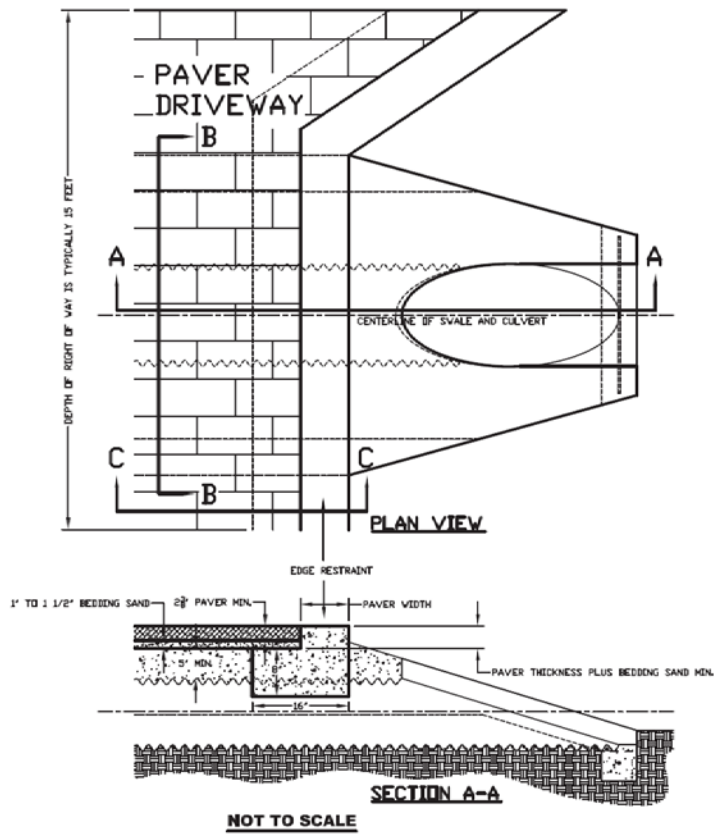
Drawing # 300.G – Residential Culvert Paver Driveway Supplement

CITY OF PALM COAST PAVER RIGHT-OF-WAY RESIDENTIAL CULVERT DETAIL

(SUPPLEMENTS THE TYPICAL RIGHT-OF-WAY RESIDENTIAL CULVERT INSTALLATION)



THE FOLLOWING IS BASED ON INFORMATION CONTAINED IN THE ICPI INTERLOCKING CONCRETE PAVEMENT INSTITUTE TECHNICAL SPECIFICATIONS COPYRIGHT 1999, SPEC NO. 10, REVISED MARCH 2003.

OPTION 1 (SEE SECTION C-C PAGE 2)

2⅜ INCH THICK PAVER TO BE USED WITH A BASE MINIMUM THICKNESS OF 12 INCHES, LIMEROCK OR CRUSH CRETE.

OPTION 2 (SEE SECTION C-C PAGE 2)

3⅛ INCH THICK PAVER TO BE USED WITH A BASE MINIMUM THICKNESS OF 8 INCHES, LIMEROCK OR CRUSH CRETE.

WITH EITHER OPTION 1 OR 2, THE AGGREGATE BASE SHALL BE COMPACTED TO AT LEAST 98% MODIFIED PROCTOR (PER ASTM D 1557).

OPTION 3 (SEE SECTION C-C PAGE 2)

MINIMUM 2⅜ PAVER ON A 5 INCH THICK CONCRETE SLAB POURED BELOW THE DRIVEWAY FINISHED GRADE ENOUGH TO ALLOW FOR THE THICKNESS OF THE PAVER AND BEDDING SAND.

ALTERNATIVE 1 (SEE SECTION B-B ALTERNATIVE 1 PAGE 2)

5" OF CONCRETE COVER OF CULVERT, 1" - 1-1/2" BEDDING SAND, 2-3/8" PAVER MINIMUM.

