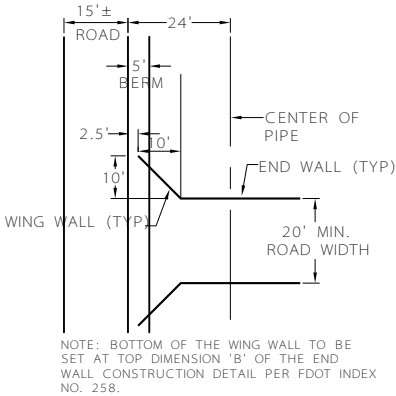
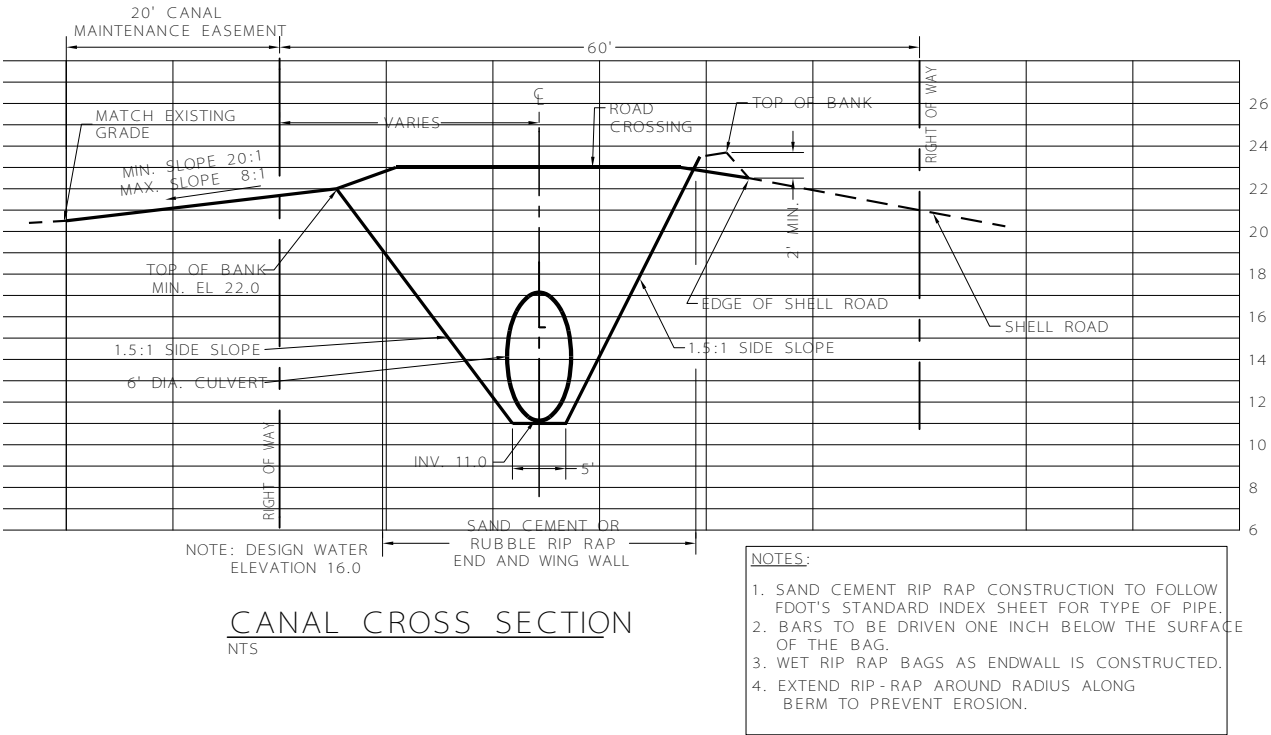
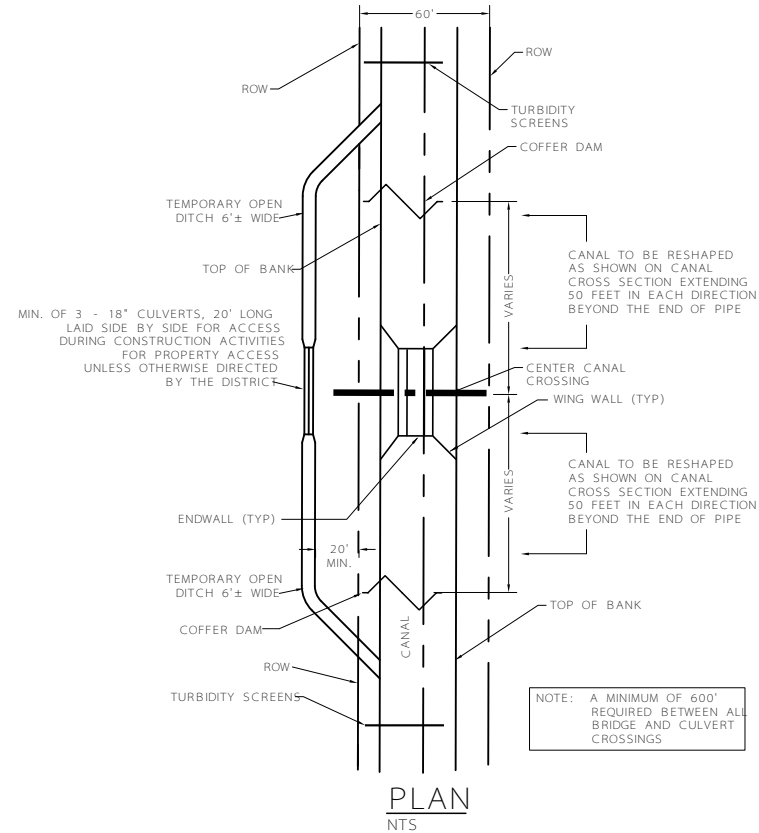
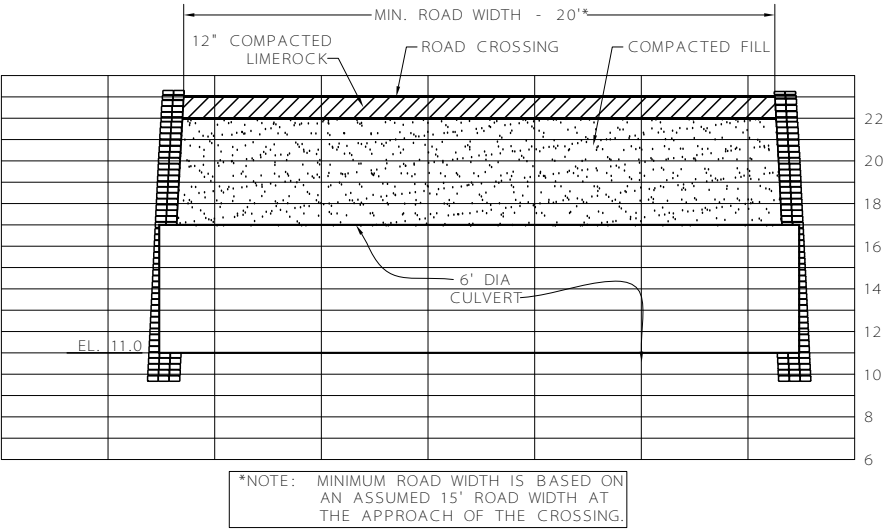
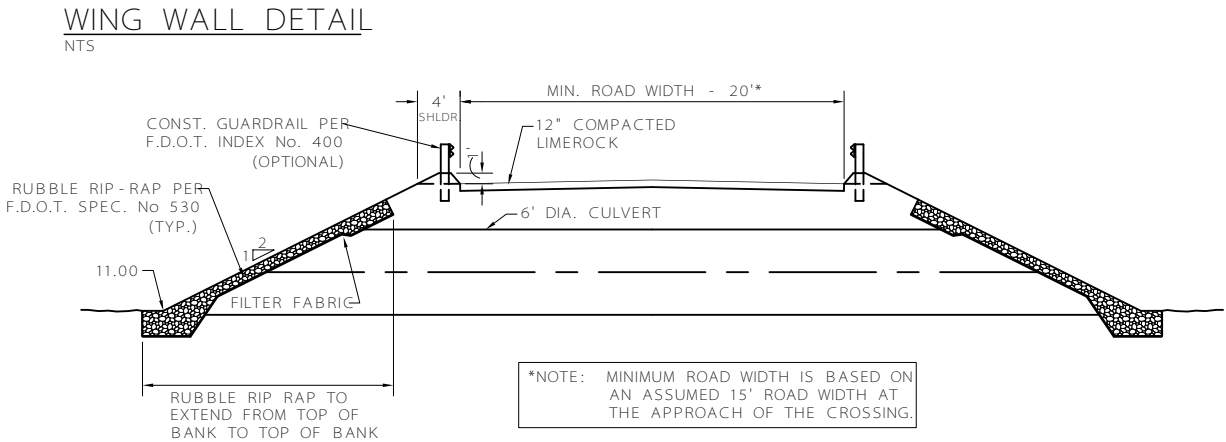


