

**LAKE WORTH DRAINAGE DISTRICT
OPERATING POLICIES**

Chapter 3: Engineering & Permitting Requirements

3.4 Culvert Crossings

Definitions

Public Crossing: The extension of public right-of-way.

Private Crossing: The entrance to privately owned property.

BCCSP: Bituminous coated corrugated steel pipe

CAP: Corrugated aluminum pipe

RCP: Reinforced concrete pipe

3.4.1 Culvert and End Treatment Specifications

All pipes described above, and endwalls, shall meet or exceed the current Florida Department of Transportation (FDOT) standards and specifications.

3.4.2 Culvert and End Treatment Requirements

3.4.2.1 Culvert Material Requirements

3.4.2.1.1 Florida DOT Roads: Per FDOT specs

3.4.2.1.2 New County Roads: Per FDOT specs

3.4.2.1.3 County Road Replacements: BCCSP, CAP or RCP

3.4.2.1.4 Private Drives: BCCSP, CAP or RCP

3.4.2.1.5 Developers (new subdivision): RCP only

3.4.2.2 Culvert End Treatment Requirements

3.4.2.2.1 RCP: concrete endwall per FDOT Index

3.4.2.2.2 BCCSP: sand-cement riprap bag endwall or concrete endwall per FDOT Index

3.4.2.2.3 CAP: sand-cement riprap bag endwall or concrete endwall per FDOT Index

Note: LWDD, on a case by case basis, may approve and/or require other proposed designs, (e.g. revetment, retaining wall type headwalls). However, this in no way circumvents the above policy.

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3.4.3 Culvert Location within LWDD Right-of-Way

3.4.3.1 Horizontal: To be determined by LWDD after an existing cross-section is furnished and a design section provided.

3.4.3.2 Invert Elevation: To be determined by LWDD.

3.4.3.3 Size: To be determined by LWDD.

3.4.3.4

A reasonable number of crossings will be permitted to each landowner, provided they are constructed in accordance with LWDD Operating Policies.

Ref: LWDD Resolution No. 87-4 - Reasonable Number of Crossings

3.4.3.5

Demucking of the right-of-way shall be accomplished by the Permittee if determined to be necessary by LWDD.

3.4.4 Maintenance Access

3.4.4.1

A minimum of fifteen feet (15') clear unobstructed access must be provided within existing LWDD right-of-way at all four (4) quadrants of the proposed culvert crossing. Additional right-of-way may be required.

3.4.4.2

Any sidewalk or pathway that is proposed within LWDD right-of-way shall be constructed of six inch (6") thick concrete or to meet LWDD approved alternate loading and material(s). LWDD will not be held responsible or liable for any damage to the sidewalk or pathway resulting from LWDD operations and maintenance procedures, or any property damage or personal injury resulting from any sidewalk or pathway damage. All repairs are to be the responsibility of the Permittee.

3.4.4.3

Absolutely no plantings in the right-of-way of LWDD will be allowed except for grass and approved low-lying ground covering, i.e. low-growing plants may be used to blanket an area of bare ground. In no case will approved low-lying ground cover obstruct LWDD's maintenance access. Where culvert and bridge crossings are approved for ingress/egress to property(ies), larger vegetation may be allowed, but only through strict review by LWDD staff. Fifteen feet (15') of unimpeded right-of-way must exist at these types of approvals. It is strongly recommended to meet with staff to determine what may be acceptable.

3.4.5 Canal Cross-Sections. For each applicable existing LWDD canal, the applicant or petitioner must provide two sets of current canal cross-sections signed and sealed by a professional surveyor and mapper licensed in the State of Florida. The canal cross-sections will be used to determine if LWDD will require the applicant or petitioner to convey any right-of-way to LWDD. Canal cross-sections at 300 foot intervals are to be provided for each canal, including at each end of the portion of the project that fronts the canal. A

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minimum of three canal cross-sections for each canal are to be provided. The canal cross-sections are to show, label and dimension at least the following:

- (a) channel bottom elevation and width;
- (b) location and elevation of each toe-of-slope and each top-of-bank;
- (c) existing canal right-of-way lines;
- (d) existing land lines (such as section lines, quarter-section lines, or platted block lines and tract lines within platted subdivisions, e.g., THE PALM BEACH FARMS CO. PLAT NO. 3);
- (e) property lines of subject parcel;
- (f) all easements within the limits of the canal cross-section; and
- (g) existing ground elevations to a point 50 feet beyond the existing top-of-banks on each side of the channel or to a point 25 feet outside of the existing canal right-of-way lines on each side of the channel, whichever is greater, including all features that may be relevant (e.g. buildings, edges of pavement, curbs, sidewalks, guardrails and ground grade breaks).

Note: Each cross-section is to include a sufficient number of surveyed points such that the existing canal is accurately depicted.

Canal cross-sections are also to be provided at each end of every culvert that exists within the limits of the project for each applicable LWDD canal, with the existing culvert shown in cross-sectional view depicted on the appropriate canal cross-section.

