

- c. whether any component of the development, such as installation of roads or utilities, or construction of structures in critical dune areas or seaward of a dune protection line, will subsequently require a Coastal Construction Permit;
 - d. if a Coastal Construction Permit will be necessary, the County will require the developer to apply for the permit as part of the master planned development approval process; and
 - e. the allocation of responsibilities for complying with the terms of the master plan. This includes, but is not limited to construction and maintenance of mitigation, and liability for violations of the terms of the master plan order.
2. If the County Building Official determines that all development contemplated by the master plan complies with all requirements of this Order, a permit for the development may be issued after receiving approval from the GLO; provided however that approval may be issued without receiving approval from the GLO if at least thirty (30) days have expired since the GLO's receipt of the application and the GLO has not submitted comments on the application or request for extension of time.
 3. If the County Building Official determines that any development contemplated by the plan does not comply with the requirements of this Order and for that reason cannot be approved without an amendment to this Order, the County Building Official will not issue a permit, but may submit the plan to the GLO for consideration as an amendment to this Order pursuant to Section 15.3(o) of the Beach/Dune Rules.

N. Variances from Federal Requirements

The Building Official will inform the GLO and FEMA Region 6 before the County issues any variance from FEMA's regulations found in Volume 44 of the Code of Federal Regulations, Parts 59-77.

III. REQUIREMENTS FOR ISSUANCE OF COASTAL CONSTRUCTION PERMITS

A. Issuance or Denial of Permit

1. Data Considered - To determine whether to issue or deny a permit, the County will review and consider:
 - a. the information in the permit application;
 - b. the recommendations and findings of the Building Official;
 - c. the proposed activity's consistency with the GLO Rules and this Order, including the dune protection and beachfront construction standards contained in both;
 - d. any other law relevant to dune protection and public beach use and access which affects the activity under review;
 - e. the comments of the GLO. The County shall not act on a permit application if the GLO have not received the application at least ten working days before the County is first scheduled to act on the permit. However, the County may act on the permit if the GLO received the application at least ten working days before the County is scheduled to act and the state agencies have not submitted comments. Thereafter, the permit may be issued or denied regardless of whether the state agencies submit comment on the application. If the state agency comments on the application, the receiving County authority must forward copies of the comments to the Building Official;

- f. cumulative and indirect effects of the proposed construction on all dunes and dune vegetation within critical dune areas or seaward of a dune protection line;
 - g. cumulative and indirect effects of other activities on dunes and dune vegetation located on the proposed construction site;
 - h. the pre-construction type, height, width, slope, volume, and continuity of the dunes, the pre-construction condition of the dunes, the type of dune vegetation, and percent of vegetative cover on the site;
 - i. the local historical erosion rate as determined by the University of Texas at Austin, Bureau of Economic Geology, and whether the proposed construction may alter dunes and dune vegetation in a manner that may aggravate erosion;
 - j. all practicable alternatives to the proposed activity, proposed site, or proposed methods of construction;
 - k. the applicant's mitigation plan for any unavoidable adverse effects on dunes and dune vegetation and the effectiveness, feasibility, and desirability of any proposed dune reconstruction and re-vegetation;
 - l. the impacts on the natural drainage patterns of the site and adjacent property;
 - m. any significant environmental features of the potentially affected dunes and dune vegetation such as their value and function as floral or faunal habitat or any other benefits the dunes and dune vegetation provide to other natural resources;
 - n. wind and storm patterns including a history of washover patterns;
 - o. location of the site on the flood insurance rate map;
 - p. success rates of dune stabilization projects in the area; and
 - q. any other information the Building Official considers useful, including resource information made available to it by federal and state natural resource entities.
2. Permits Prohibited - The Building Official will not issue a permit that involves:
- a. inconsistency with this Order or is inconsistent with any other state, local and federal laws related to the requirements of the Dune Protection Act and the Open Beaches Act.
 - b. activities that are likely to result in the temporary or permanent removal of sand from the portion of the beach/dune system located on or adjacent to the construction site, including:
 - (1) moving sand to a location landward of the critical dune area or dune protection line; and
 - (2) temporarily or permanently moving sand off the site, except for purposes of permitted mitigation, compensation, or an approved dune restoration or beach nourishment project, and then only from areas where the historical accretion rate is greater than two feet per year, and the project does not cause any adverse effects on the sediment budget;
 - c. depositing sand, soil, sediment, or dredged spoil which contains the hazardous substances listed in Volume 40 of the Code of Federal Regulations, Part 302.4, in concentrations which are harmful to people, flora, and fauna as determined by applicable, relevant, and appropriate requirements for toxicity standards established by the local, state, and federal governments;
 - d. depositing sand, soil, sediment, or dredged spoil which is of an unacceptable mineralogy or grain size when compared to the sediments found on the site (this

