

Section 200 Stormwater Permit Requirements

Section 200.01 Residential ITT (Infill) Lot Building Permit Application

A. INITIAL APPLICATION FOR BUILDING PERMIT

1. The Initial Application for Building Permit shall be accompanied by:

a. One Lot Grading & Drainage Plan

- (1) The Lot Grading & Drainage Plan shall be signed, dated, and sealed by a Florida licensed Professional Engineer in accordance with Florida Statute 471.025 and Florida Administrative Code 61G15-23.004 "Procedure for Digitally Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.

b. Lot Grading & Drainage Plans (LGDP). Lot Grading & Drainage Plans shall include topographic survey data documenting existing conditions and include, at a minimum:

- (1) Finished Floor Elevation (FFE) of the living area of all improved structures on adjacent (left and right sides) lots.
 - If there is no improved property on the left or right, the closest improved adjacent FFE shall be provided.
- (2) The elevations on all adjacent properties at a minimum of 20-foot intervals on a 10-foot offset outside the property lines.
- (3) The elevations at 20-foot intervals along all property lines. There must be sufficient elevation shots to indicate the proposed drainage pattern.
- (4) The elevations interior to the lot at no greater than a 20-foot grid.
- (5) Elevations at the lot corners, at foundation corners, along all sides of the proposed building, and 10 feet off the proposed building are required in addition to the 20-foot grid.
- (6) The road centerline (RCL) and edge of pavement (EOP) elevations (also on a 20-ft grid) for roadways adjacent to and along all property lines, including EOP in cul-de-sacs at 9, 12, and 3 o'clock positions.
- (7) The elevations and/or inverts of all drainage structures within 100 feet of the property lines, including culverts, inlets, swales, weirs, etc. both upstream and downstream of the property. This includes the ditch bottom and top of bank of ditches located on the property or in Reserved Parcels adjacent to the property.
- (8) All hard elevations are to be expressed to nearest 0.01 foot; all soft/ground elevations may be expressed to the nearest 0.1 of a foot.
- (9) An on-site, easily identifiable benchmark referenced to NAVD 1988 (e.g., fire hydrant, nail in power pole [1 nail per power pole], and manhole covers). Pavement nails will not be accepted unless none of the above locations are available on site (nails in pavement should not be set inside a road cut). (The benchmark must be maintained throughout the construction cycle by the contractor and will be used in the swale plan and Final Survey). NAVD 1988 data sheets are available <http://www.ngs.noaa.gov>.
- (10) The driveway width at the property line (minimum 10 feet) and at the edge of pavement (EOP) (minimum 16 feet). Note: a driveway near an intersection on the same side as a stop sign must be a minimum of 65 feet from the intersection centerline to the flare of the driveway.
 - The type and size of culvert pipe to be installed shall be indicated on Plans.
 - Note: A change in the type or size of the culvert, requires the contractor to contact the City in order to have the Swale Plan Diagram revised to reflect changes.

