GADNR Oyster Reef Projects

Project Summary:
Oyster reefs provide food, cover, shelter, spawning sites and nursery areas for marine and estuarine fish and invertebrate species, and have been declared "essential fish habitat" by the South Atlantic Fishery Management Council (SAFMC) and the National Marine Fisheries Service (NMFS). The loss of oyster reefs along the Southeastern U. S. Coast since European settlement is documented within the historical record and confirmed through visual surveys conducted by the Georgia Department of Natural Resources.

Through this project approved cultch materials will be deployed at sites all along the coast of Georgia to promote the recruitment of wild oysters for the establishment of new reefs or enhancement of existing reefs in state waters.

Goals:

1. Restore habitat by the creation of "essential fish habitat" as described by SAFMC and NMFS
2. Enhance existing reefs under the management of Public Shellfish Areas by providing additional substrate for oyster spat recruitment and therefore insuring sustainable harvest in the future.
3. Promote shoreline stabilization
4. Improve water quality

Methods and Materials:

Project Sites

A Letter of Acknowledgment (LOA) and a Nationwide 27 permit will be requested for each individual restoration/enhancement site. When requesting an LOA and a Nationwide 27 permit, site-specific information will be provided on each project. All sites included in this project will meet the following requirements:

1. Sites will be located adjacent to upland properties owned by the State of Georgia or local municipalities. Examples of state-owned lands would include public shellfish areas, barrier islands, hammocks and state parks. Examples of lands owned by local municipalities could include public access points, parks, or fishing piers that are not state owned. At all sites owned by municipalities, permission will be obtained from the appropriate entity prior to construction of reefs. Proposed restoration/enhancement sites will not be located at a hazardous waste or landfill site.
2. Reefs will either be constructed in the inter-tidal zone typically within 20 feet of the adjacent vegetative edge, or in subtidal areas with adequate water. All sites will be situated in a manner that will not impede navigation within these waterways. Three general reef types are proposed: intertidal, subtidal, and oyster dam. Intertidal reefs will be constructed between MLW and the edge of the marsh on sand or mud flats. Subtidal reefs will be constructed in waterbodies that are deep enough to provide a minimum of 8'of clearance over the reef at MLW and will not be constructed in waterbodies that are heavily trafficked such as the Intercoastal Waterway and shipping lanes. Subtidal reefs were not previously permitted under CMPA #600, but have been demonstrated to be effective in other states and if successfully established would be very productive as the oysters would not be limited in their feeding by tidal cycle. Oyster dams will be constructed in creeks that are not navigable and have no navigable outlet upstream of the reef. Oyster dams were not previously permitted under CMPA #600, but provide additional ecosystem services as compared to the previously

described reefs such as providing a low tide refuge for fish, crustaceans, and other organisms from predators, and provides natural habitat for other bivalves in the sheltered water behind the reef. Oyster reef dams are present naturally, but observations by resource managers indicate that the frequency of this type of reef occurring naturally is in decline and so management actions may be needed to counter this trend. See Figure 1 for example sections plans for all proposed construction plans.

3. Signage will be placed at each site to inform constituents of the benefits of oyster restoration and enhancement, minimize the potential of vessel interactions, and indicate the site is closed to shellfish harvesting if it is not an "approved public shellfish area". Signage will be maintained until the reef is self-sustaining and deemed stable under all normal conditions.
4. Pre- and post-cultch deployment photo documentation will be made of each site. Additionally, post-cultch deployment monitoring of spat recruitment, reef growth, reef footprint, and shoreline stabilization will be conducted at each site at least biannually and after major storm events until the reef is self-sustaining and deemed stable under all normal conditions.

Cultch material

Proposed cultch materials include natural and man-made materials excluding unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) consistent with the requirements of United States Army Corps of Engineers Nationwide Permit #27 (Aquatic Habitat Restoration, Enhancement, and Establishment Activities) and section 307 of the Clean Water Act. Examples of suitable materials include but are not limited to Oyster shell (bagged and loose), bundled wood mounds, low relief prefabricated concrete materials, etc.

In the event non-shell cultch material is determined to be unsuccessful at a given site it will be removed. Unsuccessful will be defined as (a) material not exhibiting recruitment of oyster spat and/or barnacles within 24 months of deployment (b) material (e.g. oak bundles) becomes nonstationary.

Distance of the projects into the waterway from MLW

Most restoration/enhancement projects will be above MLW in the intertidal zone (see Figure 1), if the reef extends into the waterway past MLW the exact distance will be provided when requesting a LOA for each project.

Distance of the projects from the navigable channel

The distance of each project from the navigational channel will be provided when requesting a LOA for each project and projects will be constructed such that they do not interfere with safe navigation of vessels.

Depths of waterway at MLW

Depth of the waterway at MLW will be provided when requesting an LOA for each project.

Total width of the waterway from MLW to MLW

The total width of the waterway from MLW to MLW will be provided when requesting a LOA for each project.

GADNR Oyster Reef Projects

Distance to the next structure to either side of the proposed project

When present, the distance to the nearest structure to either side of proposed projects will be provided when requesting a LOA.

Adherence to the Coastal Marshland Protection Act of 1970

The following statements address the criteria set forth in O.C.G.A. 12-5-286 (g) of the *Coastal Marshland Protection Act of 1970*:

The requested permit will not unreasonably obstruct or alter the natural flow of navigation water due to the small and "natural" characteristics of oyster mounds.

The requested permit will not increase erosion, shoaling of channels, or stagnant areas of water. In fact, construction of viable oyster reefs will likely improve conditions in regards to these factors by further stabilizing sediment naturally, and improving water quality conditions through the natural water filtration of the oyster reef.

The requested permit will not interfere with the conservation of, but will rather promote the conservation of fish, shrimp, oysters, crab, clams, and other marine life by creating habitat that has been declared as "essential fish habitat" by SAFMC and NMFS.