GENERAL NOTES:

1. CONTRACTOR SHALL PROTECT ALL PERMANENT REFERENCE MONUMENTS AND TAKE ALL NECESSARY PRECAUTIONS NECESSARY TO AVOID THE MONUMENTS DURING CONSTRUCTION. IF A MONUMENT IS DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THE MONUMENT AT NO ADDITIONAL COST TO THE OWNER OR DISTRICT.
2. ALL UNSUITABLE MATERIAL SUCH AS MUCK, MARL AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER. CLEAN GRANULAR MATERIAL SHALL BE USED FOR BACK FILL AND PLACED IN 12 INCH LIFTS OR LESS AS REQUIRED BY COMPACTION. COMPACTION OF BACK FILLS TO BE 95% OF THE MAXIMUM DENSITY PER AASHTO T-180.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE GENERAL PUBLIC DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PROVIDE SIGNS, BARRICADES, AND FLAG MEN AS NECESSARY FOR TRAFFIC SAFETY DURING CONSTRUCTION.
4. ALL CONCRETE SHALL BE A MINIMUM OF 3,000 PSI UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL COMPLY WITH ALL OF THE SAFETY REQUIREMENTS OF THE TRENCH SAFETY ACT DURING INSTALLATION OF THE CULVERT CANAL CROSSING.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PERMIT CONDITIONS AS ISSUED BY THE LOXAHATCHEE GROVES WATER CONTROL DISTRICT AND OTHER GOVERNMENT AGENCIES.
7. CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF ANY TESTS TO ARRANGE FOR THE WATER CONTROL DISTRICT TO HAVE A REPRESENTATIVE PRESENT, IF REQUIRED.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE FOR INSPECTIONS OF THE CONSTRUCTION.
9. CONTRACTOR TO PROVIDE SILT SCREENS OR OTHER ENVIRONMENTAL MEASURES TO CONTROL TURBIDITY TO STATUTORY/REGULATORY LEVELS IN THE CANAL UP AND DOWN STREAM DURING CONSTRUCTION.
10. CONTRACTOR TO PROVIDE D.O.T. APPROVED LIME ROCK FOR ROAD CROSSING.
11. CONTRACTOR TO DIG CANAL TO NEW SECTION FOR 50 L.F. IN EACH DIRECTION FROM END OF CULVERT PIPE.
12. ALL AREAS DISTURBED DURING CONSTRUCTION ALONG CANAL, INCLUDING MAINTENANCE EASEMENT AND CANAL BANKS TO BE SEEDED AND MULCHED PER DOT SPECIFICATIONS.
13. CONTRACTOR TO MAINTAIN WATER FLOW BY MEANS OF A BYPASS DURING INSTALLATION OF THE CULVERT UNLESS OTHERWISE DIRECTED BY DISTRICT. THIS BYPASS MUST BE APPROVED BY LOXAHATCHEE GROVES WATER CONTROL DISTRICT PRIOR TO BEGINNING CONSTRUCTION.
14. ALL CORRUGATED STEEL PIPE, INCLUDING COUPLING BANDS, SHALL CONFORM TO AASHTO M36 SPECIFICATION.
15. ALL CORRUGATED STEEL PIPE SHALL BE BITUMINOUS COATED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M190, FOR TYPE A (FULLY BITUMINOUS COATED).
16. WHERE ALUMINUM PIPE IS USED, IF BITUMINOUS COATED, IT SHALL MEET THE AASHTO M190 TYPE A, SPECIFICATION FOR BITUMINOUS COATING.
17. REINFORCE CONCRETE PIPE (RCP) SHALL CONFORM TO THE FDOT SECTION 941 OF THE STANDARD SPECIFICATIONS.
18. MAINTENANCE SIDE OF CANAL TO BE SLOPED AT 20:1 MIN. / 8:1 MAX. AWAY FROM TOP OF BANK.
19. ALL GROUND VEGETATION AND TREES WITHIN RIGHT OF WAY AND MAINTENANCE EASEMENT TO BE REMOVED FOR ENTIRE LENGTH OF PROPERTY FRONTAGE.
20. PERMITTEE TO HAVE A REGISTERED LAND SURVEYOR PROVIDE CROSS SECTION OF CANAL AND ROADWAY FOR PRE AND POST CONSTRUCTION AND AS-BUILTS.
21. PERMITTEE TO HAVE A REGISTERED ENGINEER DESIGN AND PROVIDE SIGNED AND SEALED DRAWINGS FOR THE CULVERT CROSSING.
22. PERSONS INSTALLING CULVERTS OR BRIDGES WITHOUT A DISTRICT PERMIT WILL BE SUBJECT TO A DOUBLE PERMIT FEE AND MUST FIELD VERIFY, TO THE DISTRICT ENGINEER'S SATISFACTION, THAT THE UNIFORM STANDARDS HAVE BEEN MET. WORK NOT MEETING THE DISTRICT'S UNIFORM STANDARDS SHALL BE REMOVED FROM THE RIGHT OF WAY.



