Roadway Standards Section

Roadway Series 100
Roadway
D-100  Local Road – 2 Lane 50’ R.O.W. Typical Curb & Gutter Section
D-101  Local Road – 2 Lane 60’ R.O.W. Typical Swaaled Section
D-102  Local Road – 2 Lane 60’ R.O.W. Typical Curb & Gutter Section
D-103  Minor Collector – 2 Lane 80’ R.O.W. Typical Swaled Section
D-104  Minor Collector – 2 Lane 80’ R.O.W. Typical Curb & Gutter Section
D-105  Minor Collector – 4 Lane 110’ R.O.W. Typical Curb & Gutter Section
D-106  Minor Collector – 4 Lane 130’ R.O.W. Typical Swaaled Section
D-107  Major Collector – 2 Lane 100’ R.O.W. Typical Swaaled Section
D-108  Major Collector – 2 Lane 80’ R.O.W. Typical Curb & Gutter Section
D-109  Major Collector – 4 Lane 130’ R.O.W. Typical Curb & Gutter Section
D-110  Major Collector – 4 Lane 150’ R.O.W. Typical Swaaled Section
D-111  Major Collector – 6 Lane 155’ R.O.W. Typical Curb & Gutter Section
D-112  Major Collector – 6 Lane 250’ R.O.W. Typical Swaaled Section
D-113  Residential Cul-de-sac Typical Construction Detail
D-114  Right-Of-Way Corner Clips
D-115  Curb & Curb & Gutter Typical Construction Details
D-116  Mailbox Placement within Road Right-of-Way
D-117  Saw Cut Detail
D-118  Sidewalk Details
D-119  Multi Use Path
D-120  Paver Block Details & Specifications (Sheet 1 of 2)
D-121  Paver Block Details & Specifications (Sheet 2 of 2)
D-122  St. Johns County Street Name Sign Specifications
D-123  Residential Circular Drive
D-124  Typical Utility Location Plan, 50 Foot Right-of-Way
D-125  Typical Utility Location Plan, 60 Foot Right-of-Way

Roadway Series 200
Pavement Repairs
D-200  Open Road Cuts/Flowable Fill
D-201  Open Road Cuts/Compacted Fill

Drainage Standards Section

Drainage Series 300
Drainage Structures
D-300  Standard Manhole (Eccentric Cone)
D-301  Standard Precast Manhole Type 1 (Shallow)
D-302  Standard Precast Manhole Type 1 (Shallow)
D-303  Manhole Frame & Cover (30” Opening)
D-304  Drainage Control Structure Type A
D-305  Drainage Control Structure Type B (Sheet 1 of 2)
D-306  Drainage Control Structure Type B (Sheet 2 of 2)
D-307  Inlet Fume Detail
D-308  Catch Basin Detail

Drainage Series 400
Residential
D-400  Residential Headwalls
D-401  Residential Headwalls Mitered End Section
D-402  Lot Grading Diagram
D-403  Typical Yard Drain/CPEP Installation Detail
D-404  Typical Inlet & Exfiltration Trench Detail (Sheet 1 of 2)
D-405  Typical Inlet & Exfiltration Trench Detail (Sheet 2 of 2)

Drainage Series 400
Stormwater Ponds
D-500  Dry Detention Typical Detail
D-501  Retention Typical Detail
D-502  Service Connection to Roadway Storm Detention Pond (Hydraulic Design Schematic)
D-503  Typical Outfall Detail
**RIGHT-OF-WAY WIDTH: 50 FEET**

**ST. JOHNS COUNTY EASEMENT**

**LIMITS OF CLEARING**

**ST. JOHNS COUNTY EASEMENT**

**R.O.W.**

**MINIMUM 5 FOOT UTILITY EASEMENT**

**20' MINIMUM**

**20' PAVEMENT WIDTH**

**20' MINIMUM**

**SEED & MULCH**

**AND/OR SOD**

**10' LANE WIDTH**

**10' LANE WIDTH**

**SEED & MULCH**

**AND/OR SOD**

**MAI M TYPE CURB AND GUTTER**

**P.G.L.**

**(-) 3% MIN**

**MAX. 2%**

**4' MIN. SIDEWALK**

**1 3/4" 9.5 S.P. (1st LIFT 1")**

**1/4" L.L.**

**6" LIMESTONE BASE COURSE**

LBR 100/98% MAXIMUM DENSITY PER AASHTO T-180

**PRIME ENTIRE WIDTH**

**12" STABILIZED SUBGRADE**

LBR 40/98% MAXIMUM DENSITY PER AASHTO T-180

**TRAFFIC VOLUME < 1,500 AADT**

**RESIDENTIAL ROADS ONLY**

**NOTES:**

1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER

2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

3. TYPICAL SECTION USE SHALL BE APPROVED BY THE COUNTY ENGINEER

4. PLANTED EASEMENTS DEDICATED TO THE COUNTY REQUIRED

5. GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

**ST. JOHNS COUNTY PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION**

**LOCAL ROAD—2 LANE—50’ R.O.W. TYPICAL CURB & GUTTER SECTION**

**FILE NAME: 0100.DWG**

**REVISION: 10/09**

**DECLARATION OF CONFORMITY:**

**DESIGN DETAIL**

**DETAIL NO.: 100**

**EFFECTIVE DATE:**

**DEVELOPER:**

**APPROVED:**

**H.P. TOMPKINS, JR., P.E. COUNTY ENGINEER**

**ST. AUGUSTINE, FLORIDA 32086**

**Phone (904) 209-2110 • Fax (904) 209-0140**
RIGHT-OF-WAY WIDTH: 60 FEET

R.O.W.  LIMIT OF CLEARING  R.O.W.
30'  6'  30'
20' MINIMUM  20' PAVEMENT WIDTH  20' MINIMUM

SEED & MULCH AND/OR 500
SHOULDER
4'
10'
10'
4'

SEE DETAIL TYPICAL AT BOTH EDGES OF PAVEMENT

1 3/4" 9.5 S.P. (1st LIFT 1"
2ND LIFT 3/4"

6" LIMESTONE BASE COURSE LBR 90/90% MAXIMUM DENSITY
PER AASHSTO T-180
PRIMED ENTIRE WIDTH

OFFICIAL: 4' MIN. SIDEWALK
4' MIN. SIDEWALK
2' MIN.
5.1
4.1 MAX.
3.1 MAX.