GADNR Oyster Reef Projects

Site Plans:
A Vicinity map that shows the location of the project, latitude and longitude, name of waterway, distance to nearest town or interstate highway and a North arrow will be provided when requesting an LOA for each project.

Marshland Component of the Project

DNR Marsh Jurisdiction Line

All projects will occur channel-ward of the Marsh Jurisdiction Line in the intertidal or subtidal zones (see figure 1). If DNR staff deem it necessary, the Marsh Jurisdiction Line can be delineated as part of the request for the LOA for a specific project.

Existing features such as structures, boardwalks, etc. within jurisdiction.

When requesting a LOA for a specific project, a map or drawing will be provided that shows relative proximity of all existing features such as structures, boardwalks, etc. within jurisdiction.

Proposed features such as structures, boardwalks, etc. within jurisdiction.

There will be no proposed features such as structures, boardwalks, etc. within jurisdiction.

Dimensions of the proposed Structure/project that is in the marshland component of the project.

No project will extend into marshland (see figure 1).

Total square footage of proposed project footprint within jurisdiction and total square footage over vegetated marshlands.

When requesting an LOA for a specific site, the total square footage of the proposed project footprint will be provided.

Section/Elevation views showing a cross-section view of the project using the same water elevations as the Site Plan.

The cross-section view and elevation will be provided for each project and will be similar or identical to the typical section plans provided above (Figure 1). The cultch material will provide no more than 1m vertical relief.

Depth of water at the water-ward face of the proposed project, the dimensions and names of structures supported on floats or piles, the distance between pilings, the number of pilings, the types of materials used.

All projects will be in the intertidal below the marsh line or subtidal zone (see Figure 1). There will be no structures, floats or piles associated with these projects.

Upland Component of the Project

There will be no Upland Component to any proposed projects.

Marshland Buffers for Upland Component

Not Applicable

Stormwater Management Plan of the Upland Component
Not Applicable

Impervious Surface Calculations of the Upland Component
Not Applicable

Deed or other legal instrument:
Sites will be located adjacent to upland properties owned by the State of Georgia or local municipalities. Examples of state-owned lands would include public shellfish areas, barrier islands, hammocks and state parks. Examples of lands owned by local municipalities could include public access points, parks, or fishing piers that are not state owned. At all sites owned by municipalities, permission will be obtained from the appropriate entity prior to construction of reefs.

Adjoining Land Owners:
Proposed projects will be located adjacent to upland properties owned by the State of Georgia or local municipalities. Examples of state-owned areas would include public shellfish areas, barrier islands and hammocks and state parks. Examples of lands owned by local municipalities could include public access points, parks, or fishing piers that are not state owned.

Zoning Letter & Signed Drawings from Local Governments:
Letters from the appropriate zoning authorities ensuring that the proposed projects will not violate any zoning ordinances will be provided.

Non-refundable Application Fee:
The Department of Natural Resources does not require an application fee for projects proposed and conducted by Department agencies.

Alternative Analysis:
The alternative is to not engage in shellfish restoration or the enhancement of public shellfish areas. This alternative would be a missed opportunity to aid in: shoreline stabilization, improving water quality, creating essential fish habitat, and enhancing Georgia's public shellfish areas.

Landfill or Hazardous Waste Statement:
Part of the site selection process will include consulting with the Georgia Environmental Protection Division's web site www.dnr.state.ga.us/dnr/environ under the title heading Hazardous Sites to insure that a proposed restoration/enhancement site is not a hazardous waste or landfill site.

Water Quality Certification:
A copy of the original application has been provided to the US Corps of Engineers and Georgia's Environmental Protection Division. If it is determined that water quality certification is necessary then the appropriate steps will be taken to obtain certification.

Erosion and Sedimentation Statement:
Each oyster reef restoration/enhancement project will be in compliance with all applicable erosion and sediment control responsibilities put forth by the state and local government. Additionally, these projects will reduce erosion / sedimentation and assist with emerging marsh / bank stabilization.

GADNR Oyster Reef Projects

Public Interest Statement:

a) Projects will involve the placement of approved cultch material within the intertidal zone or in subtidal waters deep enough to allow for safe navigation over the reef at all tidal stages (see Figure 1). The cultch material will provide no more than 1m vertical relief. The cultch material will not cause a harmful obstruction to or alteration of the natural flow of navigational waters.

b) There will not be any unreasonably harmful or increased erosion, shoaling of channels, or stagnant areas of water as a result of these projects. These projects will actually reduce erosion / sedimentation and assist with bank stabilization.

c) Oyster reefs are considered "Essential Fish Habitat (EFH)" by SAFMC and NMFS. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802 (10)). Section 303 (a) (7). Oyster habitat is deemed essential to the enhancement of commercial and recreational species including oysters, shrimp, clams, fish, crabs, and several other species. Additionally, these projects fortify the state's efforts focusing on the management and conservation of marine life, wildlife, and natural resources through habitat restoration and enhancement. Therefore, the granting of this permit will not in any way interfere with the management and conservation of marine life, wildlife, or any other resources.

CHATHAM COUNTY DEPARTMENT OF BUILDING SAFETY & REGULATORY SERVICES
1117 Eisenhower, Savannah, GA 31406
PO Box 8161, Savannah, GA 31412-8161
912-201-4300 – Fax 912-201-4301

Gregori S. Anderson, CBO
Director

Clifford Bascombe, CBO, CFM
Assistant Director

December 14, 2021

Mr. Cameron Brinton, Marine Biologist
Habitat Enhancement and Restoration Unit
Coastal Resources Division
GA Department of Natural Resources

Sent email: Cameron.brinton@dnr.ga.gov

RE: Oyster Habitat Restoration Project

Dear Mr. Brinton,

The proposed project does not represent any violation to the Chatham County Zoning Ordinance.