ALTERNATIVE 2 (SEE SECTION B-B ALTERNATIVE 2 PAGE 2)

2" OF CONCRETE ALONG TOP AND SIDES TO THE BASE OF THE CULVERT, 1" - 1-1/2" BEDDING SAND, 2-3/8" PAVER MINIMUM

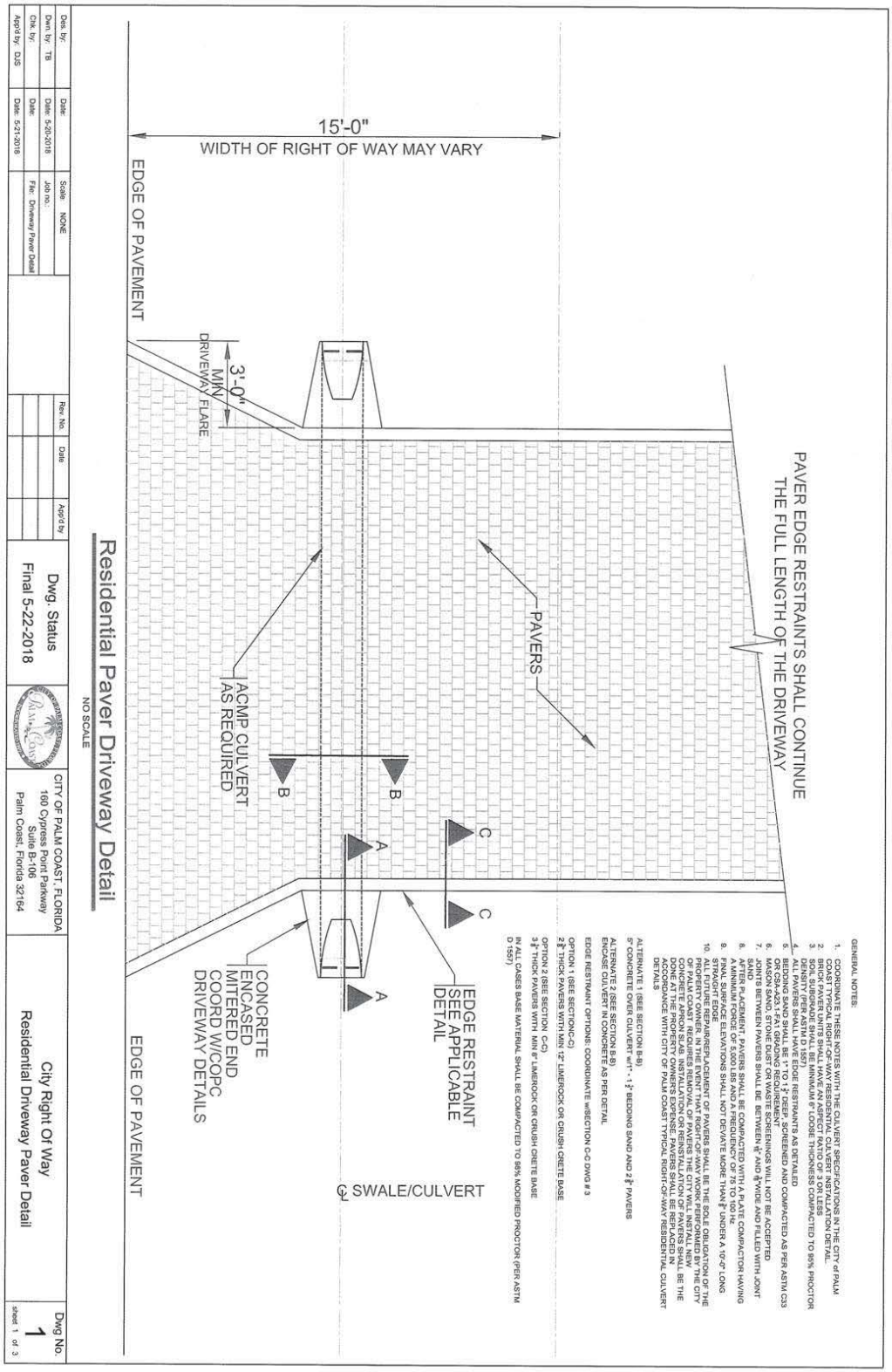
IN ALL CASES

1. THESE SPECIFICATIONS ARE TO BE USED IN CONJUNCTION WITH THE CULVERT DIMENSIONS SPECIFIED IN THE CITY OF PALM COAST TYPICAL RIGHT-OF-WAY RESIDENTIAL CULVERT INSTALLATION.
2. BRICK UNIT IS TO HAVE AN ASPECT RATIO OF 3 OR LESS.
3. SOIL SUBGRADE TO BE COMPACTED TO 95% PROCTOR DENSITY (PER ASTM D 1557) FOR A MINIMUM THICKNESS OF 6 INCHES.
4. AN EDGE RESTRAINT IS REQUIRED IN THE CITY RIGHT OF WAY (TYPICALLY 15 FEET FROM THE ROADWAY EDGE). IT SHALL BE TROWELED CONCRETE CURB, PRECAST CONCRETE OR CUT STONE. MINIMUM 8" THICH AND 16" WIDE.
5. BEDDING SAND IS TO BE SCREENED AND COMPACTED 1 TO 1½ INCH THICK, COMPACTED AND CONFORMING TO THE GRADING REQUIREMENT OF ASTM C 33 OR CSA-A23.1-FA1.
6. IN NO CASE SHALL MASON SAND, STONE DUST OR WASTE SCREENINGS BE USED.
7. JOINTS BETWEEN PAVERS WILL BE BETWEEN 1/16" TO 3/16" WIDE AND FILLED WITH JOINT SAND.
8. ONCE PAVERS ARE PLACED, THEY SHALL BE COMPACTED WITH A PLATE COMPACTOR THAT HAS A MINIMUM FORCE OF 5,000 LBS AND A FREQUENCY OF 75 TO 100 HZ.
9. DO NOT PERMIT THE FINAL SURFACE ELEVATIONS TO DEVIATE MORE THAN 3/8" UNDER A 10 FOOT LONG STRAIGHTEDGE.
10. REPLACEMENT AND REPAIR OF THE PAVERS IS SOLELY THE OBLIGATION OF THE PROPERTY OWNER. IF THE CITY DECIDES THAT THE DRIVEWAY IS TO BE REPLACED THE COST ASSOCIATED WITH THE PAVERS WILL BE THE OBLIGATION OF THE PROPERTY OWNER. ANY FUTURE WORK DONE IN THE RIGHT-OF-WAY THAT DISTURBS THE PAVERS WILL BE REPLACED IN ACCORDANCE TO THE CITY OF PALM COAST TYPICAL RIGHT-OF-WAY RESIDENTIAL CULVERT DETAILS.

	CITY OF PALM COAST STORMWATER MANAGEMENT DEPARTMENT 160 CYPRESS POINT PARKWAY SUITE B106 PALM COAST, FL 32164 TEL (386) 986-4760 FAX (386) 986-4762			
REVISED BY SLB	STORM WATER DRAINAGE SYSTEM MAINTENANCE			
DRAWN BY MCB	SIZE B	DATE September 11, 2014	SECTION – BLOCK – LOT	REV
REVIEWED BY JCM	SCALE NONE	DWG NO. 004-248605	SHEET 1 OF 2	