STABILIZED SHOULDER LBR 40/98% MAXIMUM DENSITY

TRAFFIC VOLUME < 1,500 AADT
RESIDENTIAL ROADS ONLY

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE
   UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. TYPICAL SECTION USE SHALL BE APPROVED BY THE
   COUNTY ENGINEER
4. PLANTED EASEMENTS DEDICATED TO THE COUNTY
   REQUIRED
5. GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL
   SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED
   IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

ST JOHN'S COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
200 Industrial Estate Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax (904) 209-0140

REVISION  10/09

DESIGN DETAIL
LOCAL ROAD – 2 LANE – 60’ R.O.W.
TYPICAL SWALED SECTION

STRUCTURAL NUMBER: 2.70

FILE NAME: D101.DWG
RIGHT-OF-WAY WIDTH: 60 FEET

R.O.W. LIMITS OF CLEARING R.O.W.

30' 6' 30'

20' MINIMUM 20' PAVEMENT WIDTH 20' MINIMUM

SEED & MULCH AND/OR SOD

1.5' 10' 10'

LANE WIDTH LANE WIDTH

SEED & MULCH AND/OR SOD

MIN. 2% MAX. 2%

(-) 3% MIN. 4% MIN. SIDEWALK

LOW PROFILE CURB AND GUTTER

1/4" TYP.

1 1/2" LOW PROFILE CURB & GUTTER

1 3/4" TYP. 9.5 S.P. (1st LIFT 1") (2nd LIFT 3/4")

6" LIMESTONE BASE COURSE LBR 100/98 MAXIMUM DENSITY PER AASHTO T-180 PRIMED ENTIRE WIDTH

12" STABILIZED SUBGRADE LBR 40/98 MAXIMUM DENSITY PER AASHTO T-180

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE PERMITTED ON THIS ROADSIDE TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

TRAFFIC VOLUME < 1,500 AADT RESIDENTIAL ROADS ONLY

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

10/09

LOCAL ROAD—2 LANE—60' R.O.W.
TYPICAL CURB & GUTTER SECTION

DESIGN DETAIL

REVISION

DETAIL NO.

102

APPROVED:

FILE NAME: 0102.DWG
RIGHT-OF-WAY WIDTH: 80 FEET

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON
   APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE USED WITH THIS ROADWAY TYPICAL
   SECTION (WITH EASEMENT) WHEN APPROVED THROUGH THE
   PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED
   BY THE COUNTY ENGINEER
4. A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE
   REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, COG, OR
   OTHER LEGAL ENTITY

TRAFFIC VOLUME
1,500 < AADT < 11,000

STABLED SHOULDER
LBR 40
1 1/2" 12.5 S.P. AND 1" 9.5 S.P.

10" LIMEROCK BASE COURSE
LBR 100/98% MAXIMUM DENSITY
PER AASHTO T-180
PRIMED ENTIRE WIDTH

12" STABLED SUBGRADE
LBR 40/98% MAXIMUM DENSITY
PER AASHTO T-180

3.50 STRUCTURAL NUMBER

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
2740 Industry Center Road
St Augustine, Florida 32084
Phone (904) 209-0110 • Fax (904) 209-0140

MINOR COLLECTOR–2 LANE–80’ R.O.W.
TYPICAL SWALED SECTION

REVISION
10/09

DESIGN DETAIL

EFFECTIVE DATE:

DETAIL NO. 103

APPROVED:
M.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER
RIGHT-OF-WAY WIDTH: 80 FEET

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER.
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED.
3. GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL SECTION WITH EASEMENT WHEN APPROVED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER.
4. A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, COOP, OR OTHER LEGAL ENTITY.

TRAFFIC VOLUME
1,500 < ADT < 11,000

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
1740 Industry Center Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax (904) 209-0140

REVISION
10/09

DESIGN DETAIL
MINOR COLLECTOR—2 LANE—80’ R.O.W.
TYPICAL CURB & GUTTER SECTION

STRUCTURAL NUMBER: 3.50

DETAILED DRAWING

FILE NAME: D704.00G
RIGHT-OF-WAY WIDTH: 110 FEET (HALF SECTION SHOWN)

LIMITS OF CLEARING

R.O.W.

CART PATH

55'

18'

29'

18'

15' MINIMUM

SEED & MULCH
AND/OR SOIL

MINIMUM HALF MEDIAN

SEED & MULCH
AND/OR SOIL

12' LANE

12' LANE

6' PAVED SHOULDER

18' CURB & GUTTER

(MAX 2')

18' CURB & GUTTER

SEE DETAIL

TYPICAL AT BOTH EDGES OF PAVEMENT

1 1/2' 12.5 S.P. AND 1' 8.5 S.P.

8' LIMESTONE BASE COURSE
LBR 100/908 MAXIMUM DENSITY
PEX AASHTO T-180

12' STABILIZED SUBGRADE
LBR 40/98 MAXIMUM DENSITY
PEX AASHTO T-180

TRAFFIC VOLUME
1,500 < AADT < 11,000

NOTES:

1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER

2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

3. GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

4. A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, COG, OR OTHER LEGAL ENTITY

ST JOHNS COUNTY PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION

ST AUGUSTINE, FLORIDA 32084

Phone (904) 209-0110 • Fax (904) 209-0140

MINOR COLLECTOR—4 LANE—110’ R.O.W.
TYPICAL CURB & GUTTER SECTION

DESIGN DETAIL

REVISION
10/09

EFFECTIVE DATE

DETAIL NO.

STRUCTURAL NUMBER: 3.50

105

FILE NAME: DT05.DWG

H.P. TOMPKINS, M.E., P.E.
COUNTY ENGINEER
RIGHT-OF-WAY WIDTH: 130 FEET (HALF SECTION SHOWN)

LIMITS OF CLEARING

R.O.W.

CART PATH

10'

29'

5' MIN. SIDEWALK

STABILIZED SHOULDER
LBR 40

1 1/2" 12.5 S.P. AND 1" 9.5 S.P.