If there are any questions, contact this office at (912) 201-4320.

Sincerely,

Gregori S. Anderson, CBO
Interim Zoning Administrator

GADNR Oyster Reef Projects

Project Drawings:

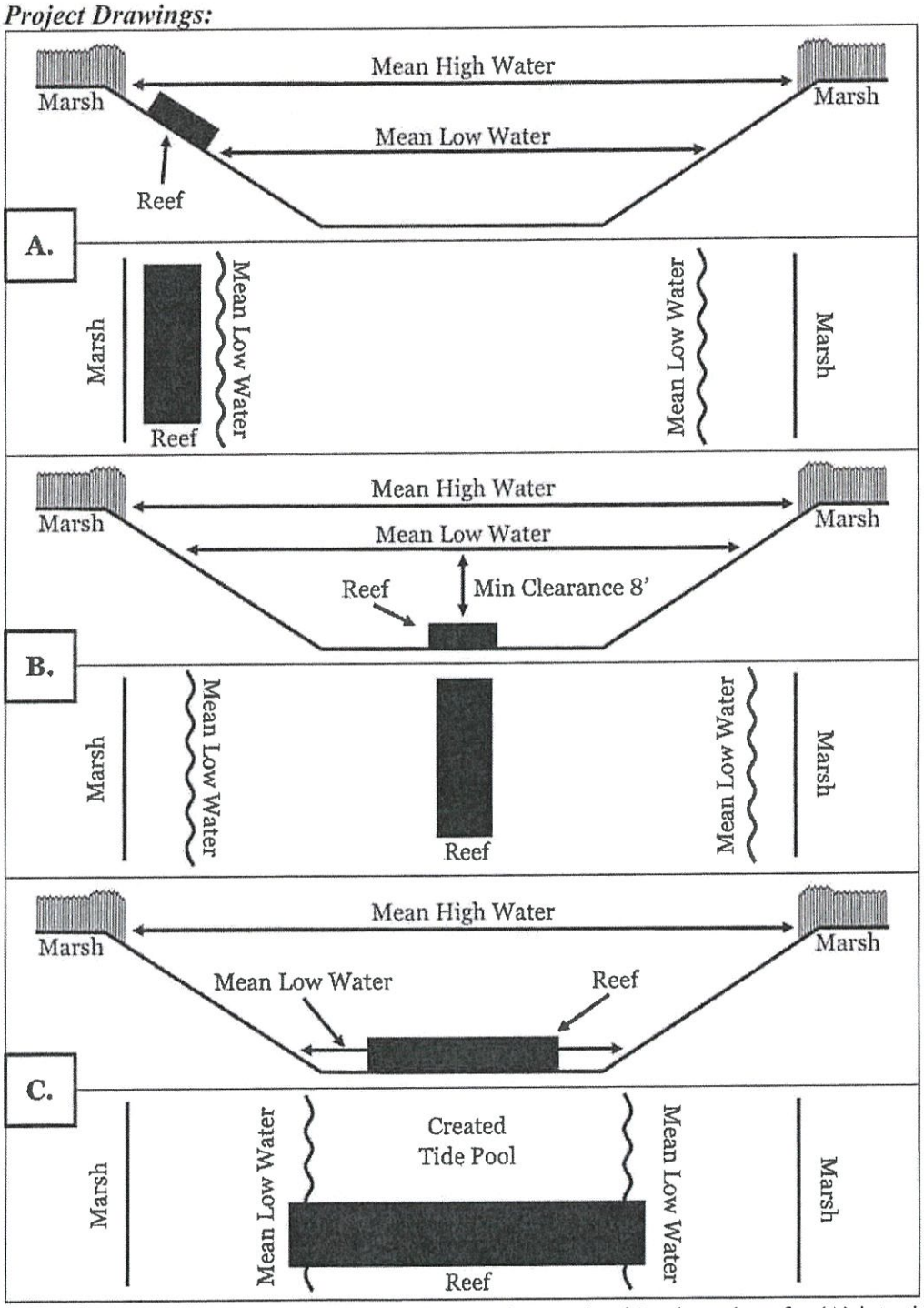


Figure 1. Typical section plans for oyster restoration work with adaptations for (A) intertidal reefs, (B) subtidal reefs, (C) and oyster dams.

12/14/21

BRYAN COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT

51 North Courthouse Street
P.O. Box 1071
Pembroke, Georgia 31321
912-653-3893
Fax 912-653-3864

66 Captain Matthew Freeman Drive
Suite 111
Richmond Hill, Georgia 31324
912-756-7953
Fax 912-756-7951

November 2, 2021

Via Email: cameron.brinton@dnr.ga.gov

Mr. Cameron Brinton
Marine Biologist, Habitat Enhancement and Restoration Unit
Coastal Resources Division
One Conservation Way
Brunswick, GA 31520

Re: Oyster Restoration Project

Dear Mr. Brinton:

I am in receipt of your email dated October 19, 2021, requesting Bryan County confirm there are no zoning conflicts with the Coastal Resources Division's Oyster Restoration Project. As Community Development Director and the person designated in the County's Unified Development Ordinance to make such determinations, I hereby determine the proposed Oyster Restoration Project presents no zoning conflicts in Bryan County. Per your request, I have signed the section plan, and this document is attached.

If I can be of further assistance, do not hesitate to contact me.