- prohibition does not apply to materials related to the installation or maintenance of public beach access roads running generally perpendicular to the public beach);
- e. creating dredged spoil disposal sites, such as levees and weirs, without the appropriate local, state, and federal permits;
 - f. constructing or operating industrial facilities not in full compliance with all relevant laws and permitting requirements prior to the effective date of the GLO Rules;
 - g. operating recreational vehicles;
 - h. mining dunes;
 - i. inconsistency with the concrete slab or fibercrete slab requirements. Slabs are restricted to the following requirements:
 - (1) In eroding areas within 200 feet of the line of vegetation:
 - (a) Slabs must be constructed of unreinforced fibercrete.
 - (b) They shall be a maximum of four feet by four feet with a maximum thickness of four inches.
 - (c) Slabs are restricted to the footprint of the living area of the structure and the area between the footprint of the structure and the street adjacent to the structure to provide a driveway and must not be structurally attached to the building's foundation.
 - (d) Slabs outside the perimeter of the footprint of the habitable structure are only allowed for one driveway. The length of the driveway is limited to directly connecting the footprint of the perimeter of the habitable structure to the street, and the width of the driveway is limited to no more than the width necessary to service two vehicles.
 - (e) Slabs may not be elevated more than one foot above natural grade.
 - (f) Any fibercrete or concrete that now or in the future impacts the natural accretion of sand and vegetation growth within the dune complex will be in violation of the County Floodplain Regulations and this Order. This fibercrete or concrete must be removed by the owner at the owner's expense. If the owner fails to remove this fibercrete or concrete, the County will remove it at the owner's expense plus penalties.
 - (2) In eroding areas greater than 200 feet from the line of vegetation:
 - (a) Slabs may be constructed of fibercrete or concrete.
 - (b) All slabs may not be elevated more than one foot above natural grade.
 - (c) any concrete or fibercrete that now or in the future impacts the natural accretion of sand and vegetation growth within the dune complex will be in violation of the County Floodplain Regulations and this Order. This concrete or fibercrete must be removed by the owner at the owner's expense. If the owner fails to remove this concrete or fibercrete, the County will remove it at the owner's expense plus penalties.
 - (3) The requirements in Special Standards for Eroding Areas, section II(L) of this Order.
 - (4) In non-eroding areas within 200 feet of the line of vegetation:
 - (a) Paving or altering the grade below the lowest habitable floor is prohibited in the area between the line of vegetation and 25 feet from the landward toe of the back dune.

- (b) Slabs outside the perimeter of the footprint of a habitable structure are only allowed for one driveway. The length of the driveway is limited to directly connecting the footprint of the perimeter of the habitable structure to the street, and the width of the driveway is not to exceed to the designated parking areas servicing the structure.
- (c) Concrete slabs may not be elevated more than one foot above natural grade.
- (d) Any concrete that now or in the future impacts the natural accretion of sand and vegetation growth within the dune complex will be in violation of County Floodplain Regulations and this Order. This concrete must be removed by the owner at the owner's expense. If the owner fails to remove this concrete, the County will remove it at the owner's expense plus penalties.
- (5) In non-eroding areas greater than 200 feet from the line of vegetation:
 - (a) Concrete slabs may not be elevated more than one foot above natural grade.
 - (b) Any concrete that now or in the future impacts the natural accretion of sand and vegetation growth within the dune complex will be in violation of County Floodplain Regulations and this Order. This concrete shall be removed by the owner at the owner's expense. If the owner fails to remove this concrete, then the County will remove it at the owner's expense plus penalties.
- (6) Violations of any of these rules are subject to the provisions of the Violations and Penalties section of the Galveston County Flood Damage Prevention Order.
- (7) The use of permeable materials such as brick pavers, limestone, or gravel is recommended for drives or parking areas;
- j. depositing trash, waste, or debris including inert materials such as concrete, stone, and bricks that are not part of the permitted on-site construction;
- k. constructing cisterns, septic tanks, and septic fields seaward of any structure serviced by the cisterns, septic tanks, and septic fields, except that:
 - (1) Previously existing: cisterns, septic tanks, and septic fields seaward of any structure serviced by the cisterns, septic tanks, and septic fields which are in existence prior to the effective date of this Order may be repaired or replaced, provided they do not encroach upon the public beach;
 - (2) Previously permitted: cisterns, septic tanks, and septic fields seaward of any structure serviced by the cisterns, septic tanks, and septic fields that are located in subdivisions platted before the effective date of this Order and which have been permitted before the effective date of this Order may be constructed in accordance with the permit and may be repaired or replaced in the future (as applicable) provided they do not encroach upon the public beach;
 - (3) Previously platted: cisterns, septic tanks, and septic fields may be constructed (and repaired or replaced in the future as applicable) seaward of the structure they are to serve in subdivisions platted before the effective date of this Order provided that they do not encroach upon the public beach and provided that the applicant show that it is not practicable to locate the cisterns, septic tanks, and septic fields landward of the structure they are to serve.
 - (a) Showing that it is not practicable to locate the cisterns, septic tanks, and septic fields landward of the structure they are to serve for the purposes of this subsection III(A)(2)(k)(3) includes a showing of factors that may include, but are

not limited to, that: the structure could be constructed but for this requirement; the structure and/or septic system cannot comply with Texas Commission on Environmental Quality rules due to this requirement; the structure and/or septic system cannot comply with Galveston County Health District requirements due to this requirement; the structure and/or septic system cannot comply with Bolivar Special Utility District requirements due to this requirement; and/or the structure and/or septic system cannot comply with Harris-Galveston Coastal Subsidence District requirements due to this requirement. As well, factors such as the distance of the cisterns, septic tanks, and septic fields from a drainage ditch(s), distance from other water source, distance from other structures, whether an aerobic system is required due to soil quality, financial cost to the applicant, and distance from roadway, slabs, neighboring septic systems, neighboring water wells, and/or neighboring properties may be considered in determining whether it is not practicable to comply with the requirement that the septic system be located landward of the structure it is to serve.