8" UMBEROCK BASE COURSE
LBR 100/98% MAXIMUM DENSITY
PER AASHTO T-180
PRIMED ENTIRE WIDTH

12" STABILIZED SUBGRADE
LBR 40/98% MAXIMUM DENSITY
PER AASHTO T-180

TRAFFIC VOLUME
1,500 < AADT < 11,000

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON
   APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL
   SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED
   IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
4. A PLANNED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE
   REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR
   OTHER LEGAL ENTITY

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

MINOR COLLECTOR—4 LANE—130’ R.O.W.
TYPICAL SWALED SECTION

FILE NAME: 0106.DWG
RIGHT-OF-WAY WIDTH: 100 FEET

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE PERMITTED WITH THIS ROADSIDE TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
4. A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
11,000 < AADT < 28,000

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

REVISION
10/09

DETAILED NO.
107

MAJOR COLLECTOR—2 LANE—100' R.O.W.
TYPICAL SWALED SECTION
RIGHT-OF-WAY WIDTH: 80 FEET

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
4. A FLATTENED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, COO, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
11,000 < AIDS < 26,000

DESIGN DETAIL
MAJOR COLLECTOR—2 LANE—80’ R.O.W.
TYPICAL CURB & GUTTER SECTION

ST JOHNS COUNTY PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION
150 SOUTH GROVE ROAD
ST AUGUSTINE, FL 32084
Phone (904) 309-0110 • Fax (904) 309-0140

FILE NAME: D108.DWG

10/09

REVISION

DESIGN DETAIL

MAJOR COLLECTOR—2 LANE—80’ R.O.W.
TYPICAL CURB & GUTTER SECTION

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

EFFECTIVE DATE:

DETAIL NO.

108

STRUCTURAL NUMBER: 4.30
RIGHT-OF-WAY WIDTH: 150 FEET (HALF SECTION SHOWN)

LIMITS OF CLEARING

R.O.W.

150'

MINIMUM HALF MEDIAN
SEED & MULCH
AND/OR SOD

10'

31' PAVEMENT WIDTH

34' MINIMUM

SEED & MULCH
AND/OR SOD

6' TOTAL
SHOULDER WIDTH

P.G.L.

(-) 2% MIN.

4:1 MAX.

2' 12.5 S.P.

LIMESTONE

1.5' MIN.

1 1/2' 9.5 S.P.

16' SOIL

9' 12.5 S.P.

LEFT LANE

RIGHT LANE

SHOULDER
(PAVED)

SHOULDER
(PAVED)

5'

4:1 MAX.

5'

4:1 MAX.

MIN. SIDEWALK

SWALE BOTTOM WIDTH AS NECESSARY FOR CONVEYANCE OF STORMWATER

2' MIN.

MAX. 5'

TRAFFIC VOLUME

11,000 < AADT < 20,000

STABILIZED SHOULDER
LBB 4/0

2' 12.5 S.P. AND 1 1/2' 9.5 S.P.
CONCRETE SURFACE COURSE

10' LIMESTONE BASE COURSE
LBB 100/100 MAXIMUM DENSITY
PER AASHTO T-180
PRIME ENTIRE WIDTH

12' STABILIZED SUBGRADE
LBB 40/80 MAXIMUM DENSITY
PER AASHTO T-180

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON
APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PlACED

ST JOHN'S COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
3740 South Rhavey Boulevard
St Augustine, Florida 32084
Phone (904) 209-0110 • Fax (904) 209-0140

REVISION 10/09

DESIGN DETAIL

MAJOR COLLECTOR—4 LANE—150' R.O.W.
TYPICAL SWALED SECTION

FILE NAME: D110.DWG

STRUCTURAL NUMBER: 4.30

EFFECTIVE DATE:

H.P. TOMPKINS, C.E.
COUNTY ENGINEER

DETAIL NO. 110
RIGHT-OF-WAY WIDTH: 155 FEET (HALF SECTION SHOWN)

MINIMUM HALF MEDIAN
SEED & MULCH
AND/OR SOD

PAVEMENT WIDTH
12' LANE
12' LANE
12' LANE
5' SHAVER SHOULDER
SEED & MULCH
AND/OR SOD

SYMMETRICAL
ABOUT CENTERLINE

WHEN USED ON THE HIGH SIDE
OF SUPERELEVATED ROADWAYS,
THE CROSS SLOPE OF THE GUTTER
SHALL MATCH THE CROSS SLOPE
OF THE ADJACENT PAVEMENT

3" 12.5 S.P. OVERLAYERED WITH
1 1/2" 9.5 S.P.

12" LIMESTONE BASE COURSE
LBR 100/98% MAXIMUM DENSITY
PER AASHTO T-180
PRIMED ENTIRE WIDTH

12" STABILIZED SUBGRADE
LBR 40/98% MAXIMUM DENSITY
PER AASHTO T-180

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON
APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

TRAFFIC VOLUME
AADT > 20,000

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
13740 Industrie Circle North
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax (904) 209-0140

REVISION
EFFECTIVE DATE:
DETAIL NO.
SUCCESSIVE
FILE NAME: 0112.DWG

DESIGN DETAIL
ELECTRICAL DESIGN
MAJOR COLLECTOR—6 LANE—155’ R.O.W.
TYPICAL CURB & GUTTER SECTION

STUCTURAL NUMBER: 5.10
RIGHT-OF-WAY WIDTH: 250 FEET (HALF SECTION SHOWN)

LIMITS OF CLEARING

125'

30'
MINIMUM
HALF MEDIAN
SEED & MULCH
AND/OR SOIL

49'
PAVEMENT WIDTH
(MIN.)

45'
MINIMUM

SEED & MULCH
AND/OR SOIL

SHOULDER
(PAVED)

12' LANE

12' LANE

12' LANE

12' LANE

SHOULDER
(PAVED)

5'

SEE DETAIL:
TYPICAL AT BOTH
EDGES OF PAVEMENT

6.1 MAX.

P.C.L.

(-) 3% MIN.

P.C.L.

(-) 6%

6.1 MAX.

5' MIN. SIDEWALK

MAX. 2%

6.1 MAX.

4.1 MAX.

3' 12.5 S.P.
AND 1 1/2' 9.5 S.P.

