OF A PRE-CAST SEGMENT (SEE SHEET 4-6).
4. SPIDER CLIP SHOULD ALWAYS BE ORIENTED AS SHOWN WITH THE WIDE MANDREL RAMPS VERTICAL TO EACH OTHER.

NOTE:
PART NUMBERS SHOWN ARE FOR 3/8" THICK FORM ONLY

ALTERNATE FORM TOOLS MAY BE USED BY CONTRACTOR ONLY IF THEY PERMIT ±6° SKEW ANGLE AND IF THEY POSITION THE RECESS FORMER HALF-WAY INSIDE THE FORM BEING CAST.

SPIDER CLIP DETAIL

SPIDER CLIP

FORM TOOL

FOR 76MM, SEE SHEET C818 [INV. #02SC07604]
FOR 100MM, SEE SHEET C651 [INV. #02SC10005]
FOR 130MM, SEE SHEET C661 [INV. #02SC13005]

NOTES:
1. PART NUMBERS SHOWN ARE FOR 2½" THICK FORWARD ONLY
2. ALTERNATE FORM TOOLS MAY BE USED BY CONTRACTOR ONLY IF THEY FORM A 90° SKEW ANGLE AND IF THEY POSITION THE RECESS FORMER HALF-WAY INSIDE THE FORM BEING CAST.

SECTION A-A

FORM TOOL

FOR 76MM, SEE SHEET C651 [INV. #02SC07605]
FOR 100MM, SEE SHEET C645 [INV. #02SC10005]
FOR 130MM, SEE SHEET C661 [INV. #02SC13005]

FORM ELEVATION VIEW

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

FORM PLAN VIEW

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)

INSIDE FORM (OUTSIDE FORM)
SEGMENTAL DUCT COUPLER INSTALLATION GUIDE

1. Bolt the appropriate form tool to the bulkhead with a spider clip installed in each form tool.
2. Position a recess former between the form tool and the hub.
3. (Optional) Ducts can be pre-assembled with hub seals and hubs to speed the forming time. Any silicon-based or oil-based lubricant or dishwashing detergent solution acceptable to the contractor and the local DOT may be used to assist with the assembly of the segmental duct coupler components.
4. Insert the mandrel through the form tool, engaging the spider clip and securing the form tool to the hub with a recess former sandwiched in between.
5. Note: The spider clip may also be installed on the hub where the mandrel will be inserted from the opposite direction as shown. In such a case, the spider clip will be attached to the hub and will engage the form tool once the mandrel is inserted.
6. The wet cast is ready to pour.

MANDREL
SCH. 40 PVC recommended
For 76mm use 2.38" OD mandrel, 2" PVC or similar
For 100mm use 3.50" OD mandrel, 3" PVC or similar
For 130mm use 4.50" OD mandrel, 4" PVC or similar

HDPE SMOOTH PIPE
FUSION BUTT WELD
USE INSPECTED & APPROVED FUSION WELDER

FORM TOOL (PIVOTS ON Ø1/2"UNC BOLTS ±6° SKEW FROM BULKHEAD)
For 76mm, see sheet C651 [INV. #02SC07605]
For 100mm, see sheet C645 [INV. #02SC10005]
For 130mm, see sheet C661 [INV. #02SC13005]

RECESS FORMER
For 76mm, see sheet C649 [INV. #02SC07607]
For 100mm, see sheet C639 [INV. #02SC10007]
For 130mm, see sheet C659 [INV. #02SC13007]

O-RINGS
For 76mm, see sheet C903 [INV. #02WX0232]
For 100mm, see sheet C793 [INV. #02VS06406]
For 130mm, see sheet C904 [INV. #02WX0348]

HUB
For 76mm, see sheet C646 [INV. #02SC07601]
For 100mm, see sheet C641 [INV. #02SC10001]
For 130mm, see sheet C656 [INV. #02SC13001]

Max articulation with bulkhead is 6°

Soup clip
For 76mm, see sheet C619 [INV. #02SC07606]
For 100mm, see sheet C589 [INV. #02SC10006]
For 130mm, see sheet C609 [INV. #02SC13006]

Wet cast form
7. AFTER THE CONCRETE IS Poured, DISASSEMBLE THE FORM IN THE FOLLOWING ORDER:

7.1 REMOVE ALL MANDRELS
7.2 STRIP THE BULKHEAD FORMWORK FROM THE SEGMENT FACE.
7.3 REMOVE ALL RECESS FORMERS. VISUALLY INSPECT. IF THERE ARE NOT SIGNIFICANT CUTS OR TEARS, RETAIN RECESS FORMER, OTHERWISE DISCARD.
7.4 THERE IS NO NEED TO REMOVE THE FORM TOOLS FROM THE BULKHEAD. VISUALLY INSPECT THE SPIDER CLIPS. IF THERE ARE NO BROKEN OR MISSING "FEET", RETAIN SPIDER CLIP, OTHERWISE DISCARD.