- (b) An applicant who proposes to construct a cistern, septic tank, or septic field seaward of the structure it is to serve must include real property records from the Galveston County Clerk Office to show that the lot was platted before the effective date of this Order.
 - (c) The Building Official shall make the finding on whether it is not practicable to construct the cisterns, septic tanks, or fields landward of the structure they are to serve when an applicant proposes to construct a cistern, septic tank, or septic field seaward of the structure it is to serve in lots platted before the effective date of this Order. The Building Official's finding may be appealed to the County Engineer. If both the Building Official and the County Engineer find that the applicant has not demonstrated that it is not practicable to comply with the requirement that the cistern, septic tank, or septic field be located landward of the structure that it is to serve, then the applicant may appeal to the Commissioners' Court. All appeals must be filed within two (2) weeks of the applicant's receipt of the finding from the Building Official or the County Engineer, as applicable, by filing a written request for appeal in the County Engineer's office. The finding of the Commissioners' Court is final. The finding of whether it is not practicable to comply with the requirement that the cisterns, septic tanks, and septic fields be located landward of the structure they are to serve shall be made by the County.
- (4) construction of cisterns, septic tanks, and septic fields, including repair and/or replacement, must be in compliance with the Galveston County Health District Construction Standards for On-Site Sewerage Facilities and as the standards may hereinafter be amended or replaced, Chapter 366 of the Texas Health and Safety Code, Chapters 30 and 285 of Title 30 of the Texas Administrative Code, other County orders, and state or federal laws or regulations; and
- (5) this Order does not authorize and shall not be construed to authorize the construction of cisterns, septic tanks, and septic fields, including repair and/or replacement, where such is prohibited by Galveston County Health District Construction Standards for On-site Sewerage Facilities and as the standards may

hereinafter be amended or replaced, Chapter 366 of the Texas Health and Safety Code, Chapters 30 and 285 of Title 30 of the Texas Administrative Code, other County orders, and state or federal laws or regulations.

- l. detonating bombs or explosives;
 - m. reducing the size of the public beach in any manner; and
 - n. closing or otherwise impairing any existing public beach access points unless the County simultaneously provides or requires the permittee to provide equivalent public access.
3. Required Findings - The Building Official may issue a permit only if the Building Official finds as a fact, after a full investigation, that:
 - a. the particular conduct proposed will not materially weaken any dune or materially damage dune vegetation or reduce the effectiveness of any dune as a means of protection against erosion and high wind and water. In making the finding as to whether such material weakening or material damage will occur, the County will use the following technical standards. If any of these standards are not met, the activity will result in material weakening or material damage and a permit will not be issued. The standards are:
 - (1) the activity shall not result in the potential for increased flood damage to the proposed construction site or adjacent property;
 - (2) the activity shall not result in runoff or drainage patterns that aggravate erosion on or off the site;
 - (3) the activity shall not result in significant changes to dune hydrology;
 - (4) the activity shall not disturb unique flora or fauna or result in adverse effects on dune complexes or dune vegetation; and
 - (5) the activity shall not significantly increase the potential for washovers or blowouts to occur.
 - b. the proposed activity is not a prohibited activity as defined in Subsection III(A)(2) of this Order (Permits Prohibited);
 - c. there are no practicable alternatives to the proposed activity that would result in less adverse effects to critical dune areas and impacts cannot be avoided;
 - d. the applicant's mitigation plan will adequately minimize, mitigate, and/or compensate for any unavoidable adverse effects; and
 - e. the proposed activity complies with any applicable requirements of this Order.
 - f. The Building Official shall make an affirmative finding that the proposed activity is consistent with the beach access requirements in this Order or an affirmative finding that the proposed activity is inconsistent with the beach access requirements in this Order.
4. Mitigation Sequence - The mitigation sequence will be used by the County in determining whether to issue a permit, after the determination that no material weakening of dunes or material damage to dunes or dune vegetation will occur within critical dune areas or seaward of the dune protection line. The mitigation sequence consists of avoidance, minimization, mitigation (repairing, rehabilitating, or restoring), and compensation as follows:

- a. Avoidance - avoiding the impact altogether by not taking a certain action or parts of an action; Permittees undertaking construction in critical dune areas or seaward of a dune protection line must use the following avoidance techniques:
 - (1) Routing of non-exempt pipelines: Non-exempt pipelines are any pipelines other than those subject to the exemption in this Order. Permittees may not construct non-exempt pipelines within critical dune areas or seaward of a dune protection line unless there is no practicable alternative.
 - (2) Location of construction and beach access: Permittees proposing construction seaward of dune protection lines and within critical dune areas must locate all such construction as far landward of dunes as practicable. The County will not restrict construction which provides access to and from the public beach pursuant to this provision.
 - (3) Location of roads: Permittees constructing roads parallel to beaches in historically eroding areas must locate the roads as far landward of the critical dune areas as practicable and must not locate such parallel roads within 200 feet landward of the natural vegetation line. This subsection III(A)(4)(a)(3) on the location of roads will not apply on subdivisions platted prior to the adoption of this Order; however, construction on previously platted subdivisions is subject to this Order. The County will review platted subdivision plans when application is made for a road to be built less than 200 feet from the vegetation line and parallel to the beach to determine if there exists a practical means of realigning the proposed road to meet the requirements of this subsection. Roads perpendicular to the beach culminating in cul-de-sacs serving more than one lot may be built less than 200 feet from the vegetation line.
 - (4) Artificial runoff channels: Construction of new artificial channels, including stormwater runoff channels will not be permitted unless there is no practicable alternative.
- b. Minimization - minimizing effects on dunes and dune vegetation by limiting the degree or magnitude of the action and its implementation. If an applicant for a permit demonstrates that the adverse effects on dunes or dune vegetation cannot be avoided and the activity will not materially weaken dunes and dune vegetation, the County may issue a permit allowing the proposed alteration, provided that the permit contains a condition requiring the permittee to minimize adverse effects on dunes or dune vegetation to the greatest extent practicable.
 - (1) Routing of non-exempt pipelines: Non-exempt pipelines are any pipelines other than those subject to the exemption in this Order. If a permittee demonstrates that there is no practicable alternative to crossing critical dune areas, the County may allow a permittee to construct a pipeline across previously disturbed areas, such as blowout areas. Where use of previously disturbed areas is not practicable, the permittee will be required to avoid adverse effects on or disturbance of dune surfaces and will be required to follow the mitigation sequence if the adverse effects are unavoidable.
 - (2) Location of construction and beach access:

- (a) Permittees must minimize construction and pedestrian traffic on or across dune areas to the greatest extent practicable, taking into account trends of dune movement and beach erosion in that area.
 - (b) Permittees may be allowed to route private and public pedestrian beach access to and from the public beach through washover areas or over elevated walkways. If the beach access is public, the County will clearly and conspicuously mark all pedestrian access routes and walkways with permanent signs.
 - (c) The County will minimize proliferation of excessive private access by permitting only the minimum necessary private beach access points to the public beach from any proposed subdivision, multiple dwelling, or commercial facility. In some cases, the minimum beach access points may be only one access point. In determining the appropriate grouping of access points, the County will consider the size and scope of the development.
 - (d) The County and the owners and operators of commercial facilities, subdivisions, and multiple dwellings will post signs in areas where pedestrian traffic is high, explaining the functions of dunes and the importance of vegetation in preserving dunes.
- (3) Location of roads: The County, in its ongoing responsibility for road and drainage maintenance, will, where practicable, achieve the road construction standards for existing and new roads as required for permittees and set out further in this subsection. Following major damage to or destruction of existing roads following storms or hurricanes, the County will evaluate the condition of the road and determine whether the existing road will be permanently closed or repaired or relocated by the County or a future permittee or whether alternate beach access roads will be encouraged as provided for in this section. Criteria to be used in determining the feasibility of repair, relocation or permanent closing will include the extent of damages, the existing road right-of-way, beach access available from other roadways and cost and practicality of repair, restoration or relocation.
- (a) Existing roads: Unless otherwise noted, it is assumed that roads that provide vehicular access from the beach to points landward of the critical dune area are located in the dunes by virtue of their presence in the critical dune area. It is further assumed that the roads are located on dune vegetation, either because some amounts of vegetation are present on the road surface itself or because the roads were constructed over dune vegetation at the time of their construction. Wherever practicable, permittees may be required to improve existing access roads by:
 - (1) elevating to 10 foot current NGVD elevation.
 - (2) creating elevated berms at the dune line that prevent channelization of floodwaters with a goal of a 40 foot width across the top of the berm when measured perpendicular to the beach. Elevated berms may also approximate the elevation of existing dunes where appropriate if vehicles are not prohibited from entering the beach.
 - (3) achieving the standards for new road construction found in this section.