Sincerely,

Audra Miller
Community Development Director

ALM/

Attachment

Andrea Miller
Community Development
Director, Bryan County
11-2-2021

GADNR Oyster Reef Projects

Project Drawings:

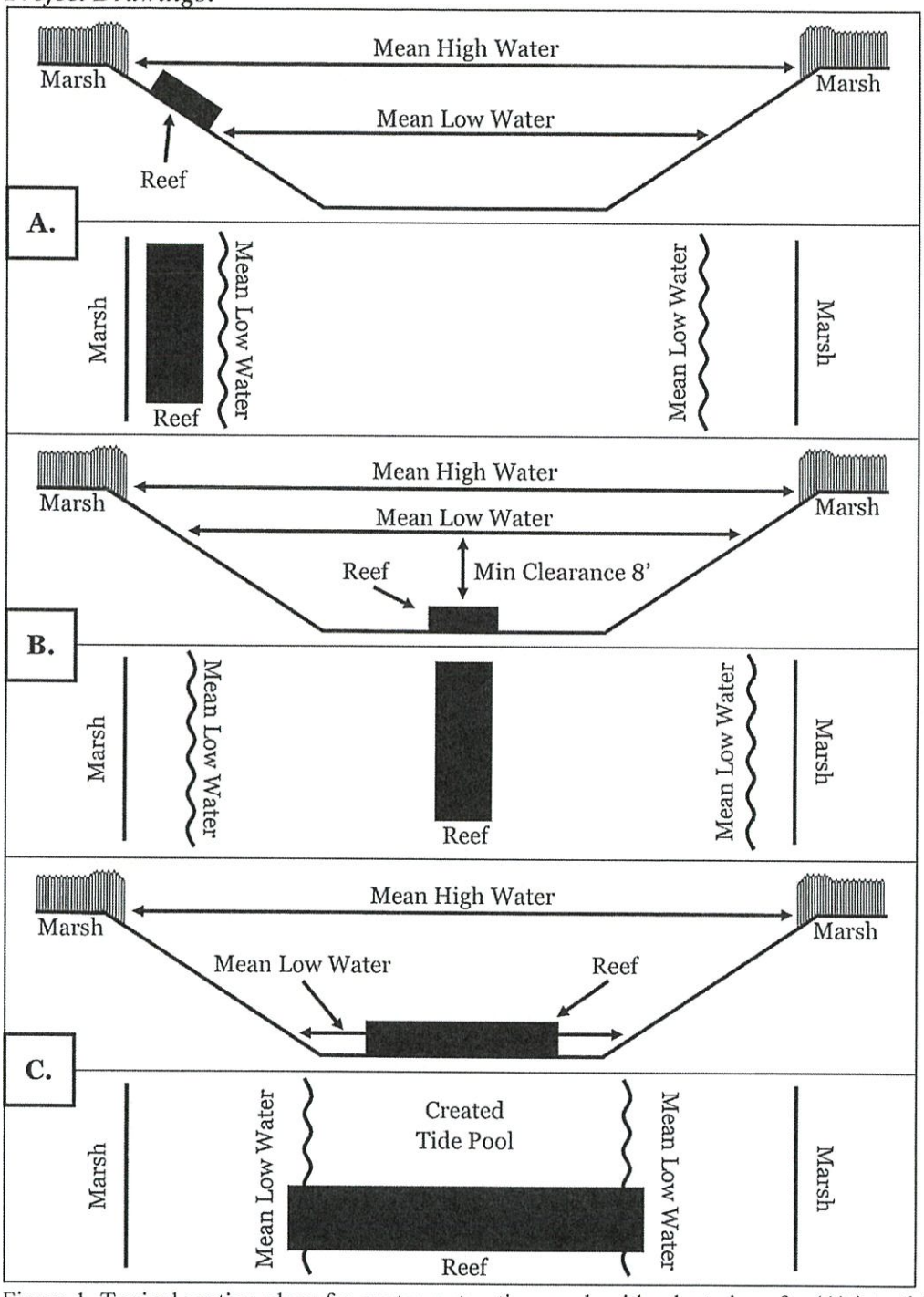


Figure 1. Typical section plans for oyster restoration work with adaptations for (A) intertidal reefs, (B) subtidal reefs, (C) and oyster dams.

Liberty Consolidated Planning Commission
100 Main Street, Suite 7520
Hinesville, Georgia 31313
Phone: 912-408-2030
Fax: 888-320-8007

Jeff Ricketson, AICP
Executive Director

October 20, 2021

Georgia Department of Natural Resources
Coastal Rsources Division
Attn: Cameron Brinton, Marine Biologist
One Conservation Way
Brunswick, GA 31520

RE: Oyster Restoration Project

Cameron,

I have reviewed the attached "2021 Oyster Restoration Project Description" regarding the Department's plan to renew and modify the agreement for oyster restoration work along the coast of Liberty County and have found no zoning conflicts with Liberty County's ordinances. If you have any further zoning questions, please do not hesitate to contact me.

Sincerely,

Jeff Ricketson
Executive Director

Cc: Joey Brown, Liberty County Administrator
Paul Zechman, Director of Building and Licensing

GADNR Oyster Reef Projects

Project Drawings:

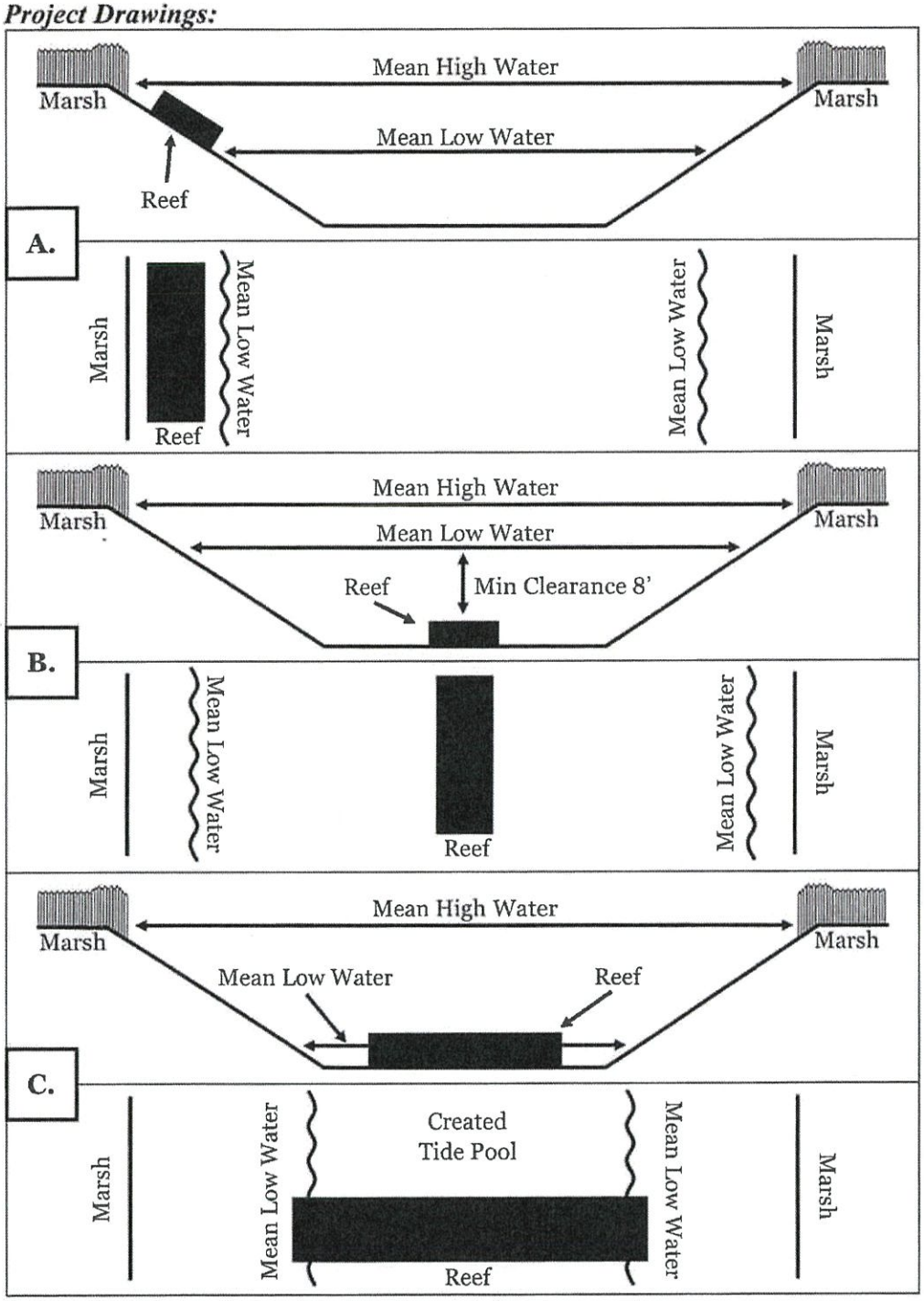


Figure 1. Typical section plans for oyster restoration work with adaptations for (A) intertidal reefs, (B) subtidal reefs, (C) and oyster dams

No conflict with Liberty County zoning.

McIntosh County Building and Zoning Inspector

Post Office Box 2694
Darien, GA 31305

Archie Davis, Director
Donna Moody, Inspector
Glenda Davis, Secretary

Phone: 912-437-6603
FAX: 912-437-5088

November 2, 2021

Mr. Cameron Brinton
Coastal Resources Division
Department of Natural Resources
One Conservation Way
Suite 300
Brunswick, GA 31520

RE: Oyster Restoration Project

Dear Mr. Brinton,

I have reviewed attachment 1, the 'Typical Section and Plan" regarding the Departments plan to deploy material in the intertidal zone to conduct oyster reef restoration. The plan does not violate McIntosh County zoning ordinances.
Please feel free to contact me if you need any further assistance from McIntosh County.

Sincerely,

Frank Lunsford
Chairman, McIntosh County
Planning and Zoning Board

GADNR Oyster Reef Projects

Project Drawings:

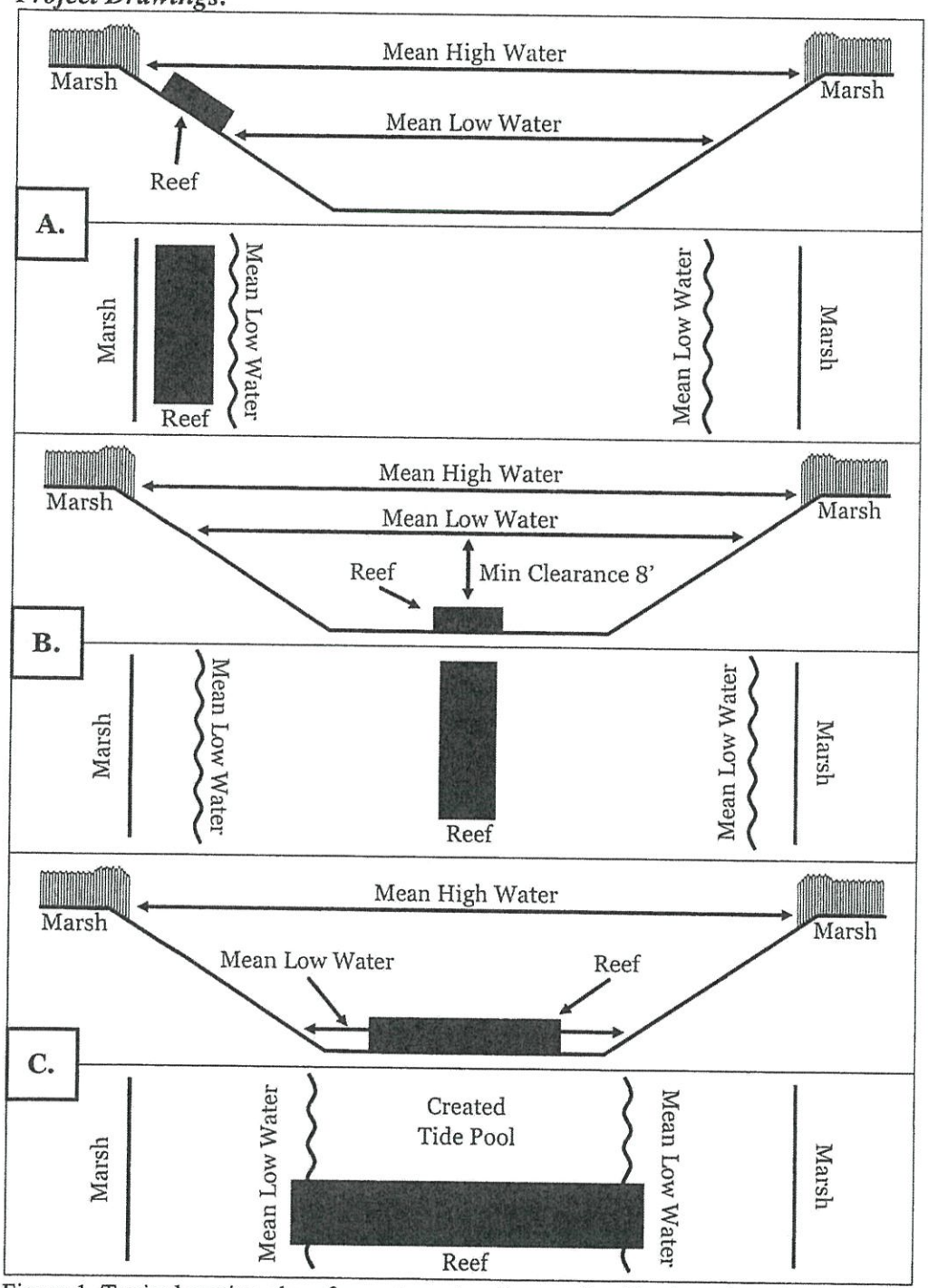


Figure 1. Typical section plans for oyster restoration work with adaptations for (A) intertidal reefs, (B) subtidal reefs, (C) and oyster dams.

Approved
11/2/21
DM
McIntosh County
Building Inspector

A Golden Past.
A Shining Future.

COMMUNITY DEVELOPMENT DEPARTMENT
1725 Reynolds Street, Suite 200, Brunswick, GA 31520
Phone: 912-554-7428/Fax: 1-888-252-3726

November 17, 2021

Marsh and Shore Management Program
Georgia DNR, Coastal Resources Division
One Conservation Way
Brunswick, GA 31520

Re: Oyster Habitat Restoration Project

To Whom It May Concern:

The Georgia Department of Natural Resources' plans for the oyster habitat restoration project are not violative of the Glynn County Zoning Ordinance.

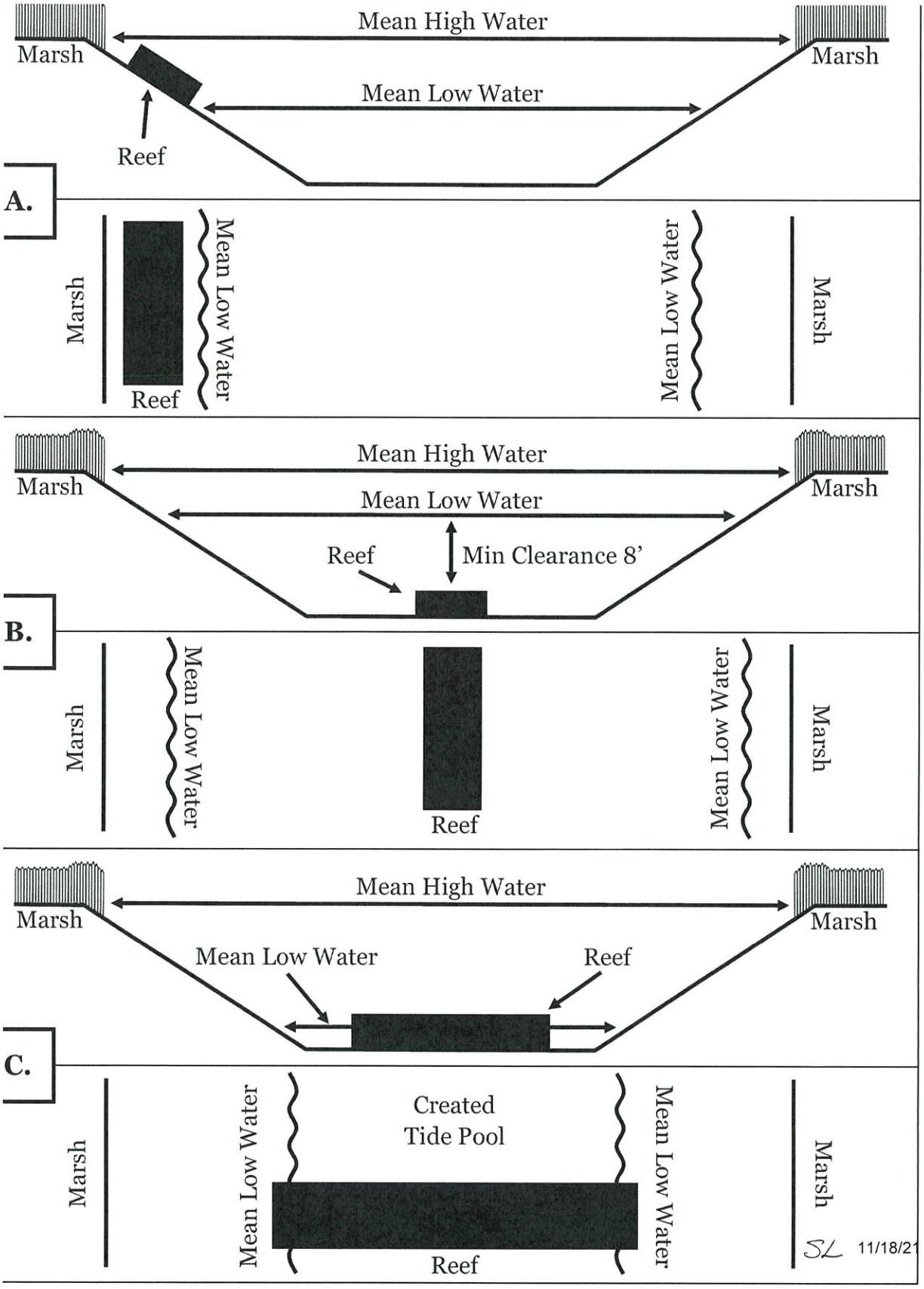
Should you have any additional questions, please feel free to contact me at sleif@glynncounty-ga.gov.