SPIDER CLIP

FOR 76MM, SEE SHEET C818 [INV. #02SC07604]
FOR 100MM, SEE SHEET C819 [INV. #02SC10004]
FOR 130MM, SEE SHEET C820 [INV. #02SC13004]

FORM TOOL

FOR 76MM, SEE SHEET C651 [INV. #02SC07605]
FOR 100MM, SEE SHEET C645 [INV. #02SC10005]
FOR 130MM, SEE SHEET C661 [INV. #02SC13005]
8. INSTALL THE SPIDER CLIP AS SHOWN.
9. ENSURE A RECESS FORMER IS POSITIONED BETWEEN THE HUBS.
10. SLIDE A MANDREL THROUGH THE LENGTH OF THE DUCT, ENGAGING THE SPIDER CLIP TO SECURE THE MATCH-CAST HUB TO THE PRE-CAST SEGMENT HUB.
12. Once the mandrel is inserted, the spider clip has locked the two hubs together, and the match cast segment can be poured.
13. To separate the match-cast segment from the pre-cast segment, disassemble the form in the following steps:

13.1 Remove all mandrels

13.2 Separate segments

13.3 Remove all spider clips. Visually inspect. If there are not significant cuts or tears, retain recess former, otherwise discard. If there are no broken or missing "feet", retain spider clip, otherwise discard.

13.4 Note: there is no need to remove the form tools from the bulkhead. Visually inspect the spider clips as noted above.

14. Install protective caps over duct openings

For 76mm, see Sheet C663 [INV. #02SC07606]

For 100mm, see Sheet C662 [INV. #02SC10006]

For 130mm, see Sheet C664 [INV. #02SC13006]

Note: Failure to remove mandrel results in severe spalling of bottom slabs.
SEGMENTAL DUCT COUPLER INSTALLATION GUIDE
(Continued)

ONCE THE SEGMENTS HAVE BEEN TRANSPORTED AND ARE READY FOR ERECTION:

15. REMOVE PROTECTIVE CAPS FROM DUCT OPENINGS.
16. INSTALL FACE SEALS INTO ONE SEGMENT FACE ONLY.
17. APPLY SEGMENTAL EPOXY TO SEGMENT FACES AS REQUIRED. (DO NOT APPLY EPOXY TO FACE SEAL – STEPS 17 & 18 MAY BE REVERSED AT THE DISCRETION OF THE CONTRACTOR.)
18. BRING SEGMENTS TOGETHER AND SECURE WITH PT BAR.
These shop drawings illustrate the design of the structural components of the project. The drawings were prepared in conformance with the structural design provided to Structural Technologies, LLC by the project owner or its representative. Structural Technologies, LLC took no part in the preparation or review of said structural design and Structural Technologies, LLC disclaims any liability for it. The stamp or seal of a Structural Technologies, LLC 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.

Project No: 12-52 PM
29 Jan 2020
PLOT DATE/TIME: 12:52 PM
FILE NAME: A437 Flexible Filler Segmental Coupler Assembly FDOT.dwg
ELECTRONIC FILE LOCATION: I:\VSL System Drawings\Work In Progress Drawings\Work In Progress Drawings\Florida DOT Test 2017\Segmental Duct Coupler

PROJECT INFORMATION:
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PROJECT NO:
SCALE:
TITLE:
SYSTEM DRAWING
DESCRIPTION:
FILE NAME:
APPROVED FOR CONSTRUCTION
I:
FILE LOCATION:
SEGMENTAL DUCT COUPLER - FLEX FILLER INSTALLATION GUIDE
29JAN2020
ZX
CDL
STRUCTURAL TECHNOLOGIES, LLC
CORPORATE OFFICE
10150 OLD COLUMBIA RD
COLUMBIA, MD 21046
PHONE: (410) 850-7000
structuraltechnologies.com

PRE-CAST SEGMENT 1
PRE-CAST SEGMENT 2

FINAL ELEVATION SECTION - VIEW OF SEGMENTAL DUCT COUPLER JOINT

1/16" - 1/8" SEGMENTAL EPOXY
COMPRESSED, INSTALLED FACE SEAL
NOTES:
1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. THIS ASSEMBLY CAN BE APPLIED IN ANY REQUIRED ORIENTATION TO CREATE EITHER A VENT OR A DRAIN.
3. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
4. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2