Revised 11-30-15

Drawing # 300.H – Residential Culvert Detail



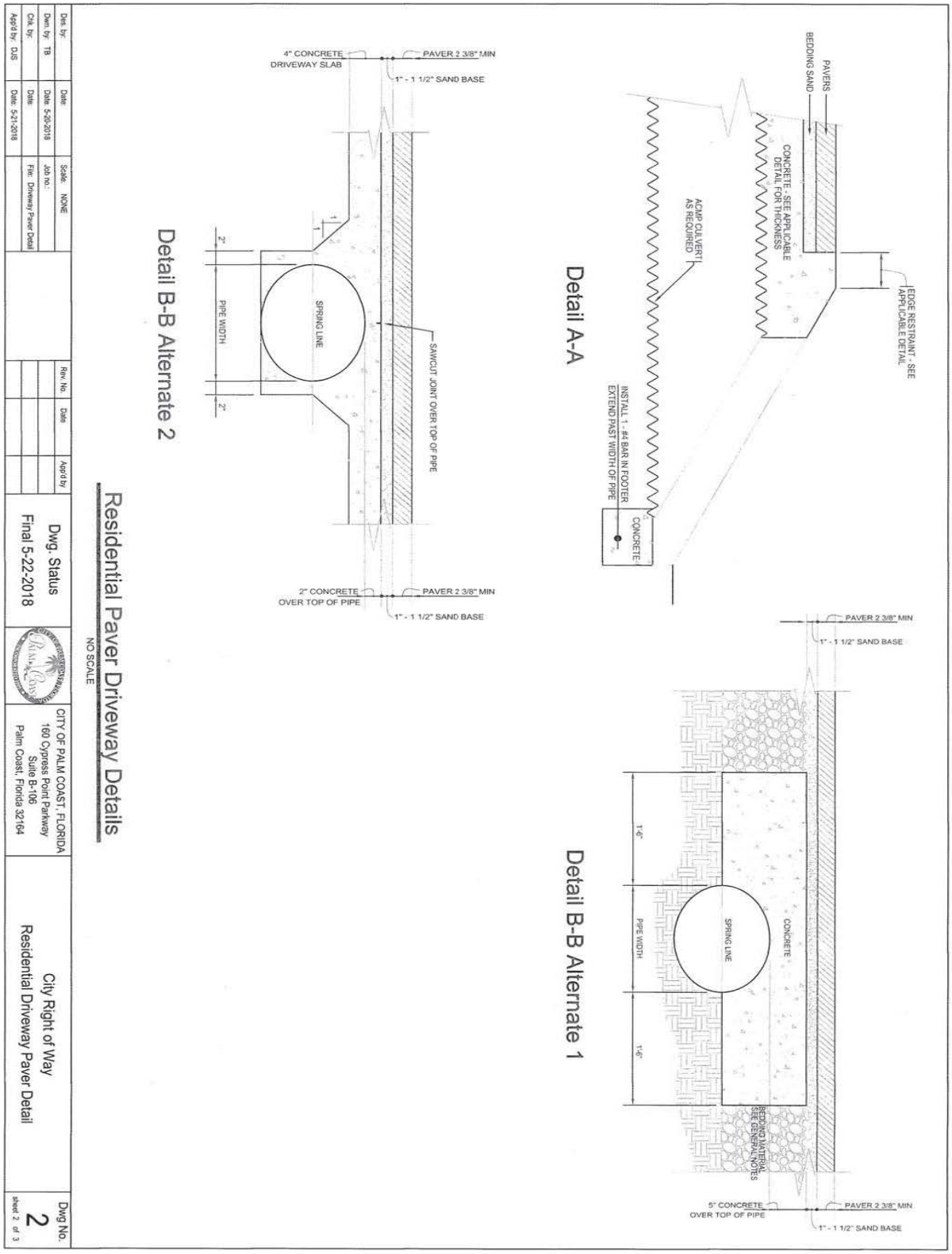
Residential Paver Driveway Detail

NO SCALE

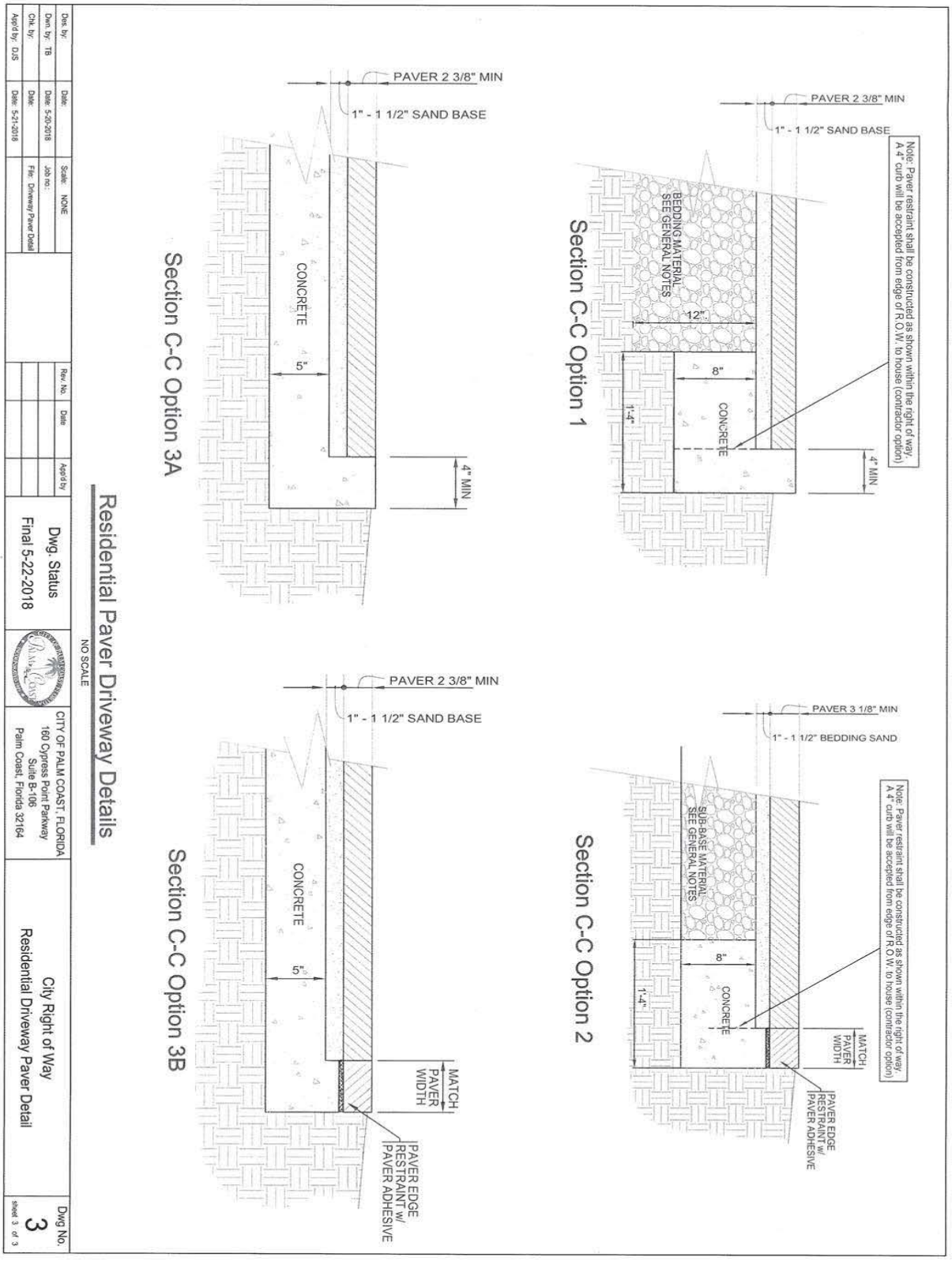
Des. by:	Date:	Scale: NONE	Rev. No.	Date	Appr'd by
Dwn. by: TB	Date: 5-20-2018	Job no.:			
Chk. by:	Date:	File: Driveway Paver Detail			
Appr'd by: DJS	Date: 5-21-2018				