Sincerely,

Stefanie Leif

Stefanie Leif, AICP
Planning Manager

The Glynn County Planning and Zoning Division makes every effort to provide the most accurate interpretation possible based on the information available. No warranties, expressed or implied, are provided for the information herein, its use or interpretation. This letter addresses the zoning designation of the property only; other codes and ordinances which may affect the ability to develop this property may apply.


Mean High Water
Marsh
Marsh
Mean Low Water
Reef
A.
Marsh
Mean Low Water
Reef
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Mean High Water
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Marsh
Mean Low Water
Reef
Min Clearance 8'
B.
Marsh
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Marsh
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Reef
C.
Marsh
Mean Low Water
Created
Tide Pool
Mean Low Water
Marsh
Reef
SL 11/18/21

Board of County Commissioners

Office of Planning & Development

107 N. Gross Road Suite 3 • Kingsland, GA 31548

Phone: (912) 729.5603 • Fax: (912) 729.5543 • www.co.camden.ga.us

Georgia DNR
Coastal Resources Division
Attn: Cameron Brinton
One Conservation Way
Brunswick GA 31520

RE: Project Review for Oyster Reef Restoration

This letter is in response to your zoning inquiry about the project review for Oyster Reef Restoration in unincorporated Camden County. The proposed request is in compliance with zoning requirements.

The Camden County Unified Development Code can be found at the following address for more information: http://www.co.camden.ga.us/760/Organization-of-the-Code

If I can assist in any other way, please feel free to contact me.

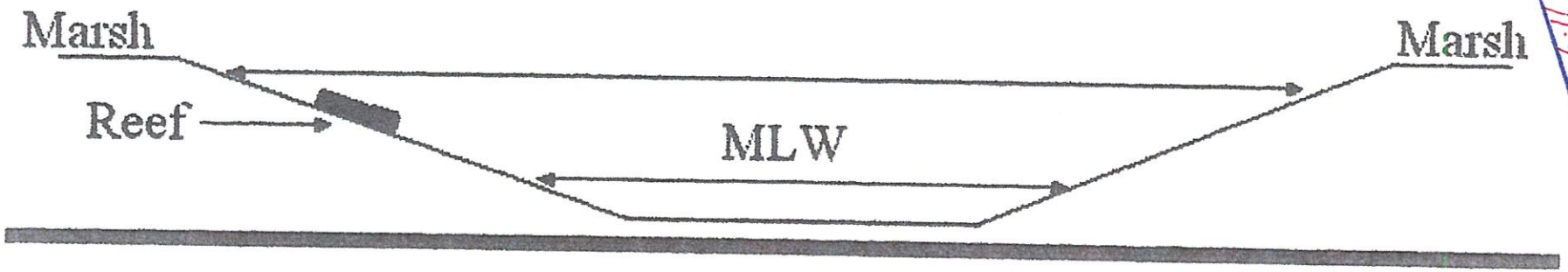
Thank you,

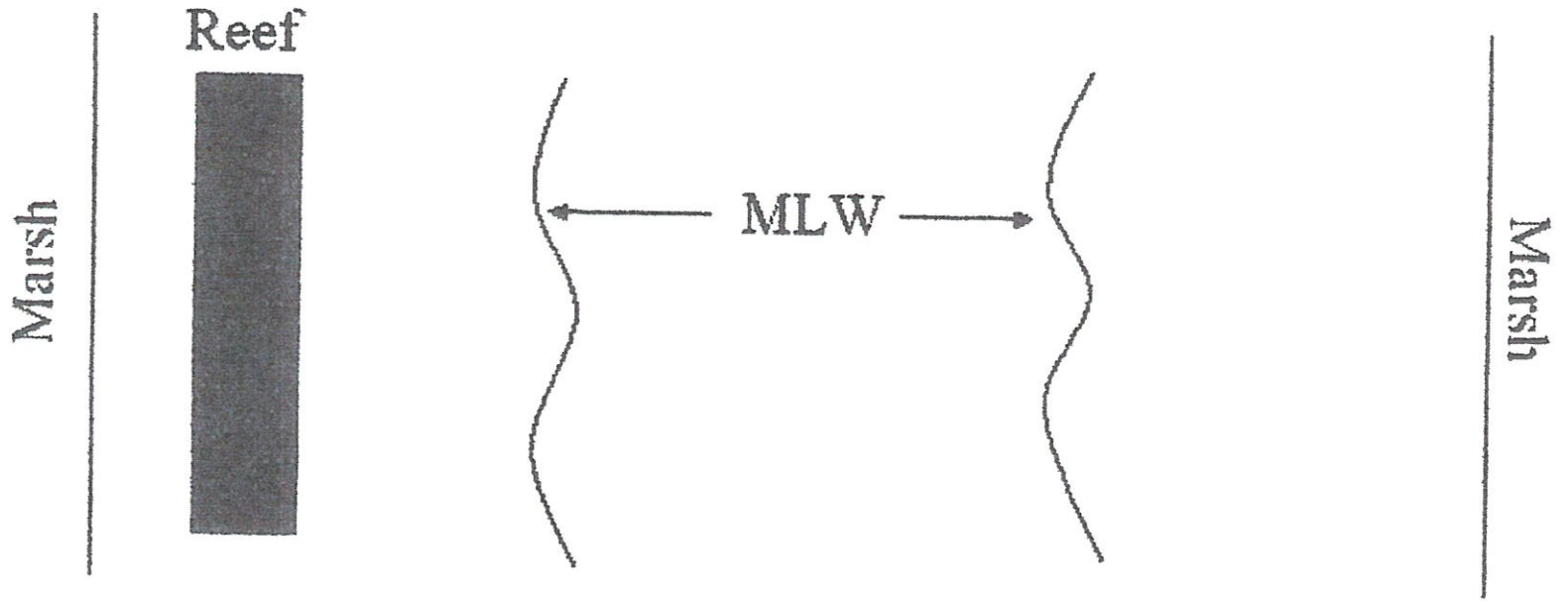
Joey Yacobacci
Director of Planning & Development
Camden County Board of Commissioners
Office: 912-510-4310
www.co.camden.ga.us