The cross-sections are to be shown at a scale of 1 inch equals 10 feet, both horizontal and vertical, for canals with a total of 80 feet (or less) of required right-of-way width (including both heavy and light canal maintenance berms), or 1 inch equals 20 feet, both horizontal and vertical, for canals with a total of more than 80 feet of required right-of-way width (including both heavy and light canal maintenance berms). A statement must be included on the cross-sections that the vertical datum used for the cross-sections is either the National Geodetic Vertical Datum of 1929 (NGVD 29) or the North American Vertical Datum of 1988 (NAVD 88), and if the NAVD 88 vertical datum has been used, a conversion factor between the NGVD 29 vertical datum and the NAVD 88 vertical datum for the locations where the cross-sections were taken, must be provided. A plan view must be provided that shows how the cross-sections are oriented. The cross-sections must be shown, in cross-sectional view, looking from west to east or from south to north, with

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the north or west right-of-way respectively being on the left side of each cross-section shown.

The requested information must be submitted to LWDD in both hardcopy format and CAD drawing files. The CAD drawing files must be in the form of AutoDesk DWG format (current and all prior versions accepted) or alternatively, in DXF format. The CAD drawing files can be submitted on either CD or DVD optical media.

Upon receipt of the existing canal cross-section(s), LWDD will furnish the design section(s) that is (are) to be shown on the design plans.

NOTE: Canal cross-sections are valid for a two year period. After that time, current canal cross-sections will be required for review by LWDD. Based upon review of current canal cross-sections, the applicant or petitioner may be required to reconstruct or reshape the existing canal, in addition to conveying right-of-way to LWDD.

3.4.6 Length of Culvert

Culvert lengths greater than 200 feet will require LWDD Board of Supervisors' approval, and must be submitted to LWDD as a Piping of Canal proposal. Please refer to LWDD Operating Policies Section 3.9.

3.4.7 Possible Permit Conditions

[Note: These conditions are not totally inclusive. Additional conditions may be required based upon the circumstances of the project.]

3.4.7.1

Permittee shall reconstruct canal(s) to approved design section along and adjacent to the project's limits, including clearing, stabilization, and proper sloping of the maintenance berms. The type of stabilization shall be approved by LWDD. Please be advised that any fill material scheduled to be removed from the canal may not be relied on for site work.

3.4.7.2

Permittee is to construct any sidewalk or pathway that is proposed within LWDD's rights-of-way with six-inch (6") thick concrete, or to meet LWDD approved alternate loading and material(s). The LWDD will not be held responsible or liable for any damage to the sidewalk or pathway resulting from LWDD operations and maintenance procedures, or any property damage or personal injury resulting from any sidewalk or pathway damage. All repairs are to be the responsibility of the Permittee.

3.4.7.3

Permittee or Permittee's representative shall notify the LWDD Engineering Department forty-eight (48) hours prior to any work within LWDD rights-of-

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way to coordinate the extent of work to be completed. All facilities needing inspection must be observed prior to backfilling.

3.4.7.4

Permittee shall restore LWDD's right-of-way to its original or better condition where disturbed by construction activity.

3.4.7.5

LWDD cannot accept any water from dewatering either on or off-site until written notification of approval from South Florida Water Management District has been submitted to LWDD.

3.4.7.6

All underground utility installations in LWDD rights-of-way must have a minimum depth (cover) of thirty-six inches (36"). All underground utilities placed within the LWDD's canal rights-of-way must be identified with LWDD approved permanent witness markers identifying utility type and location.

3.4.7.7

Permittee shall take all reasonable precautions necessary to prevent turbidity or silting upstream or downstream during construction.

3.4.7.8

At the time of installation, a permanent benchmark shall be established at 2nd order, class II or better on top of the control structure(s) with the elevation clearly defined, pursuant to the National Geodetic Survey standards and requirements for leveling.

3.4.7.9

Permittee shall submit record drawings within sixty (60) days of project completion. Drawings should show, as a minimum, both plan and profile views of the installation and revetment limits, dimensions, and details, as applicable. Failure of the Permittee to provide these drawings within the time specified may result in LWDD requesting that all jurisdictional agencies withhold their final approvals until the drawings are received and approved by LWDD.

3.4.7.10

Permittee shall obtain any and all permits required by EPA, FDEP, USACE, FDOT, SFWMD, Palm Beach County, and/or any municipality that may be involved, prior to the commencement of any construction.

3.4.7.11

Permittee agrees that the stormwater discharge authorized by this permit shall comply with all applicable provisions of Part IV of Chapter 373, Florida Statutes, as well as applicable management and storage of surface water rules, including but not limited to, 40E-4.301, 40E-400.215, and 40E-400.315, Florida Administrative Code, and Section 5.2 of the SOUTH FLORIDA WATER MANAGEMENT DISTRICT Basis of Review. All costs of correcting any violations of SOUTH FLORIDA WATER MANAGEMENT DISTRICT law and rules shall be the exclusive obligation of Permittee.