12' LIMEROCK BASE COURSE
LBR 100/90 MAXIMUM DENSITY
PER AASHTO T-180
PRIMED ENTIRE WIDTH

12' STABILIZED SUBGRADE
LBR 40/90 MAXIMUM DENSITY
PER AASHTO T-180

NOTES:
1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON
APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

TRAFFIC VOLUME
AADT > 28,000

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

REVISION
10/03

DESIGN DETAIL

MAJOR COLLECTOR—6 LANE—250’ R.O.W.
TYPICAL SWALED SECTION

EFFECTIVE DATE:

DETAIL NO. 112

APPROVED:
H.P. TOMPKINS, P. E.
COUNTY ENGINEER

FILE NAME: D172.DWG
18" CURB & GUTTER
SPECIFIC USE: LOCAL ROAD AND MINOR COLLECTOR ROADWAY CLASSES

18" LOW PROFILE CURB & GUTTER
SPECIFIC USE: LOCAL ROAD AND MINOR COLLECTOR ROADWAY CLASSES

F.D.O.T. STANDARD TYPE "F"
CURB AND GUTTER
SPECIFIC USE: MAJOR COLLECTOR ROADWAY CLASSES

24" LOW PROFILE CURB AND GUTTER
SPECIFIC USE: MAJOR COLLECTOR ROADWAY CLASSES

GENERAL NOTES:
1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. CONCRETE SHALL BE CLASS I CONCRETE WITH A MINIMUM 28 DAY COMpressive STRENGTH OF 3000 PSI.
SAW-CUT DETAIL

PROPOSED WALKING

EXISTING ROADWAY

1'-6"

SAW-CUT TO A NEAT STRAIGHT LINE
(PARALLEL OR PERPENDICULAR TO RUN OF ROAD)

PROPOSED BASE

EXISTING BASE

6"
SECTION A-A
CONCRETE TO BE CLASS I, 3000 psi

TABLE OF SIDEWALK THICKNESS - 1"

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>1&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTIAL AREAS</td>
<td>4&quot;</td>
</tr>
<tr>
<td>AT DRIVEWAYS AND OTHER AREAS</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>

TABLE OF SIDEWALK JOINTS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>P.C. AND P.T. OF CURVES</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>5'-0&quot; CENTER TO CENTER ON SIDEWALKS</td>
</tr>
</tbody>
</table>
NOTES:
1. A 20'-FOOT EASEMENT IS REQUESTED FOR THE CONSTRUCTION OF THE PATH.

2. THE 12'-FOOT PATH WIDTH MEETS THE MINIMUM FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION CRITERIA FOR A TWO-WAY, SHARED-USE PATH.

3. THIS PATH MUST BE ADA-COMPLIANT PER CODE OF FEDERAL REGULATION (CFR) PART 36.
INTERLOCKING PAVER BLOCKS

SOLID CONCRETE INTERLOCKING PAVING STONE SPECIFICATIONS
(SHEET 1 OF 2)

1. DESCRIPTION

1.1 GENERAL

A. SCOPE OF WORK
1. Furnish and place sand bedding course.
2. Furnish and install concrete interlocking paving stones in the quality, shape, thickness, and color as specified.
3. Furnish and install all accessory items as required by the contract.

B. RELATED WORK:
1. Furnish and install subgrade per detail.

C. PRODUCT HANDLING
1. Paving stones shall be delivered and unloaded at job site in such a manner that no damage occurs during shipping, handling, and storage.

D. REFERENCES
1. SOLID CONCRETE INTERLOCKING PAVING STONES SHALL MEET OR EXCEED THE REQUIREMENTS IN ASTM C-398 STANDARD SPECIFICATIONS FOR SOLID CONCRETE INTERLOCKING PAVING UNITS.

II. MATERIALS

2.1 SOLID CONCRETE INTERLOCKING PAVING STONES
A. THICKNESS, COLOR AND PATTERN:
1. Paving stone thickness shall be between 2 3/4" to 3 1/2".
2. All paving stones shall be colored through the full depth of a multi-colored paving stone pattern shall be used.

B. CEMENTITIOUS MATERIALS:
1. Portland cements shall conform to ASTM C-150.

C. AGGREGATES:
1. Aggregates shall conform to ASTM C-133 for normal weight concrete except that grading requirements shall not necessarily apply.

D. OTHER MATERIALS:
1. Coloring pigments, air entraining agents, integral water repellents, finely ground silica, etc., shall conform to ASTM standard where applicable or shall be previously established as suitable for use in concrete.

E. COMRESSIVE STRENGTH:
1. At the time of delivery to the work site, the average compressive strength shall not be less than 4000 psi with no individual unit strength less than 3000 psi, with testing procedures in accordance with ASTM C-140.

F. ABORPTION:
1. The average absorption shall not be greater than 6% with no individual unit absorption greater than 7%.

G. PROVEN FIELD PERFORMANCE:
1. Satisfying field performance is indicated when paving stones similar in composition, and made with the same manufacturing equipment as those supplied to the purchaser, do not exhibit excessive deterioration after one year.

H. VISUAL INSPECTION:
1. All paving stones shall be sound and free of defects that would interfere with the proper placement of the paving stone or impair the strength or performance of the construction.

I. MINOR CRACKS INCIDENTAL TO THE USUAL METHODS OF MANUFACTURE, OR CHIPPING RESULTING FROM CUSTOMARY METHODS OF HANDLING IN SHIPMENT AND DELIVERY, SHALL NOT BE DEEMED GROUND FOR REJECTION.

J. SAMPLING AND TESTING:
1. The purchaser shall be accorded proper facilities to inspect and sample the paving stones at the place of manufacture from lots ready for delivery.
2. Paving stones will be sampled and tested in accordance with ASTM C-140.

J. REJECTION:
1. If the shipment fails to conform to the specified requirements, the manufacturer may sort it, and new test paving stones shall be selected at random by the purchaser from the retained lot and tested at the expense of the manufacturer. If the second set of test paving stones fail to conform to the specified requirements, the entire lot shall be rejected.

2.2 BEDDING COURSE:
1. The bedding course shall be a well graded, clean, washed sand with 90% passing a No. 200 sieve size. The use of mason sand shall not be approved.
2. The bedding course shall be the responsibility of the paving stone installer.

2.3 EDGE RESTRAINT:
1. All edges of the installed paving stones shall be restrained. The type of edge restraint shall be approved at locations and to details noted on plans.
SOLID CONCRETE INTERLOCKING
PAVING STONE SPECIFICATIONS
(SHEET 2 OF 2)

6. CONSTRUCTION METHODS:

3.1 PREPARATION OF THE BASE COURSE:
1. A SUITABLE BASE SHALL BE PREPARED AS SPECIFIED IN SECTION 5.2. OF THIS
   SPECIFICATION.
2. THE BASE COURSE SHALL BE SHAPED TO GRADE AND CROSS SECTION WITH
   ALLOWABLE TOLERANCE OF 1/4".

