



FINAL DRAINAGE PLAN OVERVIEW

1

Introduction:

The Applicant shall prepare a Final Drainage Plan for each development, which outlines the method proposed for moving stormwater runoff from the developed area to a drainage artery. This Plan shall be submitted to the DISTRICT for review and approval. Only the Board can approve a Final Drainage Plan.

2

Consultation Meeting:

If needed, the Applicant (or designee) may request a consultation with the District Engineer regarding any project prior to initiating planning or design. This meeting is strongly recommended for Applicants who have never worked in BDD # 4.

3

MyGov Portal:

To make an application, an Applicant must first create a MyGov account and access the Brazoria Drainage District No. 4 [portal](#).

4

Submittal:

Fill out the application form, upload the Drainage Plan and any supporting documents, and submit online using MyGov.

5

Application Review:

Within a few days of submitting online, District Staff will review the application for completeness and issue an invoice for any application or review fees.

6

Pay Invoice:

After being notified by MyGov, the Applicant pay the invoice. No further action will be taken on the application until the District has received the required fees.

7

Engineer Review:

The District Engineer will complete a technical review of the Final Drainage Plan and any other supporting documentation. In some instances, the Applicant may be required to address review comments or provide additional information.

8

Board Eligible:

When the Applicant sees a "Board Eligible" notification, this means that the District Engineer and Staff have completed the review. This request will now be placed on an upcoming meeting agenda. Meeting dates are [here](#).

9

Board Approval:

Only the Board of Commissioners can approve or deny the Final Drainage Plan.

**See the following pages for detailed
instructions and criteria.**



Brazoria Drainage District No. 4

A Political Subdivision of the State of Texas

Procedure for Final Drainage Plan Submittals at BDD # 4

Introduction

The Applicant shall prepare a Final Drainage Plan for each development, which outlines the method proposed for moving stormwater runoff from the developed area to a drainage artery. This plan shall be submitted to the DISTRICT for review and approval to ensure that no adverse drainage or flooding conditions will be created along any drainage artery or on adjacent property as a result of the proposed development.

Recommended Consultation Meeting

The Final Drainage Plan shall show the ultimate drainage easement and access point locations for any DISTRICT owned and / or maintained drainage ditches and channels.

A consultation with the District Engineer regarding any required drainage or access easement dedications is strongly recommended in advance of beginning the design process.

Procedure

NOTE – This application includes a requirement to upload Final Drainage Plan sheets and other relevant attachments. A list of the minimum requirements for a Final Drainage Plan are included later in this document. Be sure to have those items ready prior to initiating this process.

1. All applications must be made online using the [MyGov portal](#).
2. All Applicants must have a collaborator account to file an application in MyGov. This [video](#) will assist new Applicants with creating a MyGov account.
3. Click “Create New Project”.



4. For the Project Template, select “Drainage Plan Submittal”.
5. Fill in the project information form.
6. Enter the Project Description. Be descriptive and specific.
7. Enter the Engineer and Developer information.
8. Enter the Location information. If you have difficulty in entering the location, please refer to this [FAQ document](#).

The District website can be found at www.bdd4.org

9. Select an Applicant. NOTE – The email address you provide is the one that MyGov will send notifications to.
10. Click “Create Project”
11. Upload Plan(s) – Final Drainage Plan. This is the part of the application where you upload the Final Drainage Plan. A single PDF file is recommended. This PDF file can contain multiple pages. Pages should be 22” x 34” per District criteria. After selecting the sheet(s) click “continue”.
12. Upload Plan(s) – Support Documents. This is the part of the application where you upload any supporting documentation. This might include a previously approved Drainage Plan or Detention Service Map an example. You are also required to provide a DWG file. The DWG file must be converted to ZIP in order to upload. After selecting the various files click “continue”.
13. The next step in this process is to stage the sheets. “Staging” is where you provide a unique Sheet ID for each sheet of the drainage plan. In future resubmittals, the Sheet IDs in the second submission (resubmittals) have to match exactly the ones used in the initial submission. This is how MyGov will know which version 2 of a given sheet replaces the previous version of the same sheet. After staging the sheets, click “continue”. Next click “submit plans”. Your initial application is now complete.
14. Within a few business days, District Staff will review the application for completeness and issue an invoice for the application fee. The Applicant (selected in Step 9 above) will receive notifications. The Applicant is responsible for monitoring their application in MyGov and any alerts regarding status changes. Further review of the request will not take place until any required fees have been paid.
15. After any fees have been paid, the District Engineer and Staff will review the submission. The District has up to 10 business days to review the submittal. The Applicant will be notified when the review is complete. If the Applicant does not receive a notification within 10 business days, it is recommended that the Applicant contact the District office to inquire about the status. The Applicant will be able to see “items required” status when the review is complete.
16. Final Drainage Plan approval can be granted only by the Board at a DISTRICT meeting. Within three business days of approval by the Board at a DISTRICT meeting, the DISTRICT will provide a copy of the Final Drainage Plan with approval stamps and signatures.