Attachment 1

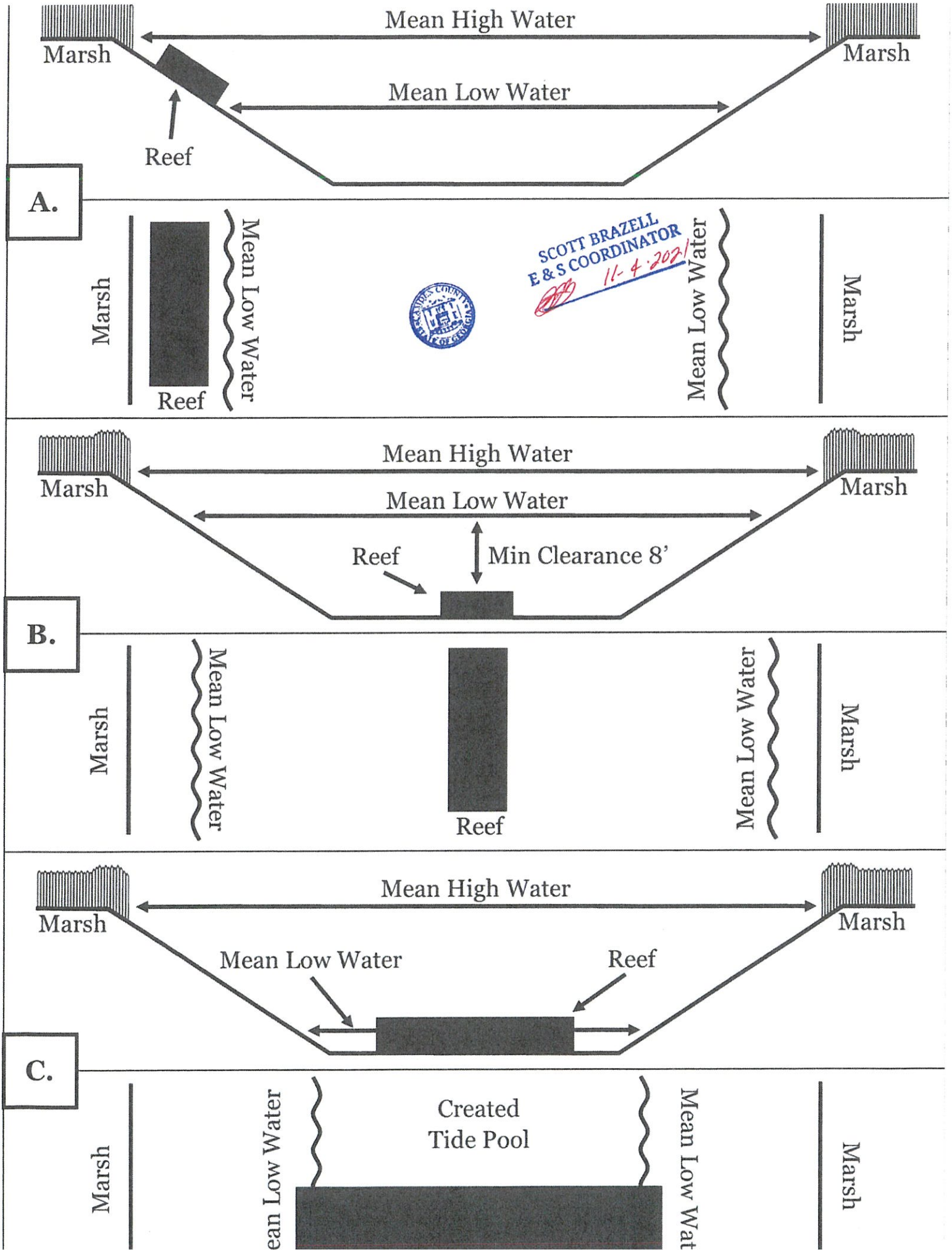
Approved 10/31/08
LRH

Typical Section and Plan





SCOTT BRAZELL
E&S COORDINATOR
11.4.2021


Mean High Water
Marsh
Marsh
Mean Low Water
Reef
A.
Marsh
Reef
Mean Low Water
SCOTT BRAZELL
E & S COORDINATOR
11-4-2021
Mean Low Water
Marsh
Mean High Water
Marsh
Marsh
Mean Low Water
Reef
Min Clearance 8'
B.
Marsh
Mean Low Water
Reef
Mean Low Water
Marsh
Mean High Water
Marsh
Marsh
Mean Low Water
Reef
C.
Marsh
Mean Low Water
Created
Tide Pool
Mean Low Water
Marsh