3.2 CONSTRUCTION OF THE BEDDING COURSE:
1. THE FINISHED BEDDING COURSE SHALL BE APPROVED BEFORE THE PLACEMENT OF
   THE BEDDING COURSE.
2. THE SAND BEDDING COURSE SHALL BE SPREAD EVENLY OVER THE AREA TO
   RECEIVE THE PAVING STONES AND THE SCAFFED LEVEL TO PRODUCE A 1"
   THICKNESS WHEN THE PAVING STONES HAVE BEEN PLACED AND VIBRATED.
3. THE FINAL ELEVATION OF PAVING STONES SHOULD BE MINIMALLY 1/4" TO 3/8"
   HIGHER THAN THE ADJACENT CURB, GUTTER, ETC., TO ALLOW FOR FREE DRAINAGE
   FROM CHAMBERS ON PAVING STONE EDGES
4. THE BEDDING COURSE SHALL NOT BE DISTURBED, ONCE SCAFFED AND LEVELED
   TO THE DESIRED ELEVATION.

3.3 INSTALLATION OF THE PAVING STONES:
1. THE PAVING STONES SHALL BE PLACED AS SHOWN ON THE DRAWINGS.
2. THE PAVING STONES SHALL BE PLACED IN SUCH A MANNER THAT THE DESIRED
   PATTERN IS MAINTAINED AND THAT NO INTENTIONAL SPACE IS LEFT BETWEEN
   THE STONES FOR MAXIMUM INTERLOCK.
3. STRING LINES SHOULD BE USED TO HOLD ALL PATTERNS TRUE.
4. THE GAP AT THE EDGE STONE OR WITH STONES CUT TO FIT. CUTTING OF
   CONCRETE PAVING STONE SHALL BE ACCOMPLISHED TO LEAVE A CLEAN EDGE TO
   THE TRAFFIC SURFACE USING A DOUBLE-HEADED BREAKER OR A MASONRY SAW
   WHENEVER POSSIBLE. NO CUT SHOULD RESULT WITH A PAVING STONE LESS
   THAN 1/4 OF ORIGINAL DIMENSION.
5. PAVING STONES SHALL BE VIBRATED INTO THE BEDDING COURSE USING A PLATE
   VIBRATOR CAPABLE OF 10,000 TO 20,000 POUNDS COMPACTION FORCE WITH THE
   SURFACE CLEAN AND THE JOINTS OPEN.
6. AFTERT VIBRATION, CLEAN, SHARP SAND CONTAINING AT LEAST 20% OF 1/4"
   PARTICLES SHALL BE SPREAD OVER THE PAVING STONE SURFACE, ALLOWED TO
   DRY AND VIBRATED INTO THE JOINTS WITH ADDITIONAL PLATE VIBRATOR PASSES
   AND BRUSHING SO AS TO COMPLETELY FILL THE JOINTS.
7. SURPLUS MATERIAL SHALL THEN BE SWEEP FROM THE SURFACE OR LEFT ON THE
   SURFACE DURING CONSTRUCTION TO INSURE COMPLETE FILLS OF JOINTS
   DURING INITIAL USE.
8. UPON COMPLETION OF WORK COVERED IN THIS SECTION, THE CONTRACTOR
   SHALL CLEAN UP ALL WORK AREAS BY REMOVING ALL DEBRIS, SURPLUS MATERIAL
   AND EQUIPMENT FROM THE SITE.
NOTE:
1. In the above illustration Hastings-Palatka Blvd is an example of the maximum number of characters allowed on a street sign blank. The block number space is reserved for future use. Non-Maintained County Roads are designated as a Private Road which is symbolized by "PVT".

2. Street Name signs shall consist of white letters on a green background and shall be retroreflective or illuminated to show the same shape and similar color both day and night. Standard street signs will be composed of lower case letters at least 4.35 inches in height with initial upper case letters at least 6 inches in height.

3. On multi-lane streets with speed limits of greater than 40 MPH, the lettering on post mounted street name signs shall be composed of lower-case letters at least 6 inches in height with initial upper-case letters at least 8 inches in height.

4. The green background will be fabricated from Electro-Cut Film, and the white lettering will be fabricated from High Intensity Grade Reflective Sheeting. Retroreflective and nonreflective sign sheeting shall conform to Section 954 of the latest edition of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction and must be on the FDOT Qualified Products List.

5. The standard alphabet approved for highway signs by the Federal Highway Administration will be the standard font accepted for Street Name lettering.

6. Supplemental lettering to indicate the type of street (such as Lane, Avenue or Road), a section of a city (such as NW) or (PVT) an abbreviation for a private road may be in smaller lettering at least 3" high. Standard street blank height for post mounted signs is 9". Lengths are 30", 36", 42" or 48" as needed to fit the street name, but the length may not exceed 48" on post mounted street name signs.

7. All street name sign assemblies will consist of (2) two –(1) one sided signs mounted on each side of a square 2" x 2" post.

8. Sign Blanks shall be 0.063 gauge thick. All blanks must have an alodine or equal finish, 3/4" radius corners, 3/8" hole to be drilled 1" from edge of blank vertically on center and a 1/4" hole drilled 1/2" from the edge of the blank and on horizontal center. All blanks must be deburred on edges and corners. When installed, signs are to be pinned on both ends to minimize damage during severe weather.

9. All signs are to be installed on 2" X 2" square posts that have a 14 gauge thickness and that are break-away compliant. The posts are to be open hole. Any street sign located in the beach area is to be installed on 3" aluminum posts that are 0.125 in thickness.

10. All street name signs shall be in substantial conformance with St John County Standards. Including the latest edition of the Manual on Uniform Traffic Control Devices; latest edition of standards established by Florida Department of Transportation and applicable standards established by the American with Disabilities Act, ADA.
ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TYPICAL UTILITY LOCATION PLAN
60 FOOT RIGHT-OF-WAY

NOTE:
ALL UTILITIES CROSSING
A ROAD MUST BE
AT LEAST 42" DEEP

(x") = MINIMUM ALLOWABLE
DEPTH FROM GROUND SURFACE
TO TOP OF UTILITY
1. OPEN ROAD CUTS ARE GENERALLY NOT AN ACCEPTABLE MEANS OF CONSTRUCTION UNLESS APPROVED IN ADVANCE BY THE ENGINEERING RIGHT OF WAY DIVISION. SEE NOTE #3.

2. MATERIALS, MIX PROPORTIONS, PRODUCTION, PLACING, CONSTRUCTION REQUIREMENTS, AND ACCEPTANCE OF FLOWABLE FILL SHALL BE IN ACCORDANCE WITH THIS MANUAL.

3. ALL OPEN CUTS SHALL REQUIRE A PERMIT AND 48 HOUR ADVANCE NOTICE TO THE INSPECTION STAFF PRIOR TO COMMENCEMENT OF CONSTRUCTION. A REPRESENTATIVE FROM THE ENGINEERING R.O.W. STAFF MUST BE PRESENT AT THE TIME OF INSTALLATION OF THE UTILITY.