Section 7 – Final Drainage Plan from the District’s Rules, Regulations, and Guidelines is provided in the following pages. This includes some of the specific minimum requirements for obtaining Final Drainage Plan approval.

SECTION 7 – FINAL DRAINAGE PLAN

A. INTRODUCTION

The Applicant shall prepare a Final Drainage Plan for each development, which outlines the method proposed for moving stormwater runoff from the developed area to a drainage artery. This plan shall be submitted to the DISTRICT for review and approval to ensure that no adverse drainage or flooding conditions will be created along any drainage artery or on adjacent property as a result of the proposed development.

B. REQUIREMENTS

The current process for obtaining Final Drainage Plan review and approval will be shown on the DISTRICT website or provided upon request by the DISTRICT office.

The Final Drainage Plan for construction or development within the DISTRICT must meet the following minimum requirements:

1. Construction plan sheets must be 22” x 34”. Contact the DISTRICT office to discuss any requirements of other agencies with jurisdiction *prior to* preparing engineering plans with alternate sheet sizes.
2. Each set of construction plans shall include a sheet which is labeled “Drainage Plan”.
3. Use standard engineering scales. Identify the drawing scale and include a scale bar on each plan sheet. The plans must be clear and legible. Decrease the plan scale and use match lines as needed to ensure compliance with this requirement.
4. Identify the Owner or Developer on the cover sheet. Include the company or entity name, contact person, address, and phone number for the Owner or Developer.
5. Identify the Engineer on the cover sheet. Include the company name, Firm registration number, address, phone number, and name of the Engineer.
6. Show the submittal date and the date of all revisions on the plans including the month, day, and year. Update this information with each resubmittal or revision.
7. Provide a location or vicinity map on the cover sheet drawn to scale. Clearly identify the limits of the property in relation to nearby streets and / or DISTRICT facilities.
8. Provide a benchmark and reference benchmark which includes the datum and year of adjustment. All projects must be tied vertically to a DISTRICT or City benchmark. Provide an adjustment from the project datum to the datum of the current effective FIRM panel when the two datums are different.
9. Show the DISTRICT notes on the construction plans. The DISTRICT notes can be found on the DISTRICT website or obtained in person at the DISTRICT office.

10. Show the DISTRICT signature block on the plan. Include the DISTRICT REF ID# in the space provided.
11. Provide existing topographic contour lines based upon current elevation data. The use of 0.5' contour intervals is preferred. The contour lines must clearly illustrate the topography of the existing elevations on and immediately adjacent to the site. A minimum of two contour lines are required.
12. Identify adjacent, offsite areas. Show the direction of existing runoff for those adjacent areas and show the proposed plan for routing those flow through or around the proposed development to ensure no adverse impact will occur to those adjacent sites. Include runoff and capacity calculations for each proposed structure. If no such condition exists, add a statement on the plans that "No offsite areas will be adversely affected by this proposed development".
13. Provide a cross section off all existing and proposed swales and ditches on site. Show the minimum depth, bottom width, side slopes, and design water surface. Include actual runoff amounts and capacity calculations for each ditch or swale on site to demonstrate sufficient capacity.
14. Provide a cross section for each detention pond. Show and label the top of bank, freeboard, design water surface elevation, static water elevation (if any), bottom elevation, bottom slopes, and side slopes. Dimension maintenance berms. Include detailed calculations for the volume provided.
15. Provide drainage area divides for all project areas including off-site areas which drain toward the project limits. Provide the developed runoff amount for each drainage area, inlet, pipe, swale, or drainage structure. Account for any accumulation of drainage areas in the calculations. Provide the runoff and capacity calculations on the plans to demonstrate that each inlet, pipe, swale, or drainage structure is properly sized.
16. Show and dimension all existing and proposed drainage, storm sewer, and access easements. Contact the DISTRICT Engineer to determine the ultimate drainage easement width and the need for access easements for any DISTRICT facilities within or adjacent to the subject tract.
17. Locate and show all drainage facilities adjacent to or within the subject tract as determined by actual, recent, on the ground survey. For DISTRICT facilities, show the high banks, toe of slopes, flowline, and static water level. Survey shall have been complete within the past year and start 200 feet upstream of and end 200 feet downstream of the subject tract. For any culvert proposed in a ditch, show the first pipe culvert upstream and downstream of the subject tract including the flowline elevation and diameter.
18. Show the detention calculations in accordance DISTRICT requirements including the detention pond service area, the detention amount required, and the detention amount provided. Show floodplain volumes separately from detention volumes. Show the proposed detention rate (exclusive of any floodplain mitigation). For ponds serving multiple projects, include a detention service area map and a ledger showing each allocation of detention mitigation and floodplain mitigation for each section or phase of development.