Dwg. Status	CITY OF PALM COAST, FLORIDA 160 Cypress Point Parkway Suite B-106 Palm Coast, Florida 32164	City Right Of Way Residential Driveway Paver Detail	Dwg No. 1 sheet 1 of 3
Final 5-22-2018			

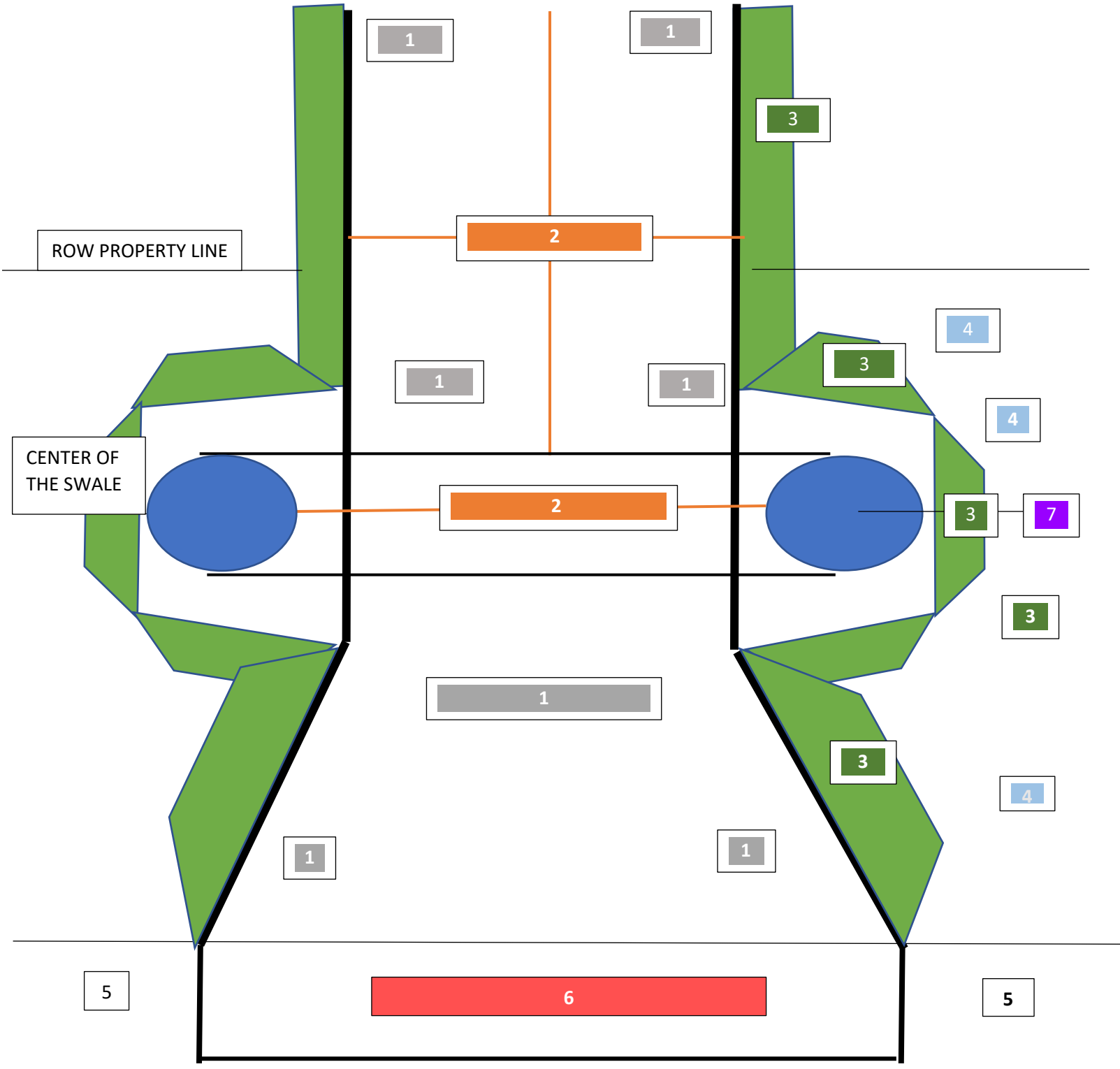
Drawing # 300.H – Residential Culvert Detail



