

Roll Call

I. CALL TO ORDER AND ROLL CALL. President Heeke called the special meeting of the Town Council to order at 9:30 AM on July 8, 1991 in the Town Hall Council Chambers. On roll call, the following elected officials were found to be in attendance: Mayor Marix, President Heeke, President Pro Tem Weinberg, Councilman Ilyinsky and Council women Douthit and Wiener. Also attending were Town Manager Doney, Town Attorney Jay Jurgens, Town Clerk Peters, Director of Public Works Dusey, Town Engineer Bowser and Lonnie L. Ryder, Environmental Administrator of the Florida Department of Natural Resources.

Invocation

II. INVOCATION AND PLEDGE OF ALLEGIANCE: Invocation was given by Mrs. Peters. Pledge of Allegiance was led by President Pro Tem Weinberg.

III. APPROVAL OF AGENDA: Agenda was approved on motion of Weinberg/Douthit. Motion carried unanimously on roll call.

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IV. DISCUSSION OF ALTERNATIVES RELATIVE TO PROPOSED MID-TOWN BEACH EROSION CONTROL MEASURES. President Heeke gave his opening remarks, noting he has been in conversation with Mr. Ryder who suggested the Council might wish to hold a meeting to consider some alternatives to their permitting process. He reminded the Mayor and Council where the permits now stand - on the Artificial Reef they have approvals of the Corps of Engineers, the DER and the County DERM; pending is the approval of the DNR. He stated on the sand portion of the permit, approval has been received by the DER and approvals are pending from the DNR and the Corps of Engineers. He advised some of the discussion he had with Mr. Ryder was that there might be reason to think about a mixture of the two permits. He stated he referred to the PEP reef as experimental when he was in conversation with Mr. Ryder and was corrected by Mr. Ryder that it is not referred to as experimental but is known as an off-shore breakwater or breakwater devices and they are other than experimental.

Mr. Heeke pointed out these are permits of the Town and not of the PEP people, as the PEP people were merely acting as the Town's agent and he wanted to be sure everyone understood that. He noted this would put the Town in a position, if there is a breakwater permit granted, to seek competitive bidding.

Mrs. Wiener noted there was a comment made that the PEP Reef is not experimental and she asked if all breakwaters of any kind were not experimental and if it is not experimental, why would they be doing all the testing? Mr. Ryder responded he didn't believe the location suggested was the best site for the Reef and he felt it needed further testing in a different location.

Mr. Ryder stated breakwaters are used to dissipate waves coming onto shore and they do it very well. He recalled there was a situation in Pinellas County where a rubble mound was installed and the breakwater did too well of a job and they had almost a complete littoral barrier of sand moving down-drift and they had to lower the profile of that reef three different times. He believed that be it the PEP Reef or any other design structure placed there, it would react as a breakwater and the sole purpose is to trap sand at a specific location. He indicated if it traps too much sand, there will be a problem as there were some down-drift erosion problems.

He advised restoration efforts have been around for quite a number of years and they work very well and in areas where there is very little sand in the system, that is the only alternative if they want storm protection and a recreational beach. He stated he has had experience with the PEP reef and has discussed this subject with many coastal engineering firms and it was his opinion that if it was standing alone, it would not provide them with the protection they needed in this area nor would it provide the recreational beach. He thought it would build up some sand there as it will dissipate wave energy and it will trap sand, however, because it is a submerged system, it would not build up that much. He stated if it did build up sand, there would be down-drift erosion, therefore, he didn't think the answer to the question was a stand alone PEP reef as he was firmly convinced the only viable alternative was beach restoration in this area. He believed there were other things to consider, however, such as a sand retention device for the beach restoration project once it is installed.

He felt that in this area, as in other areas on the southeast coast, if at the toe of fill at the beach restoration project is toed into the PEP reef or other sand devices, would serve to protect off-shore marine habitat by not allowing that material to be transferred off-shore during period of extreme storm events. He advised that in any beach area where there are strong tides and waves, the material does go to the south and would be transferred off-shore and deposited on sand bars off-shore and when the storm event is over, that sand does slowly work its way back to the shoreline. He felt the problem in this area is there are fairly valuable habitat off-shore and they wouldn't want the sand being moved too far off which would damage the natural habitat.