- (b) Wherever practicable, permittees may be required to locate beach access roads in washover areas, blowout areas, or other areas where dune vegetation has already been disturbed. Permittees must build such roads along the natural land contours, to minimize the width of such roads, and where possible, to improve existing access roads with elevated berms near the beach that prevent channelization of flood waters. Wherever practicable, permittees will be required to locate roads at an oblique angle to the prevailing wind direction, and to meet or exceed the following criteria:
 - (1) All future roadways crossing the dunes must be built to 10 foot current NGVD elevation with elevated berms at the dune line to prevent channelization of floodwaters.
 - (2) All future roadways crossing the dunes must be built with 40 foot width across the top surface of the berm as measured perpendicular to the beach.
 - (3) New roadways must be delineated with 8 foot posts or bollards, spaced 4 feet on center, 5 feet in the ground, identifying each side of a maximum 24 foot wide roadway from a point within or landward of the vegetation line, to a point not less than 150 feet landward of the most seaward post or bollard.
 - (4) Roadways must be constructed to current Galveston County requirements.
 - (5) No vehicle parking will be permitted in the dune area where the roadway crosses the dune.
- (c) Wherever practicable, the County will provide vehicular access to and from beaches by using existing roads or from roads constructed in accordance with this section. The County will not apply this provision in a manner which restricts public beach access.
- (d) The County will include in any permit authorizing the construction of roads, a permit condition prohibiting persons from using or parking any motor vehicle on, through, or across dunes in critical dune areas except for the use of vehicles on designated access ways.
- (4) Artificial runoff channels: The County will only authorize construction of artificial runoff channels (that direct stormwater flow) if the channels are located in a manner which avoids erosion and unnecessary construction of additional channels. Permittees will be required to make maximum use of natural or existing drainage patterns, whenever practicable, when locating new channels and stormwater retention basins. However, if new channels are necessary, permittees will be required to direct all runoff inland and not to the Gulf of Mexico through critical dune areas, where practicable.
- c. Mitigating - repairing, rehabilitating, or restoring affected dunes and dune vegetation. Permittees will be required to mitigate damage to dunes and dune vegetation so as to provide, when compared to the pre-existing dunes and dune vegetation, an equal or greater area of vegetative cover and dune volume, an equal or greater degree of protection against damage to natural resources, and an equal or greater degree of protection against flood and erosion damage and other nuisance conditions to adjacent properties.

- (1) A permittee may be allowed to mitigate adverse effects on dunes using vegetative or mechanical means. Permittees proposing to restore dunes must use the following techniques:
 - (a) restore dunes to approximate the naturally formed dune position or location, contour, volume, elevation, vegetative cover, and sediment content in the area;
 - (b) allow for the natural dynamics and migration of dunes;
 - (c) use discontinuous or continuous temporary sand fences or an approved method of dune restoration, where appropriate, considering the characteristics of the site; and
 - (d) restore or repair dunes using indigenous vegetation that will achieve the same protective capability or greater capability as the surrounding natural dunes.
 - (2) Stabilization of critical dune areas - Priority for stabilization will be given to blowouts and breaches when permitting restoration of dunes. Before permitting stabilization of washover areas, the County will:
 - (a) assess the overall impact of the project on the beach/dune system;
 - (b) consider any adverse effects on hydrology and drainage which will result from the project; and
 - (c) require that equal or better public beach access be provided to compensate for impairment of any public beach access previously provided by the washover area.
- d. Compensating - compensating for effects on dunes and dune vegetation by replacing or providing substitute dunes and dune vegetation. Compensation may be undertaken both on-site and off-site; however, off-site compensation may only be allowed as provided below.
- (1) On-site compensation consists of replacement of the affected dunes or dune vegetation on the property where the damage to dunes and dune vegetation occurred and seaward of the local dune protection line. Permittees will be required to undertake compensation on the construction site, where practicable. Permittees must follow the requirements provided in this Order when replacing dunes or dune vegetation.
 - (2) Off-site compensation consists of replacement of the affected dunes or dune vegetation in a location outside the boundary of the property where the damage to dunes and dune vegetation occurred. The landward limit of allowable off-site mitigation is the local dune protection line. A permittee's compensation efforts must take place on the construction site unless the permittee demonstrates the following facts to the County:
 - (a) on-site compensation is not practicable;
 - (b) the off-site compensation will be located as close to the construction site as practicable;
 - (c) the proffered off-site compensation has achieved a 1:1 ratio of proposed adverse effects on successful, completed, and stabilized restoration prior to beginning construction; and
 - (d) the permittee has notified FEMA, Region 6, of the proposed off-site compensation.

- (3) Permittees must provide the following information when proposing off-site compensation:
 - (a) the name, address, phone number, and fax number, if applicable, of the owner of the property where the off-site compensation will be located;
 - (b) a legal description of property intended to be used for the proposed off-site compensation;
 - (c) the source of sand and dune vegetation;
 - (d) all information regarding permits and certificates issued for the restoration of dunes on the compensation site;
 - (e) all relevant information regarding the success, current status, and stabilization of the dune restoration efforts on the compensation site;
 - (f) any increase in potential flood damage to the site where the adverse effects on dunes and dune vegetation will occur and to the public and private property adjacent to that site; and
 - (g) the proposed date of initiation of the compensation. The County will include a condition in each permit authorizing off-site compensation requiring permittees to notify the County in writing of the actual date of initiation within ten (10) working days after compensation is initiated. If the permittee fails to begin compensation on the date proposed in the application, the permittee must provide the County with the reason for the delay. The County will take this reason into account when determining whether a permittee has violated the compensation deadline.
- (4) Compensation for adverse effects on dune vegetation: Permittees will be required to compensate for adverse effects on dune vegetation by planting indigenous vegetation on the affected dunes and the County will consider the recommendations of the GLO, federal and state natural resource agencies, and dune vegetation experts. Permittees may be allowed to use temporary sand fencing or another approved method of dune restoration. A permittee will be prohibited from compensating for adverse effects on dune vegetation by removing existing vegetation from private or state-owned property unless the permittee has received prior written permission from the property owner or the state. In addition to the requirement that permission be obtained from the property owner, all persons are prohibited from removing vegetation from a critical dune area or seaward of a dune protection line unless specifically authorized to do so in a coastal construction permit. The County will include conditions in such permits requiring the permittee to provide a copy of the written permission for vegetation removal and to identify the source of any sand and vegetation which will be used to compensate for adverse effects on dunes and dune vegetation in the mitigation plan contained in the permit application.
- (5) If for any reason, an applicant cannot demonstrate the ability to mitigate adverse effects on dunes and dune vegetation, the County is not authorized to issue the permit. Permittees will be required to use the mitigation sequence as a permit condition if the County finds that an activity will result in any adverse effects on dunes or dune vegetation seaward of a dune protection line or on critical dune areas.