| CORRUGATED METAL PIPE CULVERT SIZE & METAL THICKNES | | | | | | |
|---|--------------|----------|-----------------|----------|-----------|----------|
| SIZE OF CULVERT | GUAGE NUMBER | | METAL THICKNESS | | VARIATION | |
| | STEEL | ALUMINUM | STEEL | ALUMINUM | STEEL | ALUMINUM |
| 15" | 16 | 16 | 0.0635 | 0.060 | 0.007 | - |
| 18" | 16 | 16 | 0.0635 | 0.060 | 0.007 | - |
| 24" | 16 | 16 | 0.0635 | 0.060 | 0.007 | - |
| 30" | 14 | 14 | 0.0785 | 0.075 | 0.008 | - |
| 36" | 14 | 14 | 0.0785 | 0.075 | 0.008 | - |
| 42" | 12 | 12 | 0.1084 | 0.105 | 0.009 | - |
| 48" | 12 | 12 | 0.1084 | 0.105 | 0.009 | - |
| 60" | 10 | 10 | 0.1382 | 0.135 | 0.009 | - |
| 72" | 10 | 8 | 0.1382 | 0.164 | 0.009 | - |
| OVER 72" | 8 | 8 | 0.1681 | 0.164 | 0.009 | - |

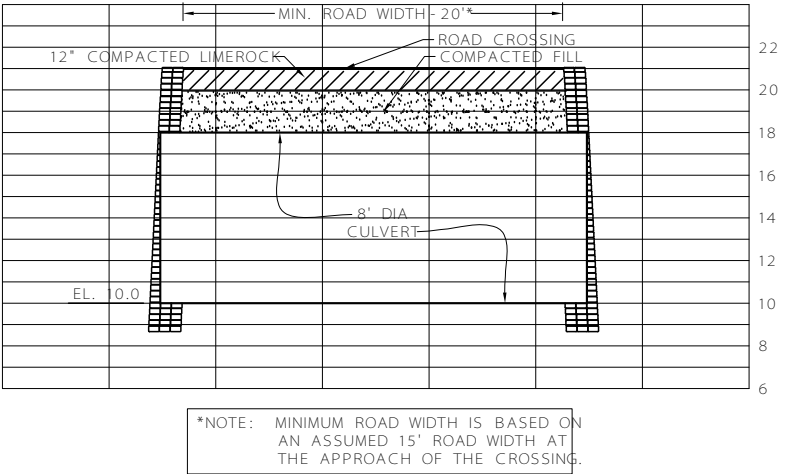
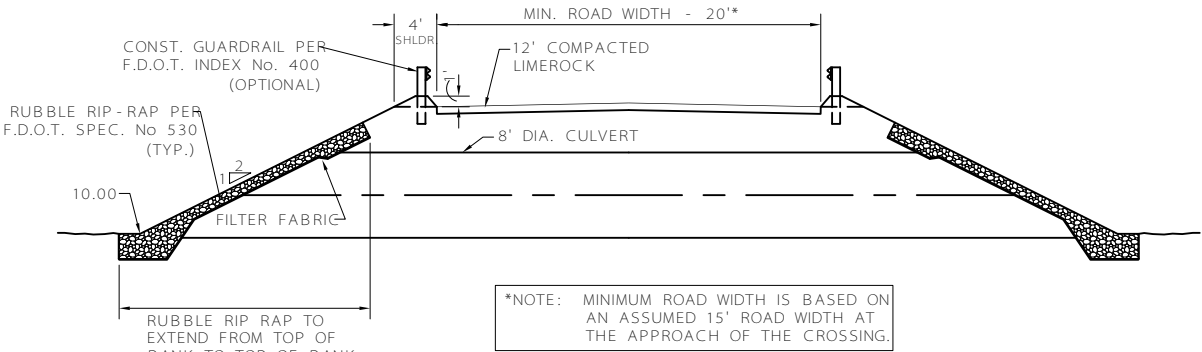
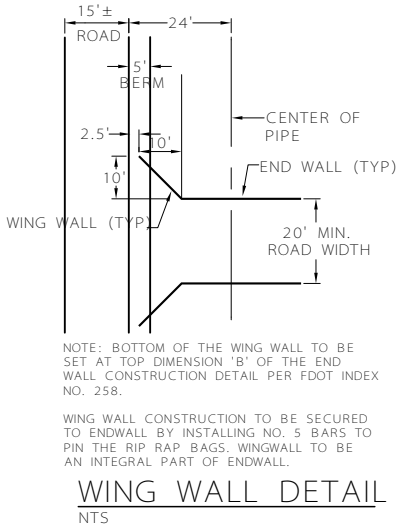
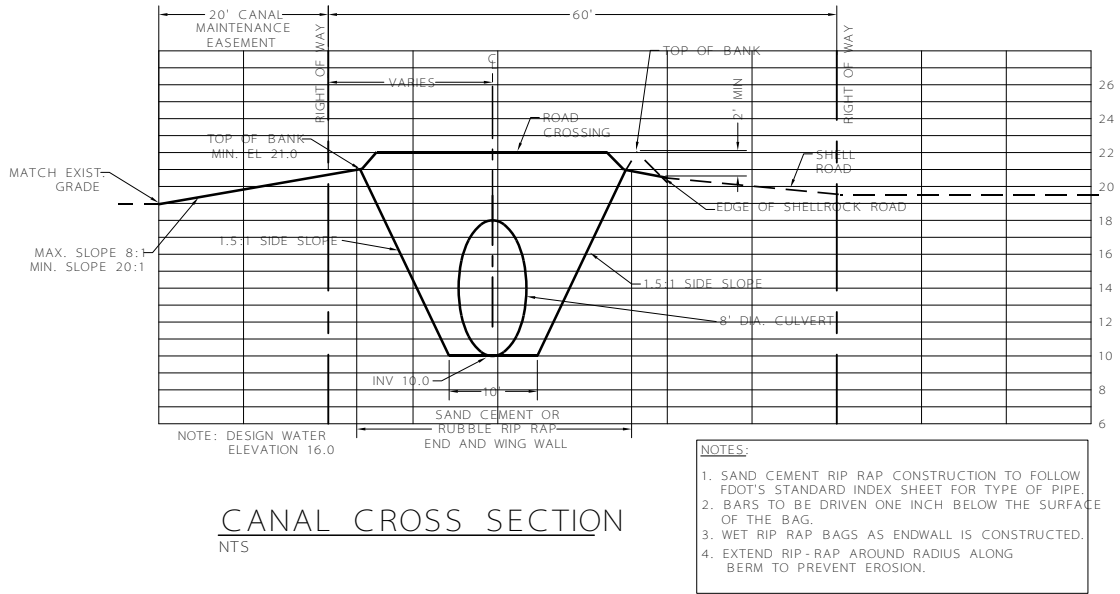
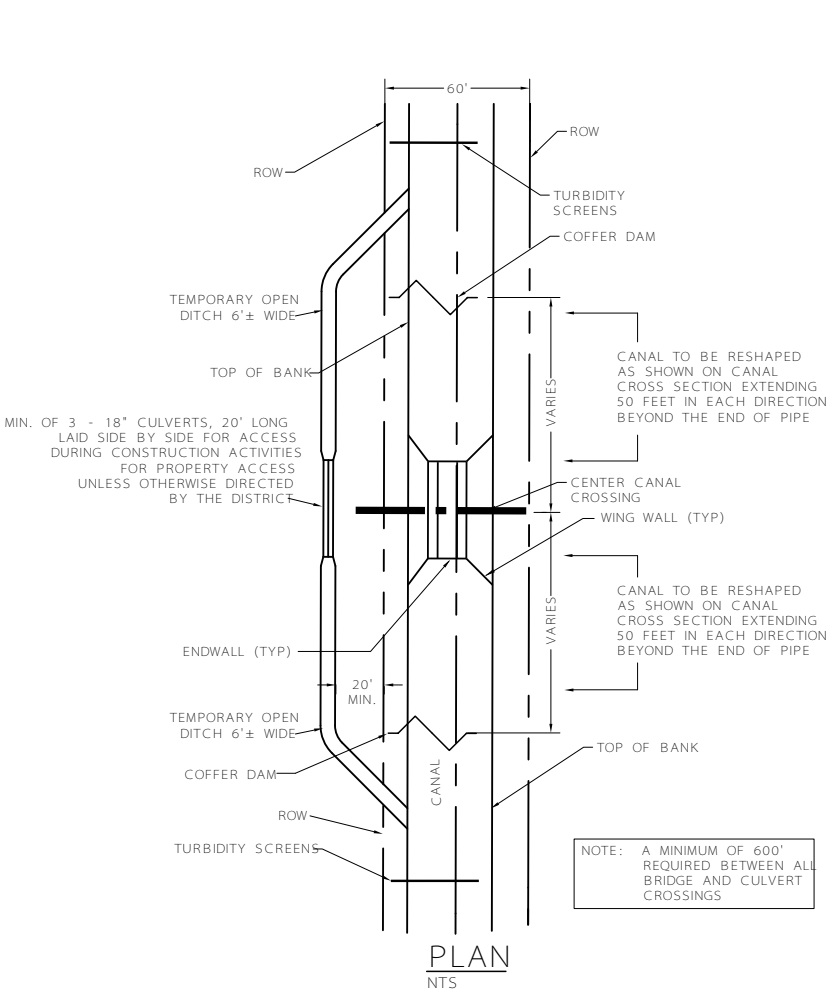