Drawing # 300.H – Residential Culvert Detail



CHECKLIST AFTER POUR
After Pour Design



CHECKLIST AFTER POUR
After Pour Design

☐ The fiberglass option is used, and documentation of the (FRC) Fiber-reinforced concrete must be attached to the city permit before the Pour Inspection. Inspection will be disapproved if documents are not linked to the permit. **Drawing 300 G,8,8a,8b**

☐ **2)** The driveway saw cut must be no more than two on the upper Driveway or (20x20) =200 sq ft. A center-line saw cut is needed over the length of the pipe. **Drawing 300 G.**

☐ **3)** Compacted dirt and sod must be placed around all edges of the poured concrete, including around the miter ends and the driveway shoulders to prevent washout. **Drawing 300 G,12.**

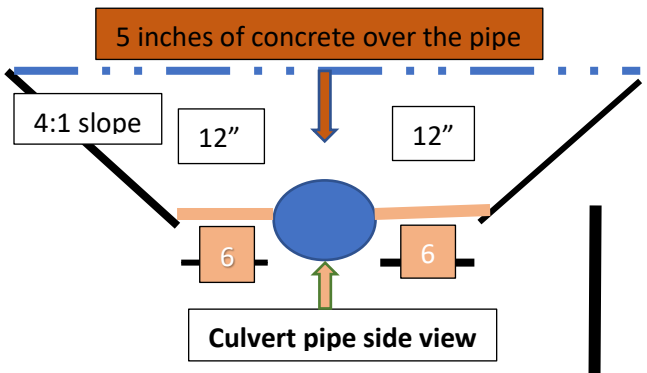
☐ **4)** Any damage to swales must be completely repaired and replaced with Bahia sod in the right-of-way (ROW). All ruts and bare spots must be stabilized with sod. Make sure to remove any dirt or silt from the inside of the miter ends. **Drawing 300 G,12.**

☐ **5)** Road damage caused by trucks, machinery, or equipment to the city road and road edge must be repaired with HOT PATCH ASPHALT. NO COLD PATCH ALLOWED. **Drawing 300 G,13.**

☐ **6)** Road Repair must be a minimum of 12 inches from the edge of the road. Repair the road along the entire width of the driveway or any damaged area must be with. HOT PATCH ASPHALT. NO COLD PATCH ALLOWED. **Drawing 300 G,13.**