When the County requires mitigation as a permit condition, permittees will be required to follow the order of the mitigation sequence as provided above.

- (6) Permittees will be required to begin compensation for any adverse effect(s) to dunes and dune vegetation prior to or concurrent with the commencement of construction. If compensation is not completed prior to commencement of construction, permittees shall be required to provide the County with proof of financial responsibility in an amount equal to that necessary to complete the mitigation. This can be done in the form of an irrevocable letter of credit, performance bond, or any other instrument acceptable to the County.
- (7) Permittees will be required to conduct compensation efforts continuously until the repaired, rehabilitated, and restored dunes and dune vegetation are equal or superior to the pre-existing dunes and dune vegetation. These efforts will include preservation and maintenance pending completion of compensation.
- (8) A compensation project shall be determined complete when the dune restoration project's position, contour, volume, elevation, and vegetative cover matches or exceeds the surrounding naturally formed dunes.
- (9) The County will provide written notification to the GLO after determining that the compensation is complete. The GLO may conduct a field inspection to verify compliance with the GLO Rules. If the County does not receive an objection from the GLO regarding the completion of compensation within 30 working days after the GLO is notified in writing, the County may certify that the compensation is complete.
- (10) The GLO recognizes that the time necessary to restore dunes and dune vegetation varies with factors such as climate, time of year, soil moisture, plant stability, and storm activity. The permittee shall be deemed to have failed to achieve compensation if a 1:1 ratio has not been achieved within 3 years after beginning compensation efforts.

B. Administrative Record

1. The Building Official will compile and maintain an administrative record which demonstrates the basis for each final decision made regarding issuance of a permit. The administrative record will include copies of the following:
 - a. all materials received from the applicant as part of or regarding the permit application;
 - b. the transcripts, if any, or the minutes and/or tape of the County's meeting during which a final decision regarding the permit was made; and
 - c. all comments received by the County regarding the permit.
2. The Building Official will keep the administrative record for a minimum of three years from the date of a final decision on a permit. This record will be made part of the permanent records of the Office of the County Engineer of Galveston County. The Building Official will send to the GLO, upon its request, a copy of those portions of the administrative record that were not originally sent to the GLO for permit application review and comment. The record must be received by the GLO no later than ten (10) working days after the County receives the request. The GLO will notify the appropriate permittee of the request for a copy of the administrative record from the County. Upon request of the permittee, the Building Official will provide to the permittee copies of any

materials in the administrative record regarding the permit which were not submitted to the Building Official by the permittee or given to the permittee by the County.

C. Term and Renewal of Permits

1. Permits will be valid for no more than three (3) years from the date of issuance.
2. The Building Official may renew a permit for a period not exceeding ninety (90) days if the activity as proposed in the application for renewal complies with this Order and the permittee supplements the original application materials with additional information indicating any changes to the original information. The Building Official may issue only two (2) renewals for each permit. Thereafter, the permittee must apply for a new permit.
3. If the proposed construction is changed in any manner which causes or increases adverse effects on dunes, dune vegetation, or public beach use and access, the permittee will not be eligible for a renewal but must apply for a new permit.
4. If the County authorizes master planned developments, it may adopt a different term limit for permits only if the master planned development is authorized under a separate, state-approved Commissioners' Court order. Each master planned development will be deemed to be a new Commissioners' Court order subject to state approval regarding effects on dunes, dune vegetation, and public beach use and access.

D. Termination of Permits

1. The Building Official may void a permit if:
 - a. the Building Official finds the permit is inconsistent with the GLO Rules or this Order at the time the permit was issued;
 - b. a material change occurs after the permit is issued; or
 - c. a permittee fails to disclose any material fact in the application.
2. Permittees must apply for a new permit or certificate in the event of any material changes, as defined in this Order. Applicants must modify their application disclosing all information relevant to the material changes, if such changes occur before the permit is issued.
3. A permit automatically terminates in the event the certified construction comes to lie within the boundaries of the public beach by artificial means or by action of storm, wind, water, or other naturally influenced causes.
4. Nothing in the permit should be construed to authorize the construction, repair, or maintenance of any construction within the boundaries of the public beach at any time except as prescribed in Sections III(G) and III(I) of this Order.