CULVERT CROSSINGS
NORTH OF
OKEECHOBEE BOULEVARD

ADOPTED
FEBRUARY 10, 2003

GENERAL NOTES:

1. CONTRACTOR SHALL PROTECT ALL PERMANENT REFERENCE MONUMENTS AND TAKE ALL NECESSARY PRECAUTIONS NECESSARY TO AVOID THE MONUMENTS DURING CONSTRUCTION. IF A MONUMENT IS DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THE MONUMENT AT NO ADDITIONAL COST TO THE OWNER OR DISTRICT.
2. ALL UNSUITABLE MATERIAL SUCH AS MUCK, MARL AND DEBRIS SHALL I REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER. CLEAN GRANULAR MATERIAL SHALL BE USED FOR BACK FILL AND PLACED IN 12 INCH LIFTS OR LESS AS REQUIRED BY COMPACTION. COMPACTION OF BAC FILLS TO BE 95% OF THE MAXIMUM DENSITY PER AASHTO T-180.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE GENERAL PUBLIC DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PROVIDE SIGNS, BARRICADES, AND FLAG MEN AS NECESSARY FOR TRAFFIC SAFETY DURING CONSTRUCTION.
4. ALL CONCRETE SHALL BE A MINIMUM OF 3,000 PSI UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL COMPLY WITH ALL OF THE SAFETY REQUIREMENTS OF THE TRENCH SAFETY ACT DURING INSTALLATION OF THE CULVERT CANAL CROSSING.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PERMIT CONDITIONS AS ISSUED BY THE LOXAHATCHEE GROVES WATER CONTROL DISTRICT AND OTHER GOVERNMENT AGENCIES.
7. CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF ANY TESTS TO ARRANGE FOR THE WATER CONTROL DISTRICT TO HAVE A REPRESENTATIVE PRESENT, IF REQUIRED.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE FOR INSPECTIONS OF THE CONSTRUCTION.
9. CONTRACTOR TO PROVIDE SILT SCREENS OR OTHER ENVIRONMENTAL MEASURES TO CONTROL TURBIDITY TO STATUTORY/REGULATORY LEVELS IN THE CANAL UP AND DOWN STREAM DURING CONSTRUCTION.
10. CONTRACTOR TO PROVIDE D.O.T. APPROVED LIME ROCK FOR ROAD CROSSING.
11. CONTRACTOR TO DIG CANAL TO NEW SECTION FOR 50 L.F. IN EACH DIRECTION FROM END OF CULVERT PIPE.
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19. ALL GROUND VEGETATION AND TREES WITHIN RIGHT OF WAY AND MAINTENANCE EASEMENT TO BE REMOVED FOR ENTIRE LENGTH OF PROPERT FRONTAGE.
20. PERMITTEE TO HAVE A REGISTERED LAND SURVEYOR PROVIDE CROSS SECTION OF CANAL AND ROADWAY FOR PRE AND POST CONSTRUCTION ANC AS - BUILT.
21. PERMITTEE TO HAVE A REGISTERED ENGINEER DESIGN AND PROVIDE SIGNED AND SEALED DRAWINGS FOR THE CULVERT CROSSING.
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| CORRUGATED METAL PIPE CULVERT SIZE & METAL THICKNES | | | | | | |
|---|--------------|----------|-----------------|----------|-----------|----------|
| SIZE OF CULVERT | GUAGE NUMBER | | METAL THICKNESS | | VARIATION | |
| | STEEL | ALUMINUM | STEEL | ALUMINUM | STEEL | ALUMINUM |
| 15" | 16 | 16 | 0.0635 | 0.060 | 0.007 | - |
| 18" | 16 | 16 | 0.0635 | 0.060 | 0.007 | - |
| 24" | 16 | 16 | 0.0635 | 0.060 | 0.007 | - |
| 30" | 14 | 14 | 0.0785 | 0.075 | 0.008 | - |
| 36" | 14 | 14 | 0.0785 | 0.075 | 0.008 | - |
| 42" | 12 | 12 | 0.1084 | 0.105 | 0.009 | - |
| 48" | 12 | 12 | 0.1084 | 0.105 | 0.009 | - |
| 60" | 10 | 10 | 0.1382 | 0.135 | 0.009 | - |
| 72" | 10 | 8 | 0.1382 | 0.164 | 0.009 | - |
| OVER 72" | 8 | 8 | 0.1681 | 0.164 | 0.009 | - |