Mr. Ryder stated the recent design by Coastal Planning & Engineering does not extend the toe of fill that far off-shore, so even by itself, it would not cause great habitat damage and he felt it was a good design for the beach restoration project.

He believed another value of having a sand retention device is that it may provide greater longevity for the restoration project than they would have without the device. He stated if there was a seven year renourishment cycle and they would have to go back every seven years to retain that area, with a sand retention device, it may be possible that renourishment cycle would be extended to ten or twelve years and that is a real value for a sand retention device which could be a PEP reef or something else.

He felt the only thing that has to be determined is how much protection to the shore line or how well the sand retention device will stabilize the shoreline. He recalled figures have been put out which state it could be five ten or fifteen per cent, but no-one really knows how much the wave energy would be reduced by the installation of the PEP Reef and it could be that it may be even more than that and he felt that needed to be studied further. He advised if the Council was going to entertain installing a sand retention system, studies need to be made to determine the extent of wave energy reduction into the shoreline. He felt if they were able to do that, then a determination could be made as to how much longer a restoration project would work with the sand retention device, as opposed to without one.

He believed there were several ways to do that, one being the preparation of a physical model. He advised there were several alternatives, one being the limerock breakwater they have in Pinellas County. He felt that by preparing a model, they might be able to determine which would work best in a situation as the Town of Palm Beach has, but it will cost money, however, it would be valuable information, by which they would be able to determine

- (1) Do they want the sand retention device?
- (2) If it works at all, how well is it going to work?
- (3) How many more years would be added to the renourishing cycle, which would save all concerned a lot of money.

Mr. Ryder advised he has been interested for quite some time in trying to find some sand retention device to

help stabilize beach restoration projects and for the natural resources offshore, so that the material would not have to extended so far seaward which might interfere with the habitat in the off-shore areas. He also has been interested in trying to find a sand retention device which can perform fairly well.

Mr. Ryder summarized that any sand retention device by itself is not the alternative the Town would want at Mid-Town, as he didn't feel it would provide the Town with the storm protection or the recreational benefits the Town desires. He believed beach restoration is the only viable alternative for good storm protection and the recreational values. He thought a combination of both may very well save a lot of money down the road by increasing the nourishment cycle.

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Mr. Heeke asked if a combination of some off-shore retention device were used, would that enable the Town to have a smaller nourishment project to accomplish the same thing? Mr. Ryder felt the project as it is now designed is the appropriate project and if studies indicate the sand retention device, the PEP reef, for instance, would serve to dissipate wave energy and make the beach restoration project as now designed last longer and have fewer maintenance problems, it would be worth the Town's investment to put one off-shore, however, he didn't think he would decrease the amount of fill estimated nor the design width estimated as the project as designed now, is what should be done at Mid-Town.

Mayor Marix asked what Mr. Ryder meant when he stated they should have a model or test the Reef? Mr. Ryder responded the University of Florida has a wave tank and they do excellent model studies. He felt these studies would offer some value in determining the life of the restoration project and then again, it may have to be determined by the physical model itself. He felt they shouldn't rely totally on the physical model, however, it could give a good indication of how well that system could perform.

Mayor Marix asked Mr. Ryder what will happen if the Town is not able to secure the Federal Funding for the beach restoration project? Mr. Ryder indicated they are working as hard as they can to obtain them, but if they are not forthcoming, it would be up to the Town to work something out, recalling at Captiva Island, they did the project themselves without Federal assistance, utilizing State and local funding. He reiterated the fact that beach restoration is the best alternative that the Town has available and he didn't think a PEP reef or any other structure by itself was going to provide the Town with what they need.

Mr. Ryder believed that the PEP Reef is worth studying and last year the Legislature directed staff to investigate innovative strategies for these type of projects and he would be willing to recommend to the Department that some cost sharing be discussed. He stated the reason for that is there are many other locations around the State of Florida where this type of information could be applied.

Mrs. Douthit noted Mr. Ryder has talked about what has been done on the west coast and she doubted very much if the waters of the Gulf of Mexico could be compared to the waters of the Atlantic Ocean, although there may be some similarities, as they are both salt. She asked how long the State wished them to study these things as she knew the structure in Pinellas County has been lowered three times. Mr. Ryder responded there is a project in Deerfield Beach where there are mounds which are nothing more than breakwaters themselves and it works very well.