E. Monitoring

1. The County or the State may require a permittee to conduct or pay for a monitoring program to study the effects of the permittee's coastal and shore protection project on the public beach. Permittees are required to notify the GLO and the County of any discernible change in the erosion rate on their property.

F. Beach Nourishment Standards

Beach nourishment projects will not be authorized by the County unless it finds and the applicant demonstrates that the following requirements are met:

1. the project is consistent with all applicable requirements of this Order;
 2. the sediment to be used is of effective grain size, mineralogy, and quality or is the same as the existing beach material;
 3. the proposed nourishment material does not contain any of the hazardous substances listed in the Code of Federal Regulations, Volume 40, Part 300, in concentrations which are harmful to human health or the environment as determined by applicable, relevant, and appropriate requirements established by the local, state, and federal governments;
 4. there will be no adverse environmental effects on the property surrounding the area from which the sediment will be taken or on the site of the proposed nourishment;
 5. the removal of sediment will not have any adverse impacts on flora and fauna; and
 6. there will be no adverse effects caused from transporting the nourishment material.
- G. Dune Walkover Standards. Construction of dune walkovers or other beach access mechanisms will not be authorized unless the applicant demonstrates that the following requirements are met:
1. The walkover is restricted, to the greatest extent possible, to the most landward point of the public beach.
 2. The walkover is constructed and located in a manner that will not interfere with or otherwise restrict public use of the beach at normal high tides.
 3. The walkover is constructed with its deck or floor at a height above the dune of not less than the width of the walkway portion of the walkover.
 4. Dune walkovers must be constructed and maintained to allow rain and sand to pass through the decking.
 5. Permittees must relocate walkovers to follow any landward migration of the public beach or seaward migration of dunes using the following procedures and standards:
 - a. After a major storm or any other event causing significant landward migration of the landward boundary of the public beach, permittees will be required to shorten any dune walkovers encroaching on the public beach to the appropriate length for removal of the encroachment. This requirement is a condition of any permit issued authorizing construction of walkovers. This assessment must be coordinated with the County.
 - b. In cases where the migration of the landward boundary of the public beach occurs slowly over a period of time or where a dune walkover needs to be lengthened because of the seaward migration of dunes, the permittee must apply for a permit authorizing modification of the structure.
 6. Walkover permitting is subject to Class 2 permit requirements, please see Section II(K) of this Order.
 7. Walkovers over sandsocks/geotube® containment systems must comply with Section III(I)(2) of this Order.

H. General Erosion and Flood Protection Requirements

1. Permittee shall:
 - a. locate all construction as far landward as is practicable;
 - b. not engage in any construction which may aggravate erosion;
 - c. not construct any new erosion response structure unless authorized pursuant to Section III(I) of this Order;

- d. not maintain or repair an existing erosion response structure located on the public beach, unless authorized pursuant to Section III(I) of this Order;
 - e. not enlarge or improve an existing erosion response structure located less than 200 feet landward of the line of vegetation;
 - f. not maintain or repair an existing erosion response structure located less than 200 feet landward of the line of vegetation that is more than 50% damaged, except:
 - (1) when failure to repair the damaged structure will cause unreasonable hazard to a public building, public road, public water supply, public sewer system, or other public facility immediately landward of the structure; or
 - (2) when failure to repair the damaged structure will cause unreasonable flood hazard to habitable structures because adjacent erosion response structures will channel floodwater to the habitable structure;
 - g. not engage in construction that does not comply with FEMA regulations governing construction in flood hazard areas; and
 - h. design construction so as to minimize impacts on natural hydrology. Construction shall not cause erosion to adjacent properties, critical dune areas, or the public beach.
2. However, the County may issue a permit authorizing the construction of a retaining wall, as defined in this Order, in the area more than 200 feet landward of the line of vegetation.

I. Special Projects

- 1. Hard or engineered shore protection projects
 - a. Shore protection projects must be approved by the Commissioners' Court.
 - b. The local sponsor of the project must be a governmental entity specified in Texas Natural Resources Code Section 61.022.
 - c. The shore protection project must be accompanied by a current Coastal Boundary Survey completed by a Licensed State Land Surveyor and submitted to the GLO as required by section 33.136 of the Texas Natural Resource Code.
 - d. The shore protection project must be contingent upon the basis that if the project causes damage to adjoining properties it will be removed.
 - e. The Local Sponsor will be responsible for removing the project if the project impedes public access to and use of the public beach.
 - f. The local sponsor must provide a site plan outlining the placement of the shore protection project.
 - g. The project notice and all applicable documents must be submitted to the GLO for comments at least ten (10) working days prior to approval by the Commissioners' Court for the project.
 - h. If comments are received from the GLO, the Commissioners' Court must review the comments to determine whether or not to authorize the project.
 - i. Activities affecting shore protection projects are subject to the requirements listed below in order to construct and maintain public and pedestrian walkovers over a shore protection project.
- 2. Public Project Walkover Permitting Requirements. Walkovers may be permitted to provide equal or better access to the beach by the public than existed prior to the construction of the shore protection public project. Public and Private pedestrian walkovers over public projects such as the sandsock and future public projects may be

permitted provided the walkovers do not adversely affect public access and use of the beach and the following criteria is met:

- a. The applicant completes an application to construct the walkover through the County Engineers Office, together with all required documentation for standard walkover permit applications.
 - b. The walkover is restricted, to the greatest extent possible to the landward point of the public beach not to extend more than 3 feet from the front section of the scour anchor tube to ensure the public project is not damaged during construction of the walkover.
 - c. The construction of the walkover does not damage the public project by placing any portion of the support beams used for the support of the walkover in the sandsock or anchor tube system.
 - d. The walkover is constructed and located in a manner that will not interfere with or otherwise restrict public use of the beach at normal high tides.
 - e. The applicant will not be allowed to relocate the walkover further seaward if seaward migration occurs without re-evaluation and approval of the Building Official after consultation with the GLO.
 - f. If the walkover impedes public access due to erosion or other factors, the applicant may be required to shorten any walkovers that interfere with the ability of the public to access/use the beach at normal high tides.
 - g. The applicant will be responsible for maintaining, repairing, and removing the walkover if the walkover disrupts public access to and use of the beach after notice from the County Building Official.
 - h. An example of a recommended walkover design is attached in Appendix 2 of this Order, and should be designed on the seaward side at an angle to the prevailing wind direction. See Figure 24 in the Dune Protection and Improvement Manual dated December, 2001 published by the GLO for spacing and height recommendations, which is part of Appendix 2.
 - i. Applicants will be required to place the seaward side of wood walkovers at an angle in order to reduce encroachment onto the public beach.
 - j. Articulated open block mats may be used provided the installation is completed in a manner that will allow for the growth of vegetation.
 - k. Other walkover designs may be permitted provided the applicants design proposal will not damage the project or impede public access and use of the beach.
 - l. ADA walkover designs may be permitted on a case by case basis provided the walkover design does not impede public access and use of the beach at normal high tide.
3. Vehicle Access Points in the Shore Protection Project Area on Bolivar Peninsula. Vehicle Access points in the Shore Protection Project area on the Bolivar Peninsula will be placed in the following areas:
- a. Cade Road approximately 2 $\frac{3}{4}$ miles west of Rollover Pass;
 - b. West entrance to Rollover Pass (Bauer Lane);
 - c. East Entrance to Rollover Pass (Bauer Street);
 - d. Kirkpatrick (which replaces Daigle, which replaced a prior vehicle access point at Legers) approximately 4,500 feet east of Rollover Pass; and
 - e. Other areas identified at a later date if required.

4. Research Projects. As conditions warrant Galveston County may try on a temporary basis research projects to enhance pedestrian and vehicle access technologies in order to assess new methods and techniques on a limited trial bases. Proposals to implement research projects will be coordinated with the Building Official and forwarded to the GLO for comments.
5. Consistency Determinations. Any future request for Federal Funding for new projects that will be constructed in the Beach Dune System will be coordinated with the Coastal Coordination Council to ensure consistency requirements for federal funding are addressed.
6. Beachfront Construction Permits. In the areas of Galveston County where shore protection projects such as sandsock projects have been completed a Coastal Construction Permit will not be issued to an individual for new construction of a habitable structure seaward of the sandsock complex.
7. Monitoring Program. In accordance with the Agreement between Coastal Coordination Council and Galveston County dated March 15, 2001 and fully executed on March 26, 2001 (Agreement) regarding completed geotube® containment system/shore protection projects a monitoring program has been developed and submitted to the Coastal Coordination Council (CCC). Galveston County is responsible for implementing the monitoring program. A copy of the Agreement is attached to this Order as Appendix 3 and is incorporated herein by reference.
8. Nourishment Plan. In accordance with the Agreement a beach nourishment program has been developed and submitted to the CCC. Galveston County is responsible for implementing the beach nourishment plan.
9. Future Shore Protection Projects. Future sandsock/shore protection projects sponsored by Galveston County that are constructed in the beach dune system subject to this Order will complete the application process for a Coastal Construction Permit.
10. Existing Shore Protection Projects. The requirements for geotube® containment systems constructed prior to the adoption of this Order are pursuant to the Agreement. This Order shall not be used, construed, or deemed to prohibit the terms of the Agreement, including but not limited to, beach nourishment, access, monitoring, removal, and maintenance/repair of the geotube® containment systems subject to the Agreement.
11. Location of Existing Shore Protection Projects. A map showing the location of sandsocks/geotube® containment systems constructed prior to the adoption of this Order is attached hereto as Appendix 4; this map includes sandsocks/geotube® containment systems constructed in areas on Galveston Island not subject to this Order and/or for which the County did not participate in their construction.
12. Trademark. The word "geotube" is a registered trademark owned by Ten Cat Nicolon, Miratech Division. "Geotube" is correctly used herein, as the containment systems installed in areas subject to this Order include the geotube, the product to which the trademark refers.

IV. DUNE RECONSTRUCTION

A. Guidelines for Improving, Rebuilding, or Repairing Dunes

1. Generally
 - a. Sand dunes being rebuilt or replaced must not be weaker than original dunes;