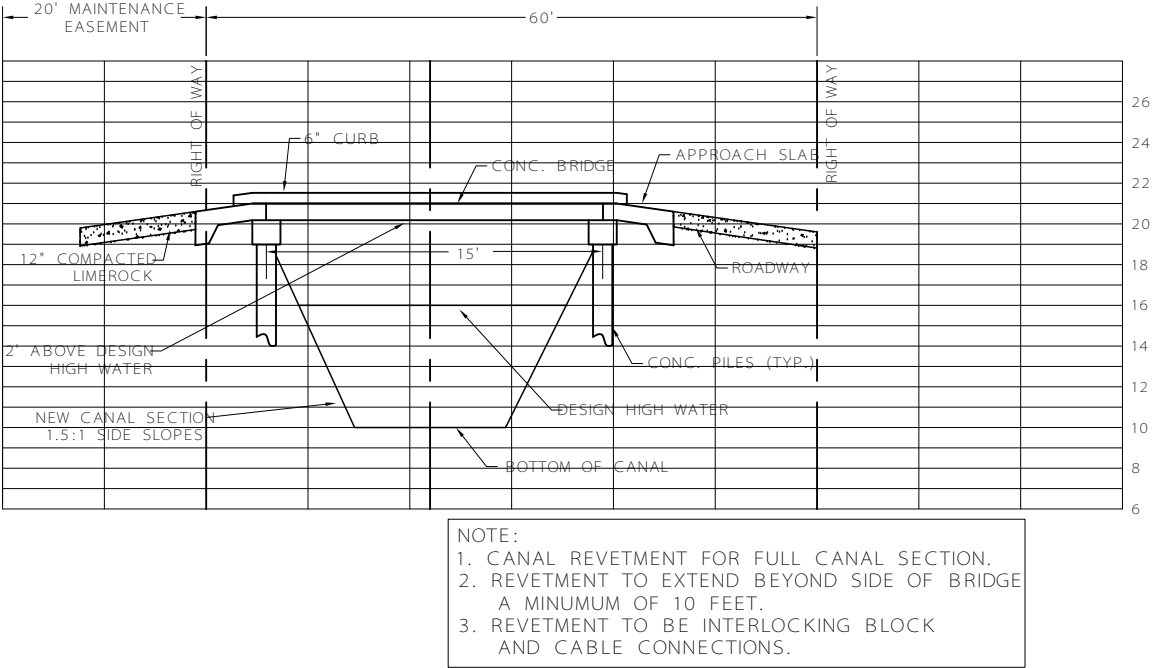
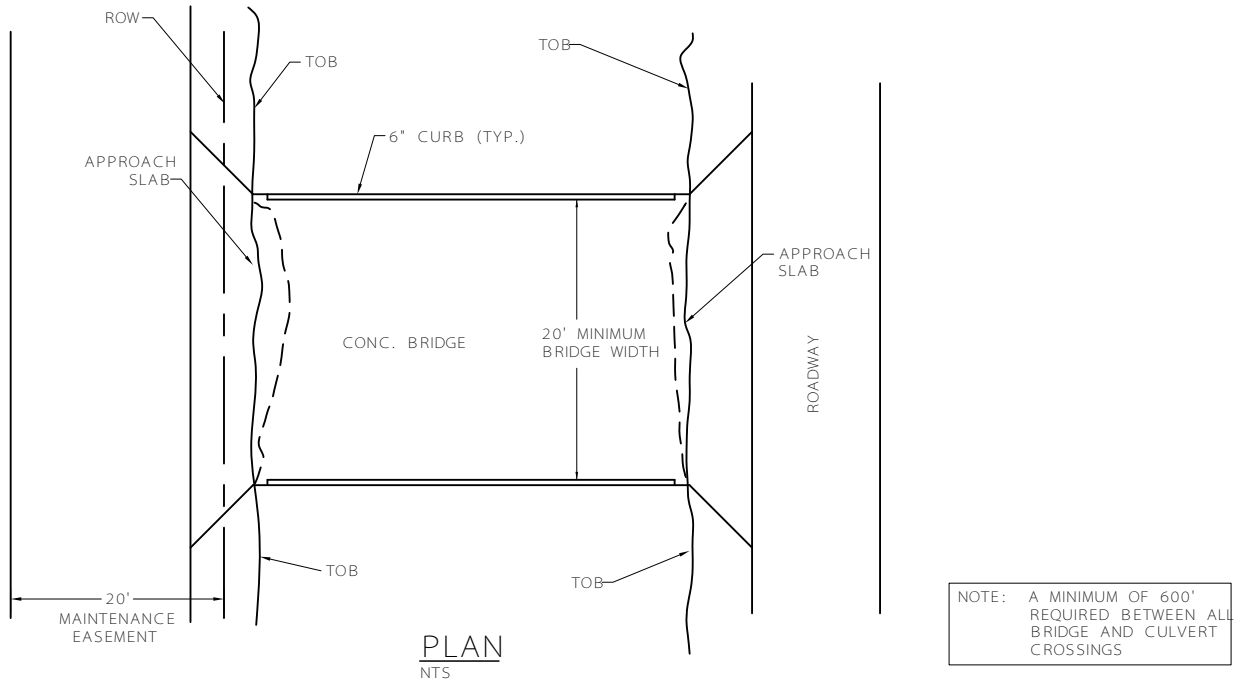
RUBBLE RIP - RAP CROSS SECTION

SAND CEMENT RIP - RAP CROSS SECTION

ADOPTED
FEBRUARY 10, 2003

GENERAL NOTES:

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5. CONTRACTOR SHALL NOTIFY THE ENGINEER 24 HOURS IN ADVANCE OF ANY TESTS OR INSPECTIONS TO ARRANGE FOR THE WATER CONTROL DISTRICT TO HAVE A REPRESENTATIVE PRESENT.
6. CONTRACTOR TO PROVIDE SILT SCREENS OR OTHER ENVIRONMENTAL MEASURES TO CONTROL TURBIDITY LEVELS TO STATE/LOCAL REGULATIONS IN THE CANAL UP AND DOWN STREAM DURING CONSTRUCTION.
7. CONTRACTOR TO DIG CANAL TO NEW SECTION FOR 50 FEET IN EACH DIRECTION FROM THE SIDE OF BRIDGE.
8. ALL AREAS DISTURBED DURING CONSTRUCTION ALONG CANAL, INCLUDING MAINTENANCE EASEMENT AND CANAL BANKS TO BE SEEDED AND MULCHED PER DOT SPECIFICATIONS.
9. PERMITTEE TO HAVE A REGISTERED LAND SURVEYOR PROVIDE CROSS SECTIONS OF THE CANAL AND ROADWAY FOR PRE- CONSTRUCTION, POST CONSTRUCTION, AND AS- BUILTS.
10. PERMITTEE TO HAVE A REGISTERED ENGINEER DESIGN AND PROVIDE SIGNED AND SEALED DRAWINGS FOR THE BRIDGE CROSSING.
11. CONCRETE TO BE A TYPE II WITH A COMPRESSIVE STRENGTH OF 3400 PSI MINIMUM.
12. REINFORCING STEEL TO BE GRADE 60.
13. DESIGN LOAD TO BE HS20-44 INCLUDING ALL FLORIDA LEGAL LOADS.
14. ALL BRIDGE AND CANAL CROSSINGS SHALL HAVE A MINIMUM DISTANCE OF 600 FEET BETWEEN CROSSINGS.
15. MAINTENANCE SIDE OF CANAL TO BE SLOPED AT 20:1 MIN./8:1 MAX. AWAY FROM TOP OF BANK.
16. ALL GROUND VEGETATION AND TREES WITHIN RIGHT OF WAY AND MAINTENANCE EASEMENT TO BE REMOVED FOR ENTIRE LENGTH OF PROPERTY FOOTAGE.



CANAL CROSS SECTION
NTS

ADOPTED
FEBRUARY 10, 2003

BRIDGE
CROSSING

GENERAL NOTES FOR CULVERT
CONNECTIONS:

1. DRAWING OR SKETCH SHALL BE PROVIDED SHOWING THE PROPOSED HORIZONTAL LOCATION OF THE CULVERT TO THE PROPERTY LINE OR PROPERTY CORNER.

2. PROVIDE THE ACTUAL FIELD MEASUREMENTS AND GRADES OF THE EXISTING CANAL, ROAD, PROPERTY LINE AND LENGTH OF PROPOSED CULVERT. THE SIZE AND MATERIAL OF THE PROPOSED CULVERT SHALL ALSO BE NOTED ON THE DRAWING.

3. ALL CULVERTS SHALL HAVE A MINIMUM OF TWO (2) FEET EXTENDING BEYOND THE PROPOSED SWALE SLOPE AS MEASURED AT THE INVERT OF THE PIPE.

4. THE CULVERT SHALL HAVE A SAND CEMENT RIP RAP HEAD WALL TO PROTECT THE CANAL BANK FROM EROSION.

5. THE MAXIMUM SIZE OF CULVERT PIPE SHALL BE AS SPECIFIED IN THE CULVERT CONNECTION TABLE.

6. THE PROPOSED CULVERT SHALL BE EITHER CORRUGATED ALUMINUM PIPE, ALUMINIZED STEEL TYPE 2 PIPE, BITUMINOUS COATED CORRUGATED METAL PIPE OR APPROVED EQUAL AS DIRECTED BY DISTRICT.

7. ONLY ONE CULVERT CONNECTION SHALL BE PERMITTED PER 300 FEET OF CANAL RIGHT OF WAY.

8. ALL CULVERT JOINTS SHALL BE PROPERLY BANDED TO PREVENT LEAKING THROUGH THE JOINT.

9. ALL CULVERTS SHALL BE INSTALLED WITH A MINIMUM OF 30-INCHES OF COVER OVER THE PIPE. THE CULVERT SHALL HAVE A MINIMUM DROP OF 12-INCHES TOWARD THE CANAL.

10. ALL TRENCHES SHALL BE PROPERLY BACK FILLED AND COMPACTED. THE PERMITTEE SHALL REPLACE ALL ROADWAY SHELL ROCK WITH SIMILAR OR BETTER MATERIAL. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY ROADWAY FAILURES AT THE TRENCHING LOCATIONS.

11. THE PERMITTEE SHALL BE RESPONSIBLE TO NOTIFY THE UNITED STATES POST OFFICE, THE SCHOOL BOARD, THE PLAM BEACH COUNTY FIRE-RESCUE DEPARTMENT AND LAW ENFORCEMENT DEPARTMENT TWENTY FOUR (24) HOURS IN ADVANCE OF CONSTRUCTION REQUIRING ROADWAY CLOSURE.

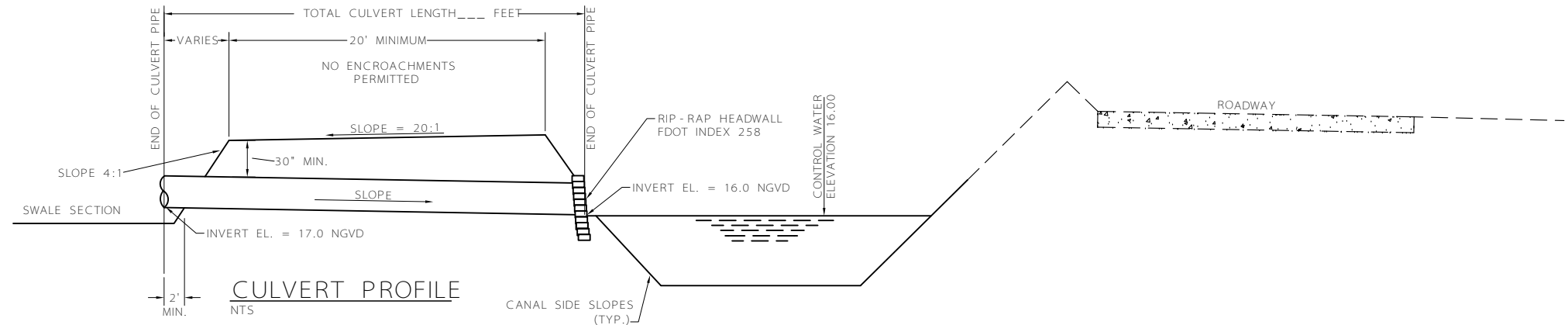
12. ALL WORK SHALL BE PERFORMED DURING DISTRICT OFFICE HOURS AND NO EXCAVATION SHALL BE LEFT UNCOVERED OR UNATTENDED. IN CASE OF UNFORESEEN PROBLEMS THAT MAY CAUSE THE CONSTRUCTION TO REMAIN UNFINISHED AFTER DISTRICT OFFICE HOURS, THE PERMITTEE SHALL IMMEDIATELY NOTIFY THE DISTRICT.