Mr. Tom Campbell responded to Mrs. Douthit's question as to the time element, stating the University of Florida would have to set up the model and that usually takes about a year or two to set it up and have it run, as the major part of the time is in the building of the physical model. Mrs. Douthit thought it could be a decade. Mr. Ryder did not agree, indicating if they would go with the restoration project, it could be conducted very soon, hopefully with the Federal Funding. Mrs. Douthit stated she had great doubts they would be able to secure the Federal Funding. Mr. Ryder noted they have received Federal Funding on some beach restoration projects so it is continuing. Mayor Marix stated she thought she had read if the reef is put in after the sand, it is difficult to evaluate its benefit.

Attorney Gary Lickle representing American Coastal Engineering addressed the Council, stating Attorney Dotterer of his firm is the attorney who normally represents this client, however, he had a court conflict today. He noted the discussion is centering around the model testing of this reef and he wished to point out that model testing has been done by Dr. Lin of Florida Atlantic University and there are extensive studies on teh wave energy reduction which were submitted to DNR in 1988. He believed the University of Florida has been engaged as an independent to verify the results of taht model tank testing, and the PEP reef has not only had model tank testing but testing in the real environment although Mr. Ryder explained perhaps this might not be the best test site and the engineers are convinced a larger test site would produce more positive results.

Mr. Heeke asked Mr. Ryder if DNR had any problem with the tank and the testing facilities already done by Dr. Lin? Mr. Ryder asked Attorney Lickle what the results were of that testing? Mr. Hans Rauch of American Coastal Engineering responded stating they had tested the PEP Reef on several occasions, first prior to the installation of the Reef at the DuPont site in 1986 and this consisted of a seven month tank test study and evaluation by Dr. Lin at the time he was a Professor at Florida Atlantic University. He stated this tank test revealed that depending on wave heights, lengths, and speed, there was wave reduction anywhere from 25 to 60 per cent.

Mr. Rauch advised a second testing was done in 1988 and this study was approximately 17 pages and was numerical and a computer print out of the wave reduction, and this study was submitted to the University of Florida and other agencies. He stated a modified reef section, which was called the PEP Reef Type II was developed into the findings of PEP Reef Type I, and the new modified version was heavier and interlocking with a large gravity point and it was tested twice, first in a tank test study again performed by Dr. Lin and the findings have been submitted to the Department of Natural Resources in February; and recently a study was performed and a computer print out was submitted last week to DNR, which they have transferred to the University of Florida for a final evaluation.

Mr. Rauch explained all the performances done on this project have been signed and sealed by Dr. Lin, who is a registered engineer in the State of Florida, so he believed the material submitted was quite extensive.

Mr. Rauch was asked by Mr. Ryder if there were any tests submitted for the Mid-Town area? Mr. Rauch advised the first two tests were performed prior to the installation of the DuPont Reef and after the installation, a field test was performed at the DuPont location. Mr. Ryder noted this was done at that location. Mr. Rauch advised there would not be that much of a change at Mid-Town with regards to the reflection of the waves and with regards to the reflection of the waves and with regards to stability and it would be better for performance with a higher degree of wave reduction. He stated the second two studies, the numerical and he tank test for the Type II were done by Dr. Lin and his staff and the only one left is the field study for the Type II and this would enable them to place it in the Mid-Town section and there should be enough time given to place the reef so that the scientists, engineers, and the marine biologists would have enough time to monitor and catalogue the effectiveness of the reef, which he thought would be a tremendous breakthrough not only for the Town but for the State.

Mr. Ryder stated he didn't believe the tests at the DuPont location were a fair test for the design itself. Mr. Rauch responded the first reef was only 552; in length and besides the testing done, they have submitted nine surveys

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which were requested by the DER and the DNR and he has received a condensed version of these agency's findings, and exhibited a bar graph which revealed it not only did what it is supposed to do - a prefabricated erosion prevention - but also gained approximately 8' seaward off the reef. He pointed out an additional study was performed by Patrick Martin, an ocean engineer. Also, he stated, the University of Miami did environmental studies with regards to fish geology and marine growth on the reef and all of these studies have been very positive. He stated a turtle study was performed by the Town of Palm Beach and over the last 3 years there were over 100 turtles which have nested in this short stretch and this season, there are over twenty which are nesting high and dry.