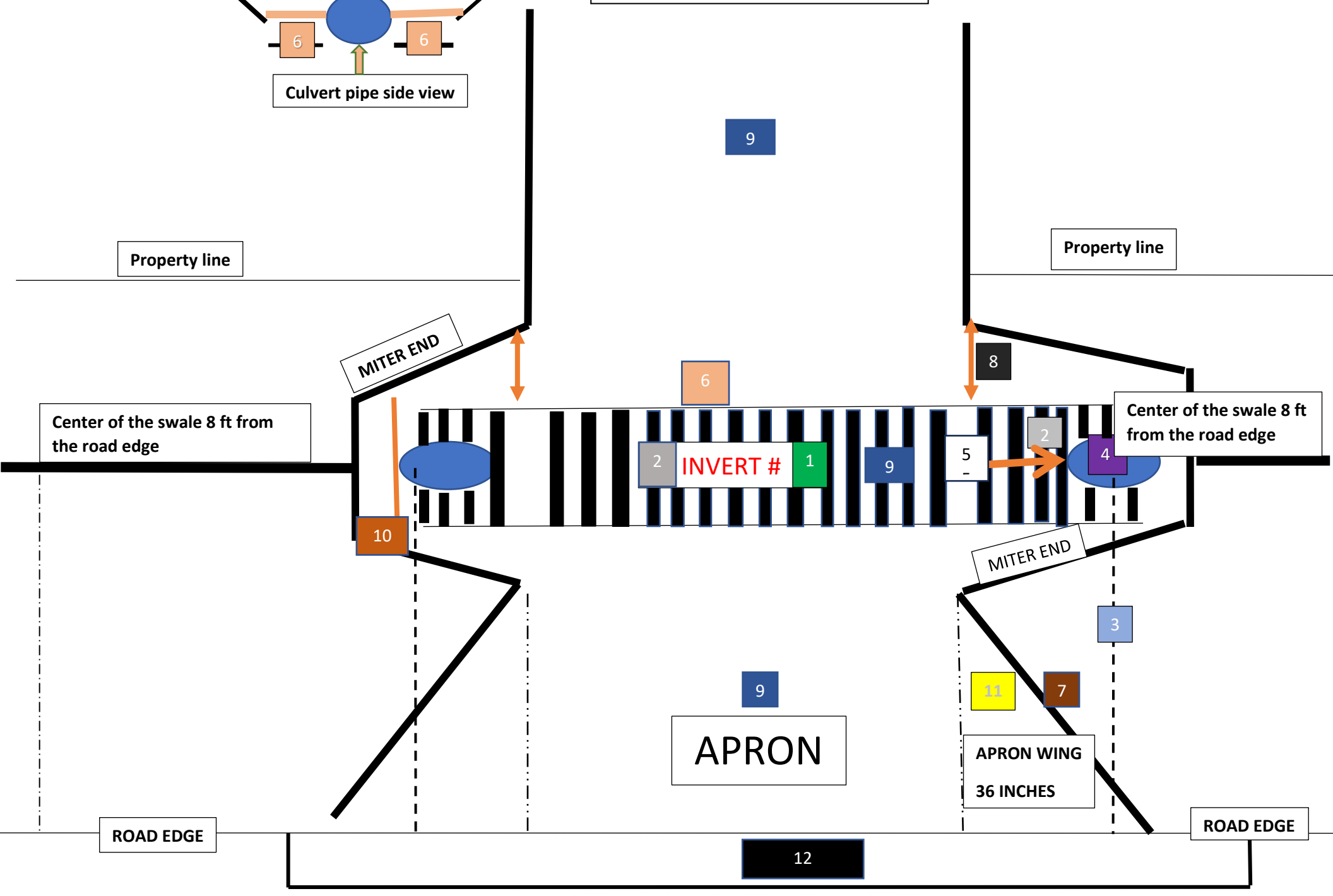
☐ **7)** Concrete extending past the form boards in the swale must be removed. **Drawing 300 G,14.**

PRE-POUR DRIVEWAYS



GENERAL NOTES 14 13

9



1 1) THE DRIVEWAY CULVERT INVERTS ARE TO BE INSTALLED WITHIN 0.1' (+/-) OF THE ELEVATIONS INDICATED ON THE SWALE PLAN (UNLESS OTHERWISE APPROVED BY THE CITY STORMWATER ENGINEER). THE FINISHED SWALE ELEVATION IS WITH SOD IN PLACE.
SWALE PLAN (GENERAL NOTES).

2 2) IT IS THE BUILDER'S/OWNER'S RESPONSIBILITY TO CONFIRM ELEVATIONS/LOCATIONS FOR CULVERT PLACEMENT AND TO ENSURE THAT OBSTRUCTIONS DON'T EXIST UPSTREAM AND/OR DOWNSTREAM. **SEC 300.03 C.2. B.4/SWALE PLAN (GENERAL NOTES).**

3 3)THE SWALE CENTERLINE IS TYPICALLY LOCATED 8 FEET FROM THE EDGE OF THE PAVEMENT, 5 FEET FROM E.O.P. IN CUL DE SACS. CULVERTS IN CUL DE SACS MAY REQUIRE A 22.5° ELBOW.
SWALE PLAN (GENERAL NOTES).