13. THE DISTRICT ENGINEER OR AUTHORIZED REPRESENTATIVE SHALL INSPECT THE PIPE INSTALLATION PRIOR TO BACKFILLING AND UPON CONSTRUCTION COMPLETION.

14. PERSONS INSTALLING CULVERTS WITHOUT A DISTRICT PERMIT WILL BE SUBJECT TO A DOUBLE PERMIT FEE AND MUST FIELD VERIFY, TO THE DISTRICT ENGINEER'S SATISFACTION, THAT THE UNIFORM STANDARDS HAVE BEEN MET. WORK NOT MEETING THE DISTRICT'S UNIFORM STANDARDS SHALL BE REMOVED FROM THE RIGHT OF WAY.

| CULVERT CONNECTION TABLE | |
|--------------------------|----------------|
| DRAINAGE AREA | MAX. PIPE DIA. |
| 5 AC OR LESS | 15" |
| 5 AC TO 10 AC | 18" |
| 10 AC TO 20 AC | 24" |
| 20 AC OR GREATER | 30" |

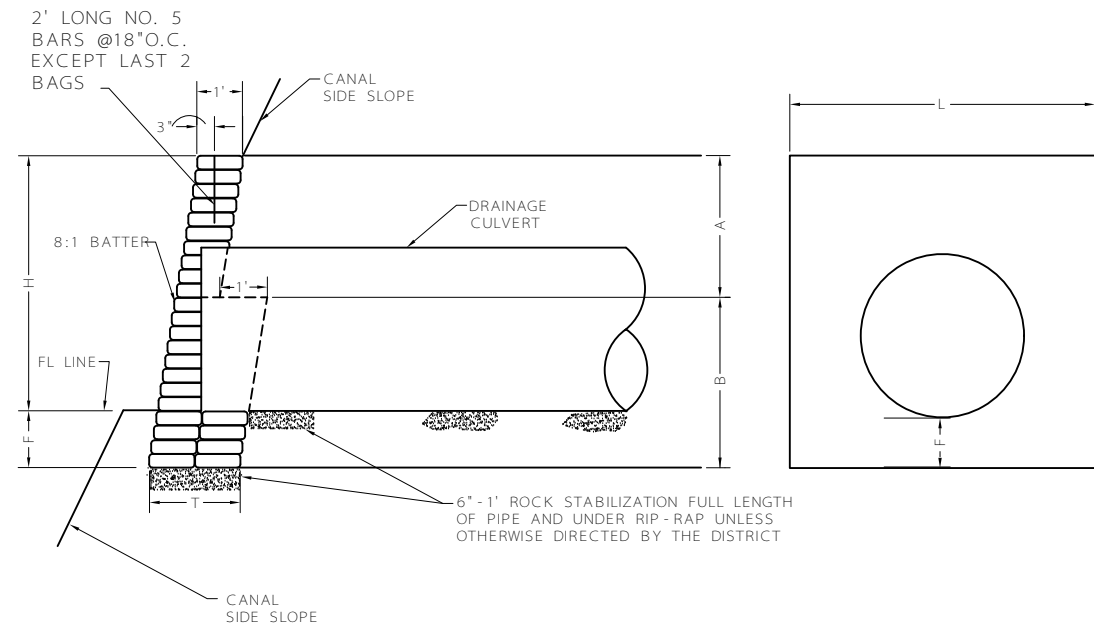
NOTE: MINIMUM PIPE DIA. SHALL BE 15"



| RIP RAP DIMENSIONS | | | | | | |
|--------------------|-------|-------|-------|-------|--------|--------|
| PIPE DIA. | H | T | A | B | F | L |
| 15" | 2'-3" | 1'-0" | 4'-0" | 0'-0" | 1'-9" | 8'-9" |
| 18" | 2'-3" | 1'-0" | 4'-0" | 0'-0" | 1'-9" | 8'-9" |
| 24" | 2'-9" | 2'-0" | 2'-0" | 2'-6" | 1'-9" | 10'-3" |
| 30" | 3'-4" | 2'-0" | 2'-0" | 3'-2" | 1'-10" | 12'-0" |

NOTES:

1. SAND CEMENT RIP RAP CONSTRUCTION TO FOLLOW FDOT'S STANDARD INDEX SHEET FOR TYPE OF PIPE.
2. BARS TO BE DRIVEN ONE INCH BELOW THE SURFACE OF THE BAG.
3. WET RIP RAP BAGS AS ENDWALL IS CONSTRUCTED.



END WALL DETAIL
NTS

ADOPTED
FEBRUARY 10, 2003

DRAINAGE CULVERT
(MAINTENANCE SIDE)

C-4

GENERAL NOTES FOR CULVERT CONNECTIONS:

1. DRAWING OR SKETCH SHALL BE PROVIDED SHOWING THE PROPOSED HORIZONTAL LOCATION OF THE CULVERT TO THE PROPERTY LINE OR PROPERTY CORNER.

2. PROVIDE THE ACTUAL FIELD MEASUREMENTS AND GRADES OF THE EXISTING CANAL, ROAD, PROPERTY LINE AND LENGTH OF PROPOSED CULVERT. THE SIZE AND MATERIAL OF THE PROPOSED CULVERT SHALL ALSO BE NOTED ON THE DRAWING.

3. ALL CULVERTS SHALL HAVE A MINIMUM OF TWO (2) FEET EXTENDING BEYOND THE PROPOSED SWALE SLOPE AS MEASURED AT THE INVERT OF THE PIPE.

4. THE CULVERT SHALL HAVE A SAND CEMENT RIP RAP HEAD WALL TO PROTECT THE CANAL BANK FROM EROSION.

5. THE MAXIMUM SIZE OF CULVERT PIPE SHALL BE AS SPECIFIED IN THE CULVERT CONNECTION TABLE.

6. THE PROPOSED CULVERT SHALL BE EITHER CORRUGATED ALUMINUM PIPE, ALUMINIZED STEEL TYPE 2 PIPE, BITUMINOUS COATED CORRUGATED METAL PIPE OR APPROVED EQUAL AS DIRECTED BY DISTRICT.