Mr. Ryder remarked it still is not known how well this type of reef will work off the Mid-Town and that is still an unknown factor. Mr. Rauch agreed that would have to be proven in a field test. Mr. Ryder felt this test would prove very valuable. Mr. Rauch stated the scientists and engineers feel this PEP Reef is a breakthrough for beach restoration and shore protection and he believed it could work in conjunction with the Mid-Town and he hoped the Reef would have a chance to be studied by itself for a certain period of time without interference of any volume behind the reef for a twelve month period perhaps. He believed this continued testing would lead in a direction to precisely predict the result after a certain given time. He felt this could clarify how long the sand would be in place and hopefully it would be extended to double or triple the time or maybe longer.

Mr. Ryder felt if a model study would be done as quick as possible, would not that give them a good indication of the same thing? Mr. Rauch advised there has been a tank test on the model itself and the PEP Reef I has been changed to PEP Reef Type II and the second model has been placed in a tank and has been studied for approximately a month period and as a result, this tank study has been published and the study of 1991 has been sent to Tallahassee on Feb. 6th, so the wave study and the wave reaction study has been performed already.

Mr. Heeke stated he hears Mr. Ryder suggest that any type of breakwater system should be installed subsequent to a renourishment project and wondered if the models were being based on that type of finished product or are they on the present conditions? Mr. Ryder responded it seemed to him that it would be prudent to study the PEP Reef in conjunction with the beach restoration project and they should go ahead and perform the beach restoration project as quickly as possible and while that is being done, perform a model study. Mr. Heeke asked if they didn't have those projected figures as to what the condition would look like by the GDM which has been submitted for the nourishment project or couldn't the studies be run off of that?

Mr. Campbell responded they could. Attorney Lickle stated it is his understanding a renourishment project without a toe would be a different profile than a renourishment project with a toe. He understood that in order to create roughly a one hundred foot beach that they actually over-nourish in order to count on the eventual dissipation of that sand and according to Mr. Rauch, the profile they anticipate would be to set up the PEP Reef in exactly the same position now with or without a beach renourishment project and if that reef were set up at this point, and renourishment came shortly thereafter, at least there may be a period of time where the actual study would occur for a combination of wave action and/or whether the beach would actually increase. He believed what is foremost in the Town Council's mind is to create a beach for the public so that it is there not only for the public use but also for storm protection. He believed the issue should be addressed if in fact it would save the Town money by putting a toe of fill in, whether it be the PEP Reef or some other reef, because the renourishment project could be lessened.

Mr. Heeke stated they are talking about a lesser nourishment project now. Mr. Ryder stated the project as designed now did bring the toe of fill back considerably than what was designed a few years ago. Mr. Heeke recalled that was a requirement of the CORPS because of the damage to the natural reef. Mr. Ryder stated it was also a good sand source also. He believed the beach restoration project as designed right now is appropriate and wondered if a PEP reef was placed at the toe of that fill, would it stabilize the shore line appreciably and they could save money in future years on maintenance, and would it decrease the wave energy going into the shore line. He saw the value of the PEP Reef to stabilize the current renourishment project and it would have a very good chance of success in that situation.

Mayor Marix asked for a clarification recalling the original plan sloped down into the water and that is where the toe could save quite a section as it stopped square as opposed to the sloping in and wondered if that same theory would apply to this shorter version since it would not have to slope all the way down.

Mr. Heeke asked Mr. Campbell to respond as he had a vested interest. Mrs. Wiener believed a lot of people had a vested interest and she thought it would be nice to know who does and who doesn't. Mr. Campbell responded that he had no vested interest as he is the Town's Coastal Engineer, but actually his vested interest is seeing the erosion control perform and he had no problem with a breakwater or a PEP Reef or any similar thing, but to answer the question if the units as proposed would represent a savings for the toe and that has not been evaluated yet. He believed it could be evaluated by placing the units where they are proposed and see how much of the toe of fill would be affected, however, he has not made that analysis. He stated up until this time, they have been asked to not look at any of that but it wouldn't be hard to do. He recalled the Town has already paid for and has available to them a numerical model which was used for the design of the Beach Nourishment project and takes into account the wave energy and moves the sand down the beach and it was used to predict the performance of the longer and the shorter project.