- (11) All flatwork, i.e., sidewalks, walkways, air-conditioning (AC) pads, patios or other hardscaping must be shown on the LGDP.
- No items (including vegetation and/or mulch) can impact the drainage flow or maximum slope of the drainage conveyance. This may result in these items being placed in the back of the structure or removed.
 - The Finished Floor Elevation (FFE) of the proposed home's living space, attached and / or detached garages, attached and / or detached patios, lanais, porches, exterior door landings, sidewalks and similar shall be shown.
 - All attached garages, patios, lanais, porches, exterior door landings, sidewalks and similar shall show an FFE of not less than 0.33 tenths of a foot (4 inches) lower than the FFE of the home's living space. Exception: Access ramps may rise to the FFE of the interior living space for the width of the ramp only.
 - All attached patios, lanais, porches, exterior door landings, sidewalks and similar and those located within 10 feet of the proposed home shall show a minimum slope perpendicular to the foundation of not less than 2%. Attached and detached garages shall show a positive slope to facilitate drainage towards the vehicle entrance.
 - Location of PEP tank shall not impede the drainage conveyance.
- (12) The elevation of finished grading at corners and at 10-foot intervals directly adjacent to the home's foundation on all sides shall be shown. Finished grade elevations shall not be less than 0.33 tenths of a foot (4 inches) lower than the FFE of the living area for CMU construction and not less than 0.5 tenths of a foot (6 inches) lower than the FFE of the living area for wood framed construction and where siding or foam plastic insulation is installed.
- The elevation at the front property line shall be shown at 10-foot intervals and shall match the elevation of the edge of pavement (EOP).
 - The FFE of the home's living space shall not be less than 12 inches above the crown of the road.
 - The FFE shall be at the lowest elevation necessary to provide positive slope to convey stormwater to the drainage outfall but no higher than 1.83 feet (22 inches) above the crown of the road.
 - Exception: a higher FFE may be approved by the City Engineer.
 - The FFE shall be no more than 0.833 of a foot (10 inches) different than the lowest FFE of the adjacent (left and right side) lots.
 - FFE should not be lower than existing homes unless there is a site-specific condition (ex. Road and ground slope downward).
 - The FFE of homes proposed within subdivisions with a City approved Preliminary Plat application shall match the FFE shown on the approved plans.
- (13) Proposed swale and culvert elevations must meet the minimum requirements of the swale plan.
- (14) The proposed elevations shall be shown at all locations of existing elevations per the topographic survey.
- (15) Identify how the rear yard will be drained. The rear yard is required to drain to the front yard swale, unless the LGDP demonstrates a rear yard drainage system with an appropriate outfall. Draining onto adjacent properties will not be allowed outside of the platted 5' drainage easement.
- (16) All hard elevations are to be expressed to the nearest 0.01 foot. All soft/ground elevations can be expressed to the nearest 0.1 foot.
- (17) The proposed slopes on the property shall not exceed 4:1 and all slopes must adjoin existing property lines at no greater than a 4:1. Slopes along developable vacant lots shall have a stabilized slope of no greater than 2:1 in expectation that the vacant lot will be graded to match the adjoining property elevation (Common Swale).
- Where an adjacent developed lot does not have a clearly defined swale along the edge of the property, the new lot must utilize a "W" swale as part of their proposed grading plan.
 - The minimum fall from the rear property line to the front is 0.50 of a foot.
 - The top of slope of "W" swales along the property lines shall be a minimum of 0.30 of a foot higher than the toe of slope.
- (18) Backfilling against existing fencing on an adjacent or rear property is not permitted.

- (19) The Lot Grading & Drainage Plan must identify how any low spots on the property (including property lines) are drained.
- (20) A grade elevation profile drawing is required when the proposed structure is on a saltwater canal lot.
- (21) Permanent Flat work, i.e., slabs, walkways, hardscaping, patios, or any other obstructions to the drainage flow are not allowed in the 5-foot utility easement.

c. Formboard Survey

- (1) Signed and sealed Formboard Survey, which states the FFE, and the benchmark elevation used on the LGDP.
- (2) The FFE must be within 0.2 of a foot of the FFE that was approved and stated on the LGP.
- (3) The FFE must also meet the 10-inch, and 22-inch requirements referenced in A.1.c.3.

Future inspections are contingent upon an approved Formboard Survey

d. Elevation Certificates - Flood Zones

- (1) Elevation Certificates will be required for structures that are located within a Special Flood Hazard Area.
- (2) Foundation Surveys and Final Surveys are still required for structures that are located within a Special Flood Hazard Area.

Future inspections are contingent upon an approved Elevation Certificate for structures located in Special Flood Hazard Areas

e. Final Lot Grading & Drainage Certification. The Final Lot Grading & Drainage Certification is used to verify compliance with the Lot Grading & Drainage Plan and Swale Plan.