7. ONLY ONE CULVERT CONNECTION SHALL BE PERMITTED PER 300 FEET OF CANAL RIGHT OF WAY.

8. ALL CULVERT JOINTS SHALL BE PROPERLY Banded TO PREVENT LEAKING THROUGH THE JOINT.

9. ALL CULVERTS SHALL BE INSTALLED WITH A MINIMUM OF 30-INCHES OF COVER OVER THE PIPE. THE CULVERT SHALL HAVE A MINIMUM DROP OF 12-INCHES TOWARD THE CANAL.

10. ALL TRENCHES SHALL BE PROPERLY BACK FILLED AND COMPACTED. THE PERMITTEE SHALL REPLACE ALL ROADWAY SHELL ROCK WITH SIMILAR OR BETTER MATERIAL. THE PERMITTEE SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY ROADWAY FAILURES AT THE TRENCHING LOCATIONS.

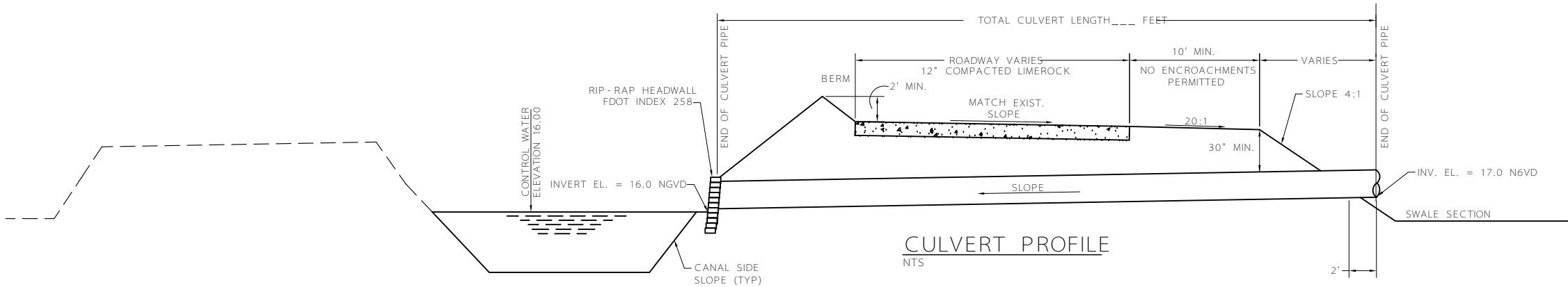
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12. ALL WORK SHALL BE PERFORMED DURING DISTRICT OFFICE HOURS AND NO EXCAVATION SHALL BE LEFT UNCOVERED OR UNATTENDED. IN CASE OF UNFORESEEN PROBLEMS THAT MAY CAUSE THE CONSTRUCTION TO REMAIN UNFINISHED AFTER DISTRICT OFFICE HOURS, THE PERMITTEE SHALL IMMEDIATELY NOTIFY THE DISTRICT.

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14. PERSONS INSTALLING CULVERTS WITHOUT A DISTRICT PERMIT WILL BE SUBJECT TO A DOUBLE PERMIT FEE AND MUST FIELD VERIFY, TO THE DISTRICT ENGINEER'S SATISFACTION, THAT THE UNIFORM STANDARDS HAVE BEEN MET. WORK NOT MEETING THE DISTRICT'S UNIFORM STANDARDS SHALL BE REMOVED FROM THE RIGHT OF WAY.

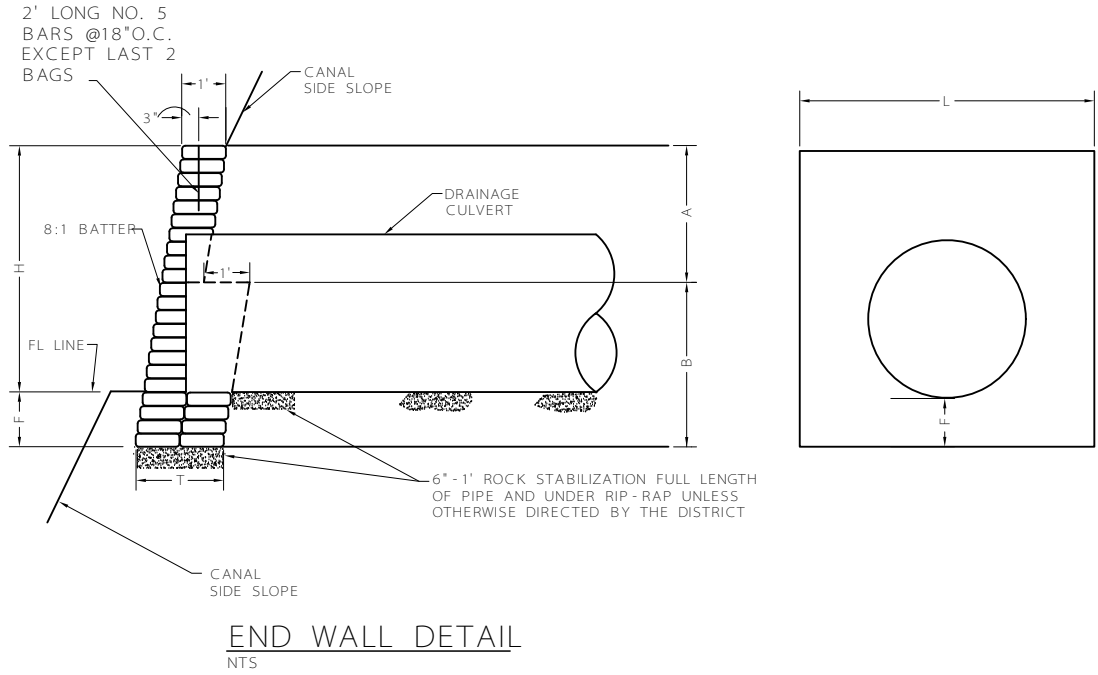
| CULVERT CONNECTION TABLE | |
|--------------------------------------|----------------|
| DRAINAGE AREA | MAX. PIPE DIA. |
| 5 AC OR LESS | 15" |
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| 20 AC OR GREATER | 30" |
| NOTE: MINIMUM PIPE DIA. SHALL BE 15" | |



| RIP RAP DIMENSIONS | | | | | | |
|--------------------|-------|-------|-------|-------|--------|--------|
| PIPE DIA. | H | T | A | B | F | L |
| 15" | 2'-3" | 1'-0" | 4'-0" | 0'-0" | 1'-9" | 8'-9" |
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NOTES:

1. SAND CEMENT RIP RAP CONSTRUCTION TO FOLLOW FDOT'S STANDARD INDEX SHEET FOR TYPE OF PIPE.
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3. WET RIP RAP BAGS AS ENDWALL IS CONSTRUCTED.



ADOPTED
FEBRUARY 10, 2003