19. Add a note to the plans referring to the approved Drainage Impact Analysis for the development including the title of the report and the date of Board approval (as applicable). For projects requiring a Drainage Impact Analysis, the Board will not approve the Final Drainage Plan until the Drainage Impact Analysis has received Board approval. This Drainage Impact Analysis must be approved at a separate, prior meeting.
20. Show the existing, allowable runoff rate, the restrictor sizing analysis, and the proposed runoff rate.
21. Provide the drainage area map for the downstream pipe, ditch, or system which will receive runoff from the subject tract. Include calculations to substantiate available capacity in the receiving system downstream.
22. Show and label all existing and proposed buildings, structures, paving, impervious cover, or other permanent improvements within the subject tract.
23. Show and label all proposed drainage improvements within the subject tract which will convey the proposed runoff to the receiving drainage system. Label the diameter, material type, slope, and flowlines for all proposed pipes. Label the minimum slopes, side slopes, and flowlines for all ditches and swales.
24. Show and label all proposed structures, utilities, drainage facilities, and permanent improvements where they will cross pipelines, utilities, and ditches. Provide sufficient information for the DISTRICT Engineer to ensure that no crossing conflicts are proposed. Include the size, depth, and location of all underground facilities.
25. For projects requiring variances, add a note regarding each approved Request for Variance and the date of Board approval. Put this note on the cover page and the appropriate plan sheets.
26. Include all of the current DISTRICT details in the plan set whether they apply or not. Do not “x” out any details. Callout the relevant and required standard DISTRICT details by detail number in plan and profile views on the plan sheets.
27. A Professional Engineer registered in the State of Texas must put their seal, signature, and the date on all plan sheets.
28. Provide an AutoCAD (DWG) file for the Final Drainage Plan to the DISTRICT. Provide the base map only and not individual plan sheets. See the DISTRICT website or contact the DISTRICT office for the current requirements and submittal process.

C. APPROVAL

The Board will give approval to the Final Drainage Plan if:

1. There is no proposed increase in the 2-year, 10-year, and 100-year peak discharge from the subject tract and no increase in the 2-year, 10-year, and 100-year peak discharge or water surface elevation in the affected drainage artery; OR

2. Adequate provisions are made to detain the proposed peak discharge to eliminate any increases in the 2-year, 10-year, and 100-year peak runoff leaving the site through the use of proposed detention and a restrictor on the subject tract.
3. Offsite drainage deficiencies in the downstream channel or drainage structure are corrected or improved (at the Developer's expense) to carry the project additional load resulting from the subject tract to a regional detention facility.

Final Drainage Plan approval can be granted only by the Board at a DISTRICT meeting. Within three business days of approval by the Board at a DISTRICT meeting, the DISTRICT will provide a copy of the Final Drainage Plan with approval stamps and signatures.

DISTRICT approval of a Final Drainage Plan does not relieve the Applicant of the responsibility for obtaining the approval of other agencies or third parties.

See Section 12 – Expiration of Approvals.

D. DENIAL

In the event that the DISTRICT denies approval of the Final Drainage Plan, the DISTRICT shall provide the Applicant with a written letter and / or plan markup within three business days identifying the parts of the projects which are not in compliance with the DISTRICT's Flood Protection Plan and / or Rules, Regulations, and Guidelines.

E. APPEAL

In the event that the DISTRICT denies approval of a Final Drainage Plan, the Applicant may appeal such denial in accordance with the procedures set forth in these Rules, Regulations, and Guidelines.