4. PUBLIC SAFETY SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROVISIONS OF PART E, WORK ZONE TRAFFIC CONTROL, OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

5. THE CONTRACTOR SHALL PROVIDE TO THE INSPECTOR CERTIFICATION OF THE MIX DESIGN FROM THE SUPPLIER AT THE TIME OF CONSTRUCTION.

6. AN OVERLAY OF 50" IN EACH DIRECTION IS REQUIRED AS A MINIMUM ON ALL OPEN ROAD CUTS AND WILL BE DETERMINED AT TIME OF PERMIT APPLICATION REVIEW UNLESS MODIFIED BY COUNTY ENGINEER.

7. WHEN PIPE AND FLOWABLE FILL ARE USED IN A MILL AND RESURFACE PROJECT CONTACT THE COUNTY ENGINEER FOR RECOMMENDATION.
1. OPEN ROAD CUTS ARE GENERALLY NOT AN ACCEPTABLE MEANS OF CONSTRUCTION UNLESS APPROVED IN ADVANCE BY THE ENGINEERING RIGHT OF WAY DIVISION. SEE NOTE #3

2. MATERIALS, MIX PROPORTIONS, PRODUCTION, PLACING, CONSTRUCTION REQUIREMENTS, AND ACCEPTANCE OF FLOWABLE FILL SHALL BE IN ACCORDANCE WITH THIS MANUAL.

3. ALL OPEN CUTS SHALL REQUIRE A PERMIT AND 48 HOUR ADVANCE NOTICE TO THE INSPECTION STAFF PRIOR TO COMMENCEMENT OF CONSTRUCTION. A REPRESENTATIVE FROM THE ENGINEERING R.O.W. DIV. STAFF MUST BE PRESENT AT THE TIME OF INSTALLATION OF THE UTILITY.

4. PUBLIC SAFETY SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROVISIONS OF PART 6, WORK ZONE TRAFFIC CONTROL, OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

5. THE CONTRACTOR SHALL PROVIDE TO THE INSPECTOR CERTIFICATION OF THE MIX DESIGN FROM THE SUPPLIER AT THE TIME OF CONSTRUCTION.

6. AN OVERLAY UP TO 100' IS REQUIRED ON ALL OPEN ROAD CUTS AND WILL BE DETERMINED AT TIME OF PERMIT APPLICATION REVIEW.

**Legend**
- **Existing Asphalt Surface Course**
- **Existing Base Course**
- **Existing Stabilized Subgrade**
- **Fill Material**
- **Asphalt Patch**
- **Lime Rock Base Course**
- **Pipe Bedding**
- **Sleeved Utility Installations**

**Pipe Diameter on Span Width, x':**
- 12' = 12 inches
- 30' = 24 inches
- 42' = 30 inches
- 48' = 36 inches
- 60' = 42 inches
- 60' = 48 inches

**Note:**
- Type 12.5 or 9.5 asphaltic concrete patch shall be consistent with the existing surface course thickness but no less than 1 1/2 inches whichever is greater and shall match the existing roadway cross slope.
- Lime rock base course shall be two times the existing lime rock thickness or 12 inches minimum, compacted in no greater than 6 inch lifts at a density of not less than 98 percent of the maximum density obtained using the modified proctor method (each layer). Minimum bearing shall be based on an LR of 100.
- Sleeve utility installations

**Pipe Diameter on Span Width, x':**
- 12' = 12 inches
- 30' = 24 inches
- 42' = 30 inches
- 48' = 36 inches
- 60' = 42 inches
- 60' = 48 inches

**Open Road Cuts/Compacted Fill**

**Note:**
- Minimum cover from top of storm drain to top of finished surface shall be 15 inches.
- Minimum cover from top of water & sewer pipe to top of finished surface shall be 36 inches.

**Revision:** 10/29

**Design Detail No.:** 201

**Effective Date:**
- 201

**Approved:**
- H.P. Hopkins, P.E.
- County Engineer

**File Name:** D201.DWG
ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

STANDARD MANHOLE
(WITH ECCENTRIC CONE)

NOTES:
1. PRECAST CONCRETE TYPE II 4000 P.S.I.
2. "RAMEK" OR EQUAL AT ALL RISER JOINTS (1/2" THICK WITH THE WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
4. LIFT HOLES ARE NOT PERMITTED.
5. ALL PIPE OPENINGS SHALL BE PRECAST.
6. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-476, LATEST STANDARD.
7. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.
8. REFER TO F.O.D.T. STANDARD INDEXES 200 & 201 FOR OTHER APPROVED MANHOLE TO BE PERMITTED.

FINISHED GRADE
2-5 COURSES
4" MIN., 16" MAX. BRICK
WITH MORTAR FINISH

PRECAST REINFORCED
CONCRETE SECTION
(KEYED TO LOWER WALL)

8" (TYP.)

(4 1/2" MIN. CORE-DRILLED OR PVC ADAPTOR)
(10" MIN. FROM FLEXIBLE SLEEVE TO JOINT)

#6 @ 12" E.W. OR
EQUIVALENT WIRE MESH
(A.S.T.M. SPEC 20)

#6 REBAR 12" ON CENTER EACH WAY
UNDISTURBED SOIL AND 12" (MIN.)
3/4" WASHED ROCK SUPPORT BED

8" CONCRETE SLAB
(MONOLITHIC POUR WITH
FIRST WALL SECTION).

HOLE DIAMETER
APPROPRIATE FOR
SIZE OF PIPE
(SEE NOTE 3)

12"-18" SUMP

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
9099 Industry Center Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax (904) 209-0140

FILE NAME: D300.DWG

REV.Date
DESI nesting DETAILS
300
EFFECTIVE DATE
10/09
DETAIL NO.