4 4)THE DRIVEWAY CULVERT IS TO BE A 17X13 (15" DIAMETER EQUIVALENT) HELICAL CORRUGATED ALUMINIZED METAL PIPE OR 15” ROUND EQUIVALENT HDPE PIPE WITH MITERED ENDS UNLESS SPECIFIED. OTHERWISE, IT IS INSTALLED PER **THE CITY OF PALM COAST RESIDENTIAL CULVERT DETAIL 300. E**
SWALE PLAN (GENERAL NOTES).

PRE-POUR DRIVEWAYS

5 5) CHECK AT LEAST 6 INCHES TO 18 INCHES FROM THE EDGE OF THE DRIVEWAY TO THE TOP OF THE MITERED END

6 6) MAKE SURE TO COMPACT THE MATERIAL THOROUGHLY IN THE ENTIRE AREA TO BE POURED, PAYING PARTICULAR ATTENTION TO COMPACTING AROUND THE PIPE UP TO HALFWAY UP THE SIDE. THIS WILL ENSURE PROPER CONCRETE PLACEMENT AROUND THE CULVERT: THE CULVERT BELOW THE APRON IS TO BE ENCASED TO HALF THE DEPTH OF THE CULVERT AND AT LEAST TWELVE (12) INCHES ON EACH SIDE.
SEC. 300. E RESIDENTIAL CULVERT DETAIL.

7 7) CHECK THAT THE APRON SLOPE IS NOT MORE THAN 8% AND MAINTAIN AT LEAST 5 INCHES OF THE CONCRETE OVER THE PIPE.
NOTE: IF THERE IS A PROBLEM GETTING 8% AND 5 INCHES OF CONCRETE OVER THE PIPE, CONTACT THE STORMWATER INSPECTOR. **DRAWING 300-G**

8 8) CHECK THAT AT LEAST 18 INCHES FROM EACH SIDE OF THE PIPE TO THE FORM BOARD AT THE TOP OF THE DRIVEWAY SHOULDER. **SEC. 300. E RESIDENTIAL CULVERT DETAIL**.

9 9) CHECK THAT CONCRETE IS AT LEAST 6 INCHES THICK THROUGHOUT THE ENTIRE APRON, 5 INCHES OF CONCRETE OVER THE PIPE AND AT LEAST 4 INCHES BEYOND THE ROW FOR THE REST OF THE DRIVEWAY. A MINIMUM OF 2" CONCRETE IS REQUIRED OVER ANY EXPOSED AREAS OF THE PIPE MITERED END SECTION. SEE **SECTION A-A**
DRAWING #300.E

10 10) AT LEAST 24 INCHES OF #4 REBAR IS PLACED UNDER EACH END OF THE PIPE.
PIPE SHOULD BE DUG OUT 6 INCHES DEEP BY 6 INCHES
LONG UNDER EACH END OF THE PIPE**. DRAWING #300.E RESIDENTIAL CULVERT DETAIL**

11 11) CHECK THAT 36 INCHES OF FLARE ARE ON THE DRIVEWAY APRON ON EACH SIDE.

12 12) ALL ROADWAY DAMAGE REPAIRS WILL BE PERFORMED WITH **"HOT MIX"** ASPHALT. "**COLD PATCH AND CONCRETE"** ARE **NOT** ACCEPTABLE METHODS OF ROAD REPAIR.
DRAWING #300.E

13 13) CHECK THE APPROVED SITE PLAN; THE DRIVEWAY AND SIDEWALK MUST BE FORMED EXACTLY AS THEY APPEAR ON THE LATEST APPROVED SURVEY.
THEY CANNOT BE WIDER OR LONGER. **MUST FOLLOW ADA ACCESSIBILITY GUIDELINES**
SECTION 400.01. DRAWING#400.A

14 14) THE TICKET FOR CONCRETE MIX DESIGN SHALL BE UPLOADED INTO THE PERMIT PORTAL.
8.a. IF FIBERGLASS OPTION IS USED, DOCUMENTATION OF THE (FRC) CONTAINING THE FIBERGLASS MUST BE ATTACHED TO THE PERMIT PRIOR TO REQUESTING AN AFTER POUR INSPECTION.
8.b. IF MESH OPTION IS USED, IT SHALL BE IN PLACE AT THE TIME OF THE PRE-POUR.
DRAWING #300.G