- (1) A Final Lot Grading & Drainage Certification (LGDC) shall be submitted by the contractor through the City's permitting portal in accordance with the City's published permitting process.
- (2) The Final Lot Grading & Drainage Certification shall be completed on a form provided by the City, a current version of which, is maintained on the City's website. Final Lot Grading & Drainage Certifications submitted in any other format other than the City's form will be rejected by the City and not reviewed. Any modifications made to the City's Lot Grading & Drainage Certification will result in the City rejecting the submittal.
- (3) The City's Final Lot Grading & Drainage Certification form may change from time-to-time reflecting periodic revisions to the City's stormwater design criteria. Only the current Final Lot Grading & Drainage form shall be completed and submitted for review. The City reserves the right to reject any Final Lot Grading & Drainage Certification not using the current City form contained on the City's website.
- (4) If the Final Lot Grading & Drainage Certification is incomplete, unclear, has been modified in any way, does not contain all stormwater grading and drainage design information, or otherwise does not adequately depict the actual "as constructed" drainage patterns, and/or if the as constructed drainage is incorrect, the Certification will be disapproved until corrections are made and a revised Final Lot Grading & Drainage Certification is resubmitted for review and approval.
- (5) Final Lot Grading & Drainage Certification shall comply with all of the following:
 - (a) A complete Final Lot Grading & Drainage Certification form provided by the City and consisting of three parts.
 - The completed Final Lot Grading & Drainage Certification checklist
 - A blank page or pages as necessary to be completed by the professional engineer, describing discrepancies between the City approved Lot Grading & Drainage Plan and the Final Lot Grading & Drainage Plan along with an explanation of any modifications, improvements and/or other means incorporated to ensure properly functioning grading and drainage conditions are consistent with the intent of the approved Lot Grading & Drainage Plan to include engineering design of any physically constructed drainage conveyances such as trickle channels, retaining walls, pipelines, yard inlets and similar drainage structures.
 - The "as constructed" Final Lot Grading & Drainage Plan that graphically documents, illustrates and depicts the as constructed lot grading and drainage conditions at completion of the home after completion of all site improvements and landscaping including installation of sod.

(b) The certification form to be signed and sealed by a Florida licensed professional engineer. In accordance with Florida Statute 471.025 and Florida Administrative Code 61G15-23.004 "Procedure for digitally Signing and Sealing electronically Transmitted Plans, Specifications, Reports or Other Documents".

B. ROADSIDE SWALE AND CULVERT

1. During construction, a 12" minimum temporary culvert pipe shall be installed to maintain flow in the swale.
 - a. Dumpsters, portable toilets, vehicles, debris, etc. are not permitted in the ROW.
 - b. Any damage done to the ROW on or adjacent to the construction shall be the responsibility of the contractor to repair.
2. The tolerance on the final swale elevations, compared to the Swale Plan, is plus or minus 0.10 of a foot and must demonstrate positive fall in the direction described in the swale plan.
3. The tolerance on individual shots along the as-built flow line of the swale (depressions or high spots) is plus or minus 0.10 of a foot.
4. The driveway culvert(s) must be set within the range established by the Swale Plan. The culvert cannot be sloped against the drainage flow, nor shall it be sloped more than 0.10 of a foot in the direction of the drainage flow.
5. The City of Palm Coast swale profile drawings are in this Manual.

IF THERE ARE ANY QUESTIONS ABOUT CULVERT LOCATIONS OR ELEVATIONS, CALL BEFORE FORMING THE DRIVEWAY/CULVERT.

C. EROSION CONTROL

1. Erosion Control will be required for all residential lots. Erosion Control measures shall be installed along both sides and rear property lines. The contractor will be notified if additional Erosion Control Measures are required at any time during the construction. Lot clearing cannot begin prior to the permit being issued.
2. Erosion control measures shall remain in place until the contractor is ready to final grade the lot.
3. Erosion control measures are defined in Drawing 300.B, and LDC 9.04.06.