APPROVED:
H.P. TOMPSON, P.E.
COUNTY ENGINEER
NOTE:
1. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" CEMENT PLASTER INSIDE AND OUTSIDE. TYPE II CEMENT SHALL BE USED.
2. LIST HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
3. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.
4. "RAM-NEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
5. ALL OPENINGS SHALL BE SEAL WITH A WATERPROOF, NON-SHRINK GROUT.
6. IF TWO CASES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 2" FROM THE OUTSIDE SURFACE. IF A SINGLE CASE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.
7. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A185-64 (LATEST REVISION)(MIN.)
8. MANHOLE SHALL CONFORM TO A.S.T.M. C478 (MIN.)
9. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.
10. ALL PIPE HOLES SHALL BE PRECAST.
11. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.
NOTES:
1. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" CEMENT PLASTER INSIDE AND OUTSIDE. TYPE II CEMENT SHALL BE USED.
2. LIFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
3. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.
4. "RAM-MEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
5. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF, NON-SHRINK GROUT.
6. IF TWO CAGES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 2" FROM THE OUTSIDE SURFACE. IF A SINGLE CAGE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.
7. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A166-B4 (LATEST REVISION)(MIN.)
8. MANHOLES SHALL CONFORM TO A.S.T.M. C478 (MIN.)
9. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.
10. ALL PIPE HOLES SHALL BE PRECAST.
11. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.
**ST JOHNS COUNTY**
**PUBLIC WORKS DEPARTMENT**
**ENGINEERING DIVISION**

**MANHOLE FRAME AND COVER**

*30" OPENING*

---

**NOTES:**

1. FRAME AND COVER SHALL BE MACHINED OR GROUND AT ALL BEARING SURFACES SO AS TO SEAT FIRMLY AND PREVENT ROCKING.

2. FRAME & COVER U.S. FOUNDRY NO. 655 490 LBS. TOTAL WEIGHT.

3. CONCRETE COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT IF REQUIRED BY THE DEPARTMENT.

4. MANHOLE ADJUSTMENTS SHALL BE MADE BY ADDING BRICKS USED TO ELEVATE MANHOLE COVERS TO RESURFACED GRADE (MAX 4" HEIGHT).
SECTION

MODIFIED F.D.O.T. TYPE "C" INLET
WITH SKIMMER AND ORIFICE
(SHEET 1 OF 2)

EROSION & SEDIMENTATION REQUIREMENTS:
1. THE CONTRACTOR SHALL MAKE EVERY EFFORT DURING CONSTRUCTION TO CONTROL WIND AND WATER EROSION OF THE SOIL ON SITE.
2. THE CONTRACTOR SHALL CONTROL EXCESSIVE RUNOFF FROM THE PROJECT BY EXCAVATING THE PROPOSED SWALE AREAS DURING THE PRELIMINARY CLEANING AND GRADING OPERATION OF THE PROJECT.
3. SHOULD THE SITE BECOME EXCESSIVELY DRY AND WIND AND SOIL EROSION BECOMES PREVALENT AND A HUISHANCE, THE CONTRACTOR SHALL WATER AND/OR SEED AND MULCH THE AREA, AND/OR PROVIDE FENCING AS NECESSARY.
4. TYPE I HAY BALE BARRIERS SHALL BE PLACED AROUND ALL EXISTING DITCH BOTTOM INLETS IN ACCORDANCE WITH F.D.O.T. STANDARD INDEX NO. 102.
GENERAL NOTES:
1. MINIMUM 12" FILL OVER TOP OF CULVERT.
2. EDGES MUST BE STABILIZED WITH A MINIMUM OF ONE ROW OF SOIL FOR ALL END TREATMENTS.
3. FOOT ROADWAY AND TRAFFIC DESIGN STANDARDS SHALL BE USED AS A GUIDELINE FOR ALL END TREATMENTS, REFER TO INDICES 261, 265, & 272.
4. RIP-RAP CONSTRUCTION TO FOLLOW FOOT STANDARD INDEX NO. 298.
5. CULVERTS MUST BE INSTALLED AT START OF CONSTRUCTION.
6. MINIMUM CULVERT SIZE IS 15".
7. TREATED END SECTIONS REQUIRED WHEN SPEED LIMIT IS GREATER THAN 30 MPH.
8. GRATES REQUIRED FOR CULVERTS LARGER THAN 24".
9. SIDE SLOPES SHALL BE 2:1 (OR LESS) FOR 15" & 18" CULVERTS, AND 4:1 FOR CULVERTS 24" AND GREATER.
10. ALL REINFORCEMENT TO HAVE 2" MIN. COVER ON ALL SIDES.
11. UNIT COST OF CONCRETE CAP AND REINFORCING STEEL TO BE INCLUDED IN COST OF SAND CEMENT RIP-RAP ENDWALL.

RIP-RAP ENDMALL W/ 12"x12" CONCRETE CAP

RESIDENTIAL HEADWALLS
GENERAL NOTES:
1. MINIMUM 12" FILL OVER TOP OF CULVERT.
2. EDGES MUST BE STABILIZED WITH A MINIMUM OF ONE 24" ROW OF SOIL FOR ALL END TREATMENTS.
3. FOOT ROADWAY AND TRAFFIC DESIGN STANDARDS SHALL BE USED AS A GUIDELINE FOR ALL END TREATMENTS. REFER TO INDICES 261, 266, & 272.
4. CULVERTS MUST BE INSTALLED AT START OF CONSTRUCTION.
5. MINIMUM CULVERT SIZE IS 15".
6. MITERED END SECTIONS REQUIRED ON ALL CULVERT INSTALLATIONS.
7. GRATES REQUIRED FOR CULVERTS LARGER THAN 24".
8. SIDE SLOPES SHALL BE 2:1 (OR LESS) FOR 15", 18", & 24" CULVERTS, AND 4:1 FOR CULVERTS GREATER THAN 24".
9. TOE REQUIRED FOR CULVERTS GREATER THAN 24".

POURED IN PLACE
MITERED END SECTION

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

REVISION
10/09

DESIGN DETAIL

RESIDENTIAL HEADWALLS
MITERED END SECTION

FILE NAME: 0401.DWG
MIN. 2%, MAX. 6% SLOPE FROM R/W LINE TO CURB

CURB & GUTTER

TYPICAL LOT GRADING

NOTE:
ARROWS INDICATE MINIMUM SLOPES OF 1% FOR LOTS ON PAVED ROADS AND 2% FOR UNPAVED ROADS FROM THE STRUCTURE TO THE POINT OF DISCHARGE (CURB OR TOP OF DITCH)
YARD COLLECTION SYSTEMS

NOTES:
1. YARD DRAINS SHALL ONLY BE USED IN PRIVATE PROPERTY LOCATIONS; PUBLIC RIGHT-OF-WAY LOCATIONS WILL NOT BE PERMITTED.
2. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
3. SEE "TYPICAL TRENCH DETAIL" FOR BACKFILLING REQUIREMENTS.

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
7040 Industrie Center Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax (904) 209-0110

REVISION
10/09

DESIGN DETAIL
TYPICAL YARD DRAIN/CPEP INSTALLATION DETAIL

EFFECTIVE DATE:

DETAIL NO.
403

APPROVED:
H.P. TOMKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: 0403.0WG
LONGITUDINAL SECTION

INLET AND EXFILTRATION TRENCH*
(SHEET 1 OF 2)

NOTES:
1. SEE SHEET 2 OF 2 FOR TRENCH DETAIL
   AND INLET NOTES.
2. ** SHALL BE APPROVED FOR USE BY THE
   COUNTY ENGINEER.