3.4.7.12

All unpermitted drainage facilities installed before or during construction shall be removed prior to the project's final acceptance.

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3.4.7.13

Permittee has provided a bond in favor of LWDD in the amount of 110% of the cost of the permitted facility and its installation. Bond will be released upon issuance of final inspection by LWDD and Permittee's submittal of record drawings to LWDD. The cost will be based on an estimate prepared and signed and sealed by a professional engineer registered in the State of Florida.

3.4.7.14

Permittee agrees that significant construction must start within two (2) years of the date of permit issuance or this permit is void and a new permit must be applied for prior to any construction activity on site. The new application must meet current operating policies.

3.4.7.15

The Permittee, LWDD approved assignees, or successors in title agree to operate and maintain the drainage system in perpetuity.

3.4.7.16

Permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system. LWDD reserves the right to require that additional water quality treatment methods shall be incorporated into the drainage system, if such measures are shown to be necessary based on local, SFWMD, USACE, FDEP and/or EPA standards that are required.

3.4.8 Conditions upon which Work within LWDD Right(s)-of-Way May be Required of a Petitioner or an Applicant

Proposed improvements to property that is adjacent to a LWDD canal, or part of a parent tract (same property owner or contiguous master plat) that is adjacent to a LWDD canal, or proposed improvements within LWDD canal right(s)-of-way, may be conditioned, when and if permitted by LWDD, to do canal work. This canal work may include, but may not necessarily be limited to, canal channel and maintenance berm relocation, canal channel and maintenance berm reshaping, dredging, filling, sloping, channel side slope stabilization, sodding and/or seeding and mulching.

Projects that may be conditioned to do canal work are projects that propose to make improvements to the adjacent property and which improvements may directly affect the facilities of LWDD.

Also, projects within adjacent property that have existing conditions that have, in the past, adversely affected the facilities of LWDD, even if the proposed improvements will not directly affect the facilities of LWDD, may be required to do canal work.

Any requirements or conditions for canal work may be independent of any LWDD right-of-way ownership and interest requirements. These LWDD

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right-of-way ownership and interest requirements can be found in Chapter 5: Right-of-Way Ownership & Interests of the LWDD Operating Policies Manual.

Engineering and permitting requirements can be found in Chapter 3: Engineering & Permitting Requirements of the LWDD Operating Policies Manual.

LWDD PERMIT APPLICATION

Project Name/Description _____

2c. Property Control Number (for applicable parcels) _____

2d. Job, Agent or Government Project Number _____

2e. Receiving/Adjacent Canal(s): _____ **2f. Project Acreage:** _____

3. Agent*: _____

Address: _____

City: _____ **State:** _____ **Zip** _____ **Code:** _____

Phone #: _____ **Fax:** _____ **Job #:** _____

Project Engineer: _____ **Phone #** _____

Project Engineer's email address: _____

I hereby certify that I am an authorized agent of the owner.

Signature & Printed Name of Agent

Date

* Agent must provide letter of authorization from owner.

4. Owner/Applicant: _____ **Phone #:** _____

Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Signature & Printed Name of Owner/Applicant

Date

LWDD PERMIT APPLICATION

Project Name/Description _____

**Checklist of items (if applicable) to be included with a Permit Application
(Please check each item that is included with your permit application)**

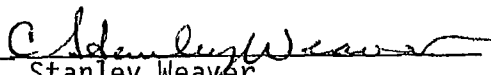
- Two (2) sets of signed & sealed design plans.
- One (1) set of signed & sealed drainage calculations for the appropriate frequency design storm event.
- Control structure(s) shown on the detail sheet of design plans shall be a fixed metal plate or wall, moveable metal plate or a combination of both. All dimensions and elevations shall be shown on design plans.
- Discharge pipe and/or endwall shown on detail sheet of the design plans shall meet LWDD & FDOT standards and specifications.
- Existing canal cross section with canal design section overlay, if applicable.
- Check for inspection/administrative fees if required, including itemization of fees. **See Chapter 2 – Fees, of LWDD Operating Policies manual.**
- Map of Survey and/or sketch of description (signed and sealed)
- Drawing describing the proposed use or facilities (to scale if possible)
- Copy of other Agency permits (if applicable)
- Other information pertinent to the application
- A benchmark shall be provided on the discharge control structure.

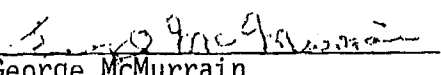
RESOLUTION NO. 87-4

BE IT RESOLVED that every landowner of the Lake Worth Drainage District is entitled to a reasonable number of crossings of canals adjacent to their own lands providing the canal crossings are constructed in accordance with the current standards and policies of the Lake Worth Drainage District so as to not adversely affect the uninterrupted free flow of water in the canal system of Lake Worth Drainage District.


Authorized signatures:

LAKE WORTH DRAINAGE DISTRICT


C. Stanley Weaver
President, Board of Supervisors


George McMurray
Vice-President

(Corporate Seal)


Kermit Dell
Supervisor

Dated this 12th day of August, 1987.