D. INSPECTIONS

4. The builder's box must be accessible at all times. The construction site must have the address clearly displayed and the Builders Box must include the following documents before an inspection will be conducted:
 - a. Inspection Card
 - b. Lot Grading & Drainage Plan
 - c. The City of Palm Coast Swale Plan
 - d. Paver Detail Sheet if applicable
5. A pre-lot clearing inspection for road damage may be requested by the contractor. If an inspection has not been requested, the contractor will be responsible for all road, swale, and stormwater infrastructure damage at the time of the final inspection.
6. All inspections may be scheduled by utilizing the City's automated inspection request system or the online permitting portal.
7. Final inspections may be scheduled by the contractor only after the Final Survey has been approved.

Section 200.02

Residential Subdivision Lot Building Permit Application

A. INITIAL APPLICATION FOR BUILDING PERMIT

1. The Initial Application for Building Permit shall be accompanied by:
 - a. One Lot Grading & Drainage Plan:
 - b. The Lot Grading & Drainage Plan shall be signed and sealed by a Florida licensed Professional Engineer in accordance with Florida Statute 471.025 and Florida Administrative Code 61G15-23.004 "Procedures for Digitally Signing and Sealing Electronically Transmitted Plans, Specifications, Reports or Other Documents.
 - c. Lot Grading & Drainage Plan (LGDP). The Lot Grading & Drainage Plan shall include topographic survey data documenting existing conditions and include, at a minimum:
 - (1) Finished Floor Elevation (FFE) of the living area of all improved structures on adjacent (left and right sides) lots.

- If there is no improved property on the left or right, the closest improved adjacent FFE shall be provided.
 - (2) The elevations on all adjacent properties at a minimum of 20-foot intervals on a 10-foot offset outside the property lines.
 - (3) The elevations at 20-foot intervals along all property lines. There must be sufficient elevation shots to indicate the proposed drainage pattern.
 - (4) Elevations at the lot corners, at foundation corners, along all sides of the proposed building, and 10 feet off the proposed building are required in addition to the 20-foot grid.
 - (5) The road centerline (RCL) and edge of pavement (EOP) elevations (also on a 20-foot grid) for roadways adjacent to and along all property lines, including EOP in cul-de-sacs at 9, 12, and 3 o'clock positions.
 - (6) All hard elevations are to be expressed to nearest 0.01 foot; all soft/ground elevations may be expressed to the nearest 0.1 of a foot.
 - (7) An on-site, easily identifiable/accessible benchmark referenced to NAVD 1988 (e.g., fire hydrant, manhole covers). (The benchmark must be maintained throughout the construction cycle). NAVD 1988 data sheets are available <http://www.ngs.noaa.gov>.
 - (8) The driveway width at the property line (minimum 10 feet) and at the edge of pavement (EOP) (minimum 16 feet). Note: a driveway near an intersection on the same side as a stop sign must be a minimum of 65 feet from the intersection centerline to the flare of the driveway.
 - (9) All flatwork, i.e., sidewalks, walkways, air-conditioning (AC) pads, patios or other hardscaping must be shown on the LGDP.
 - No items (including vegetation and/or mulch) can impact the drainage flow or maximum slope of the drainage conveyance. This may result in these items being placed in the back of the structure or removed.
 - d. The elevation of finished grading at corners and at 10-foot intervals directly adjacent to the home's foundation on all sides shall be shown. Finished grade elevations shall not be less than 0.33 tenths of a foot (4 inches) lower than the FFE of the living area for CMU construction and not less than 0.5 tenths of a foot (6 inches) lower than the FFE of the living area for wood framed construction and where siding or foam plastic insulation is installed.
 - FFE of homes within newly platted subdivisions shall match the COPC approved Preliminary Plat application.
 - (2) The proposed elevations shall be shown at all locations of existing elevations per the topographic survey.
 - (3) Identify how the rear yard will be drained. The rear yard is required to drain per the approved Plat/Construction Plans.
 - (4) All hard elevations are to be expressed to the nearest 0.01 foot. All soft/ground elevations can be expressed to the nearest 0.1 foot.
 - (5) The proposed slopes on the property shall not exceed 4:1 and all slopes must adjoin existing property lines at no greater than a 4:1.
 - The minimum fall from the rear property line to the front is 0.50 of a foot.
 - (6) Backfilling against existing fencing on an adjacent or rear property is not permitted.
 - (7) The [LGDP](#) must identify how any low spots on the property (including property lines) are drained.
 - (8) Lot Grading & Drainage Plan shall match COPC approved Preliminary Plat application grading.
2. Formboard Survey
- a. Signed and sealed Formboard Survey, which states the FFE, and the benchmark elevation used on the LGDP.
 - b. The FFE must be within 0.2 of a foot of the FFE that was approved and stated on the LGDP.
- *Future inspections are contingent upon an approved Formboard Survey***
3. Final Lot Grading & Drainage Certification (LGDC). The Final Lot Grading and Drainage Certification is used to verify compliance with the Lot Grading & Drainage Plan.
- a. A Final LGDC shall be submitted by the contractor through the City's permitting portal in accordance with the City's published permitting process.
 - b. The Final LGDC shall be completed on a form to be provided by the City, a current version of which, is maintained on the city's website. Final LGDC submitted in any other format other than the city's form will be rejected by the City and not reviewed. Any modifications made to the City's LGDC will result in the City rejecting the submittal.