3/4" FNPT SMOOTH GROUT PORT INSTALLATION
1. CLEAN PIPE PRIOR TO GROUT PORT INSTALLATION.
2. DRILL Ø7/8" HOLE INTO PIPE.
3. CONNECT THE SOCKET WELDING DEVICE TO THE POWER SOURCE.
4. ALLOW THE SOCKET WELDING DEVICE TO REACH ITS WORKING TEMPERATURE.
5. SIMULTANEOUSLY, INSERT MALE ADAPTER OF SOCKET WELDING DEVICE FROM DRILLED HOLE AND GROUT PORT FROM FEMALE ADAPTER.
6. APPLY LIGHT PRESSURE FOR 20-25 SECONDS BY PUSHING THE GROUT PORT WITH THE PALM OF HAND.
7. SIMULTANEOUSLY, REMOVE SOCKET WELDING DEVICE FROM DRILLED HOLE AND GROUT PORT FROM FEMALE ADAPTER.
8. INSERT GROUT PORT INTO HOLE UNTIL THE SHOULDER IS REACHED.
9. THIS OPERATION SHOULD BE CARRIED OUT AS QUICKLY AND CAREFULLY AS POSSIBLE, WITHIN 5 SECONDS. FIRMLY HOLD THE PIECES TOGETHER FOR A MINIMUM OF 10 SECONDS.

EXTERNAL OPTION

INTERNAL OPTION

EPOXY GROUT FILL POUR-BACK AREA (TYPICAL), REFER TO FDOT STANDARD PLANS INDEX 462-003 FOR POST-TENSIONING ANCHORAGE AND TENDON FILLING DETAILS

ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.

ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.

CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.

1. CLEAN PIPE PRIOR TO GROUT PORT INSTALLATION.
2. DRILL Ø7/8" HOLE INTO PIPE.
3. CONNECT THE SOCKET WELDING DEVICE TO THE POWER SOURCE.
4. ALLOW THE SOCKET WELDING DEVICE TO REACH ITS WORKING TEMPERATURE.
5. SIMULTANEOUSLY, INSERT MALE ADAPTER OF SOCKET WELDING DEVICE FROM DRILLED HOLE AND GROUT PORT FROM FEMALE ADAPTER.
6. APPLY LIGHT PRESSURE FOR 20-25 SECONDS BY PUSHING THE GROUT PORT WITH THE PALM OF HAND.
7. SIMULTANEOUSLY, REMOVE SOCKET WELDING DEVICE FROM DRILLED HOLE AND GROUT PORT FROM FEMALE ADAPTER.
8. INSERT GROUT PORT INTO HOLE UNTIL THE SHOULDER IS REACHED.
9. THIS OPERATION SHOULD BE CARRIED OUT AS QUICKLY AND CAREFULLY AS POSSIBLE, WITHIN 5 SECONDS. FIRMLY HOLD THE PIECES TOGETHER FOR A MINIMUM OF 10 SECONDS.

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CAP TO BEARING PLATE BOLTED ASSEMBLY

1/2"-13 THREAD ROG
1/2"-13 NUT
1/2" WASHER
0.6" DIA. MULTIWEDGES  
TYPE 1.6G
**ECI 6-19 Anchorage Cap W/ 1/4" Horizontal Port**

**Material:** ABS Lustran 633 Per ASTM D4673

**Inventory #:** 02GC61902

**Dimensions:**
- Ø1/4" NPT Shop Drilled & Tapped Hole: 5.63"
- Gate Relief Per Molder: 0.39"
ECI 6-19 ANCHOR HEAD

IRON GR 80-55-06 PER ASTM A536

DATE CODE, FOUNDRY MARK, AND TYPE "VSL ECI 6-19" STAMPED THIS SURFACE MUST BE RECESSED.