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<th>TYPE</th>
<th>INLET</th>
<th>DIMENSIONS</th>
<th>MAX. DIA. PIPE</th>
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<td>2&quot; X 0&quot;</td>
<td>3&quot; X 1&quot;</td>
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ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

REVISION: 10/09

DESIGN DETAIL

TYPICAL INLET & EXFILTRATION
TRENCH DETAIL

FILE NAME: D404.DWG
**TRENCH CROSS SECTION**

**INLET AND EXFILTRATION TRENCH**
*(SHEET 2 OF 2)*

*SHALL BE APPROVED FOR USE BY THE COUNTY ENGINEER*

**INLET NOTES:**

- Beveled edges: all exposed corners and edges to be chamfered 3/4".
- Foundation material: where material unsatisfactory for foundation is encountered, all such material must be removed down to satisfactory material and backfilled to subgrade with clean sand.
- Grates: cast iron in accordance with F.D.O.T. specifications.
- Inlet types: inlets are to be constructed to the dimensions shown herein. Type "E" (2) and "F" (1) are Type 3" turned 90° to receive B.O.P. up to 4" diameter. Inlets receiving pipe larger than 4" diameter shall be in accordance with F.D.O.T. Standards. See F.D.O.T. Standard Indexes 200, 201, & 232.
- Material: Inlet walls and bases may be either cast-in-place Class I, 2500 p.s.i. concrete or precast Class II, 4000 p.s.i. concrete.
- Pollution control devices: "special" inlets shall have pollution control device installed, consisting of half-round (galvanized) steel plate, open at the bottom, welded closed at top (optional).
- Backfill: provide every bolt per F.D.O.T. Standard Index 201.

**BACKFILL NOTES:**

- Compact trench backfill and soil within min. 5' of trench to min. 95% of max. dry density per ASTM D-1557.

**ST JOHNS COUNTY**
**PUBLIC WORKS DEPARTMENT**
**ENGINEERING DIVISION**

3740 Industry Center Road
St Augustine, Florida 32084
Phone (904) 808-0110 - Fax (904) 808-0140

**REVISION:** 10/09

**DESIGN DETAIL**

**TYPICAL INLET & EXFILTRATION TRENCH DETAIL**

**FILE NAME:** D405.DWG
GENERAL NOTES:

1. THIS DETAIL DEPICTS A TYPICAL DESIGN DETAIL FOR "DRY" DETENTION. OTHER DESIGN CONFIGURATIONS MAY BE POSSIBLE. THIS SYSTEM IS DESIGNED FOR USE WHERE SOIL AND SEASONAL GROUNDWATER TABLE CONDITIONS ARE NOT CONDUCIVE TO ALLOW FOR FULL VOLUME RECOVERY THROUGH INFILTRATION WITHIN THE REGULATORY TIME PERIOD.

2. THIS DETAIL IS FOR ILLUSTRATION PURPOSES ONLY. ACTUAL DESIGN AND CONSTRUCTION DETAILS ARE THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL.

SECTION AA

PLAN VIEW

ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

DESIGN DETAIL
DRY DETENTION
TYPICAL DETAIL
GENERAL NOTES:

1. THIS DETAIL DEPICTS A TYPICAL DESIGN DETAIL FOR RETENTION OF STORMWATER RUNOFF. OTHER DESIGN CONFIGURATIONS MAY BE POSSIBLE. THIS SYSTEM IS DESIGNED FOR USE WHERE SOIL AND SEASONAL HIGH GROUNDWATER TABLE CONDITIONS ARE CONducive TO ALLOW FOR FULL VOLUME RECOVERY THROUGH INFILTRATION OF STORMWATER WITHIN THE REGULATED TIME PERIOD.

2. THIS DETAIL IS FOR CLARIFICATION PURPOSES ONLY. ACTUAL DESIGN AND CONSTRUCTION DETAILS ARE THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL.

SECTION AA

PLAN VIEW

ADJACENT PROPERTY LINE

BUFFER

EMERGENCY OVERFLOW/FREEBOARD

PEAK RATE ATTENUATION STORAGE (Q)

RETENTION VOLUME STORAGE (V)

WEIR CREST ELEVATION

TOB

INFLTRATED STORMWATER

SEASONAL HIGH WATER TABLE AND/OR CONFINING LAYER ARE LOCATED AT A DEPTH WHERE RECOVERY OF THE RETENTION VOLUME IS ATTAINED WITHIN THE REGULATORY TIME PERIOD.
NOTES:
1. ON-SITE STORAGE ELEVATION FOR GREATERT THAN 1 IN. OF RUNOFF OR TOTAL RUNOFF PRODUCED BY 3-YR., 1-HR. RAINFALL FROM TOTAL AREA DRAINED BY SERVICE CONNECTION.

2. PEAK ON-SITE STORAGE ELEVATION FOR RUNOFF PRODUCED BY 3-YR., 24-HR. RAINFALL, FROM TOTAL AREA DRAINED BY SERVICE CONNECTION, NOT TO EXCEED R.G.L. ELEVATION AS NOTED IN NOTE 6.

3. PEAK ON-SITE STORAGE ELEVATION FOR RUNOFF PRODUCED BY 25-YR., 3-DAY RAINFALL, NOT TO EXCEED LOWER OF SITE PERIMETER BERM ELEVATION OR (FOR THROUGHFARE—PLAN STREETS) PAVEMENT ELEVATION AS NOTED IN NOTE 6.

4. STORM SEWER HYDRAULIC GRADE LINE ELEVATION AT ZERO FLOW IN RECEIVING SEWER (i.e., TAILWATER ELEVATION TO BE USED FOR DETERMINING STAGE VS. DISCHARGE OF CONTROL DEVICE).

5. STORM SEWER HYDRAULIC GRADE LINE ELEVATION AT DESIGN PEAK FLOW AT POINT OF CONNECTION. IF NOT OTHERWISE KNOWN, USE 1 FT. BELOW INLET ELEVATION OF NEXT UPSTREAM ON-LINE INLET.

6. PAVEMENT ELEVATION AT OUTSIDE EDGE OF HIGHEST THROUGH LANES (ONE IN EACH DIRECTION) FOR THROUGHFARE—PLAN STREET.