- c. The City's Final LGDC form may change from time-to-time reflecting periodic revisions to the city's stormwater design criteria. Only the current Final LGDC form shall be completed and submitted for review. The City reserves the right to reject any Final LGDC not using the current City form contained on the City's website.
- d. If the Final Lot Grading Drainage Certification is incomplete, unclear, has been modified in any way, does not contain all stormwater grading and drainage design information, or otherwise does not adequately depict the actual "as constructed" drainage patterns, and/or if the as constructed drainage is incorrect, the Certification will be disapproved until corrections are made and a revised form is resubmitted for review and approval.
- e. Final Lot Grading & Drainage Certifications shall comply with all of the following:
 - (1) A completed Final Lot Grading & Drainage Certification form provided by the City and consisting of three parts.
 - The completed Final Lot Grading & Drainage Certification checklist.
 - A blank page or pages as necessary to be completed by the professional engineer, describing discrepancies between the City approved LGDP and the Final LGDP along with an explanation of any modifications, improvements and/or other means incorporated to ensure properly functioning grading and drainage conditions are consistent with the intent of the approved LGDP to include engineering design of any physically constructed drainage conveyances such as trickle channels, retaining walls, pipelines, yard inlets and similar drainage structures.
 - The "as constructed" Final LGDP that graphically documents, illustrates and depicts the as constructed lot grading and drainage conditions at completion of the home after completion of all site improvements and landscaping including installation of sod.
 - (2) The Certification Form to be signed and sealed by a Florida licensed professional engineer, in accordance with Florida Statute 471.025 and Florida Administrative Code 61G15-23.004 "Procedure for Digitally Signing and Sealing electronically Transmitted Plans, Specifications, Report or Other Documents".

B. EROSION CONTROL

- 8. Erosion Control will be required for all residential lots. Erosion Control measures shall be installed along both sides and rear property lines. The contractor will be notified if additional Erosion Control Measures are required at any time during the construction. Lot clearing cannot begin prior to the permit being issued.
- 9. Erosion control measures shall remain in place until contractor is ready to final grade the lot.
- 10. Erosion control measures are defined in Drawing 300.C, and LDC 9.04.06.

C. INSPECTIONS

- 1. The builder's box must be always accessible. The construction site must have the address clearly displayed and the Builders Box must include the following documents before an inspection will be conducted:
 - a. Inspection Card
 - b. Lot Grading & Drainage Plan
 - c. Paver Detail Sheet if applicable
- 2. All inspections may be scheduled by utilizing the City's automated inspection request system or the online permitting portal.
- 3. Final inspections may be scheduled by the contractor only after the Final Survey has been approved.