HARDNESS TEST

SECTION A-A

FRONT VIEW

3° FOR 6 EXTERNAL CORNER HOLES BETWEEN CORNERS

4° FOR 6 EXTERNAL CORNER HOLES

3.75" 0.38"

Ø8.00" 4.13"

3.75" 0.38"

Ø5.29"

A

Ø8.13"

A

4.13"

1.30"

1.30"

1.30"
ECI 6-19 TRUMPET
HOPE BLACK PER ASTM D330
S2BPX322

DESCRIPTION

SIDE VIEW

SECTION A-A

DETAIL A

MATERIAL

INVENTORY #

ECI 6-19 TRUMPET
HDPE BLACK PER ASTM D3350
02BP4322
### 100MM Recess Former

**Description:**
- **Material:** Santoprene per FDOT 960 Table 2.2.1.7-2
- **Inventory #:** 02SC10007

**NOTE:** This is a temporary part.

---

**Title:** SYSTEM DRAWING

**Project Information:**
- **Sheet No.:**
- **Title:** SYSTEM DRAWING
- **Project No.:**
- **Scale:** NTS

---

**Corporation:** Structural Technologies, LLC

**Address:**
- **Corporate Office:**
  - **10150 Old Columbia Rd,
  - Columbia, MD 21046
  - **Phone:** (410) 850-7000
  - **structuraltechnologies.com**

---

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**Drawing Information:**
- **ELECTRONIC FILE LOCATION:**
  - **FILE NAME:** C670 C649 C639 C659 Recess Formers FDOT.dwg
  - **PLOT DATE/TIME:** 12:54 PM, 29 Jan 2020
100MM FACE SEAL
SANTOPRENE PER FDOT 960 TABLE 2.2.1.7-2
02SS10003
**DESCRIPTION:**

**MATERIAL:**

**INVENTORY #:**

100MM FORM TOOL
STEEL PER ASTM A36
02SC10005

NOTE: THIS IS A TEMPORARY PART.
DESCRIPTION | MATERIAL | INVENTORY #
--- | --- | ---
100MM PROTECTIVE CAP | LDPE | 02SC10006

NOTE: THIS IS A TEMPORARY PART.
DESCRIPTION
VSL POST TENSIONING 0.6" BARE STRAND

MATERIAL
LOW RELAXATION STEEL, SEVEN WIRE STRAND PER ASTM A416

INVENTORY #
VA265000013
ITEM  | DESCRIPTION                                                                 | MATERIAL                                      | INVENTORY # |
-------|-----------------------------------------------------------------------------|-----------------------------------------------|-------------|
1      | ECI 6-19 SPIRAL #3500 (#5, DIA. 17", 2" PITCH, 11 1/2 TURNS)                | STEEL GR60 PER ASTM A615                       | 02BP0093    |
2      | ECI 6-19 SPIRAL #5500 (#5, DIA. 15", 2" PITCH, 10 1/2 TURNS)                | STEEL GR60 PER ASTM A615                       | 02BP0094    |

NOTE:
1. THESE SPIRALS ARE TO BE IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS AND CONTRACT DRAWINGS.
2. CONCRETE STRENGTH SHOWN IN SPIRAL NAME AS #XXXX WHERE # = PSI.
NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960

1/4" NPT PE PLUG

MATERIAL: HDPE BLACK PER ASTM D3350
INVENTORY #:

DESCRIPTION
1/4" NPT PE PLUG

FRONT VIEW

SIDE VIEW

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960
SIDE VIEW

VARIES BY PROJECT

DESCRIPTION

MATERIAL

INVENTORY #

3/4" NPT NIPPLE

SCH 40 STEEL

-
1" NPT STEEL NIPPLE
SCH 40 STEEL

DESCRIPTION

MATERIAL

INVENTORY #

VARES BY PROJECT

SIDE VIEW

C725 1in NPT Steel Nipple FDOT.dwg
11:49 AM
29Jan2020

THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES, LLC POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES, LLC BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES, LLC TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND STRUCTURAL TECHNOLOGIES, LLC DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES, LLC EMPLOYEE ON THESE 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.

MATERIAL INVENTORY #

1" NPT STEEL NIPPLE
SCH 40 STEEL

-
**DESCRIPTION**: 3/4" NPT F/F COUPLER

**MATERIAL**: SCH 40 STEEL

**INVENTORY #**: 027071852

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ECI 6-19 BEARING PLATE W/ 1" NPT PORT GALVANIZED PER ASTM A123
CAST IRON GR80-55-06 PER ASTM A536
02R0038V
**Description:**

- **Material:** HDPE Yellow per ASTM D3350
- **Inventory #:** 02DT0253

**Note:** Material meets or exceeds FDOT Specification 960.
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>INVENTORY #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 TURN BALL VALVE W/ 1/4&quot; FNPT</td>
<td>SCH 40 STEEL</td>
<td>2DT01924</td>
</tr>
</tbody>
</table>

NOTE: THIS IS A TEMPORARY PART.
**SIDE VIEW**

- **HEX**: 3/4" MIN.

**TOP VIEW**

- **3/4"**

**SIDE VIEW**

- **3"**
- **4 1/4"**

**END VIEW**

- **3/4"**
- **2 3/32"**
- **1 11/32"**

**NOTE:** THIS IS A TEMPORARY PART.
### Title:
System Drawing

### Project Information:
- Sheet No: [I:VSL System Drawings\Work In Progress Drawings\Work In Progress Drawings\Florida DOT Test 2017\Flexible Filler Accessories]
- Electronic File Location: [FILE_NAME: C746 1in NPT Steel Ball Valve FDOT 02DT01926.dwg]
- Plot Date/Time: 29Jan2020 11:46 AM
- PLOT DATE/TIME: 29JAN2020

### Description:

#### Model:
- Steel 1/4 Turn Ball Valve W/ 1" F NPT

#### Material:
- SCH 40 Steel

#### Inventory #:
- 02DT01926

**NOTE:** This is a temporary part.

---

### Structural Technologies LLC
- Corporate Office: 10150 Old Columbia Rd, Columbia, MD 21046
- Phone: (410) 850-7000
- structuraltechnologies.com

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### System Drawing

---

### Model Details:

- **Top View**
- **Side View**
- **End View**

---

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DESCRIPTION | MATERIAL | INVENTORY #
---|---|---
1/4" NPT STEEL NIPPLE | SCH 40 STEEL | -
3/4" FNPT X MNPT STEEL ELBOW
SCH 40 STEEL
02DT01654

DESCRIPTION
MATERIAL
INVENTORY #
DESCRIPTION: 1" FNPT X MNPT STEEL ELBOW

INVENTORY #: 020701055

MATERIAL: SCH 40 STEEL

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DESCRIPTION | MATERIAL | INVENTORY #
--- | --- | ---
1" NPT F/F COUPLER | SCH 40 STEEL | CH 40 STEEL 0027071053
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<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>INVENTORY #</th>
</tr>
</thead>
<tbody>
<tr>
<td>KLNN-115 WS BK/L 9&quot; HEAT SHRINK SLEEVE</td>
<td>POLYOLEFIN PER TABLE 960 2.2.1.8-1</td>
<td>02D73514</td>
</tr>
</tbody>
</table>

NOTE: REFERENCE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS IN THE APPENDIX.
DESCRIPTION: 3/4" NPT PE Plug

MATERIAL: Black HDPE per ASTM D3350

INVENTORY #: C787 3-4in NPT PE Plug FDOT 02DT01913

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 966

END VIEW

SIDE VIEW

1.312"
VSLAB 6-4 TRUMPET O-RING

DESCRIPTION: BUNA-N 70 D PER FDOT 960 TABLE 2.2.1.7-1

MATERIAL: BUNA-N 70 D

SIZE: 3.61" x 3.88" x 0.135"

INVENTORY #: 2VS06406

PROJECT INFORMATION:
Sheet No: I:\VSL System Drawings\Work In Progress Drawings\Work In Progress Drawings\Florida DOT Test 2017\VSLAB 6-4 Grouted System

ELECTRONIC FILE LOCATION:
FILE NAME: C793 VSLAB 6-4 Trumpet O-Ring Rev0 02VS06406.dwg

12:20 PM 29Jan2020

PLOT DATE/TIME:

PROJECT NO:

SCALE:

STRUCTURAL TECHNOLOGIES, LLC
CORPORATE OFFICE
10150 OLD COLUMBIA RD
COLUMBIA, MD 21046
PHONE: (410) 850-7000
structuraltechnologies.com

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DESCRIPTION
100MM SPIDER CLIP

MATERIAL
HDPE PER ASTM D3350

INVENTORY #
02SC10004

NOTE: THIS IS A TEMPORARY PART.

TEXT 0.020" PROUD
"VSL S.C. SPIDER CLIP 100MM"
TWO SIDES

TOP VIEW

SIDE VIEW

3D VIEW
"VSL S.C. TAPERED HUB 100MM"
ONE SIDE ONLY

TEXT 0.020" PROUD
DESCRIPTION: 1" NPT PP Plug

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960.
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>INVENTORY #</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>MIN. BEND RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; HDPE PIPE</td>
<td>HDPE BLACK PER ASTM D3350</td>
<td>-</td>
<td>3.939&quot;</td>
<td>4.5&quot;</td>
<td>20'-0&quot;</td>
</tr>
</tbody>
</table>