Mr. Campbell stated with the model study results which have been done in the wave tank, which tells them only about the waves and those wave results could be incorporated in the model if they wanted to test the longevity of the fill with and without a breakwater which has a specific answer to it, in terms of waves. He stated it would not be a physical model but a numerical analysis of the longevity, however, there are two types of physical models - one is the wave tank test which would tell how much wave reduction there could be and that already has been done and is being verified. He stated the second type of model incorporates the actual sand in a physical setting, similar to the Mid-Town setting and that model could be used with miniature breakwaters off shore with sand moving into the system and that could be done by the University of Florida, which Mr. Ryder suggested be done over the next year to get a higher degree of confidence in what the reduction in loss of sand might be with the use of the breakwater.

Mr. Campbell recalled in the computer model which has already been done, they have looked at some submerged breakwaters as a possibility and those results could be made available to the Town, at no cost, to see what types of reduction in erosion rates were achieved when they used a submerged breakwater in the models already run.

Mr. Campbell commented in determining what to do, there is another concept and that is since the PEP Reef and breakwaters are not experimental in the sense of a breakwater, they are somewhat experimental due to the fact they have not been used widely and the Corps of Engineers would have trouble incorporating the product into their program and provide Federal funding for it, so the question was posed as to whether or not the project should be cut back and take advantage of some of the savings that might be available. He believed it would be difficult at a Federal level to do that but at the State, County and Town level, it would not be that difficult and he believed that Mr. Ryder's suggestion to hold the project at what is now currently formulated would be a good one as they look towards the Federal project and then use the PEP Reef, if they decided to use that, or some similar breakwater device to have something to hold the project for a longer period of time and that would make more sense in moving forward at the Federal level.

Mayor Marix stated her biggest concern is simple as it doesn't look like they will be getting the Federal money they need and the Town doesn't have the money and she doesn't believe the State wants to give much more and

what she is looking at is a set of storms which might be coming along, leaving the damage while the tank tests are being performed.

Mr. Campbell commented if they don't proceed with the Federal Project if they perceive Federal funding is limited or may not be coming forth, it would provide a greater level of flexibility to combine the projects and take some possible reductions in the project itself, up front, and if they wanted to proceed, as the GDM is now being reviewed at the Jacksonville level and if they wanted to see how that proceeded and still work with the Federal program, that would be his recommendation and then look at some way to incorporate the PEP Reef or some similar device into the program if that is what the Town desires to do and basically see if it will provide a long term savings to the program. He stated the avenues available and how that gets evaluated are the physical model study as suggested by Mr. Ryder; secondly, a computer analysis of these same types of thing taking advantage of the model results of just the wave tanks which already have been done. He stated if they go to University of Florida with a full blown model study of the actual sediment movement, the more recent thinking on sediment movement is they are not certain how accurately they can scale down sand grain size, so in essence when everything is brought down to the smaller size, it raises the uncertainty of the performance of the model because sand grains cannot be effectively reduced so in the industry right now there are questions whether physical models or mathematical computer models give a better result, because of the problem of scaling down sand grain size and he offered these comments to assist the Mayor and Council in their discussions.

Mr. Heeke felt that could be an unknown that could rise up later and say these are not as valid as they first thought they would be, to which Mr. Campbell agreed.

Mr. Heeke asked about the submerged breakwater system asking Mr. Campbell in his experience what types are available? Mr. Campbell responded most of the breakwater systems that have been installed have been rock-type systems where rock is piled up and used as a breakwater, although some systems have been rock and tetrapod units, effective rock replacement units, when they can't get large enough units of rocks they will go to concrete units to supplement the rocks. He stated virtually everything he knows of that have been done have been these rock-type structures and they have been used in Waikiki Beach and in harbors where there are not enough mooring areas. He stated there have been some in the Great Lakes - segmented breakwaters, so it is not widely used in the United States although in Japan, there are a lot more used and the only aspect of it being experimental is that it is a unique shape and it has not seen as much testing as the rock units, but anything that is put in the water and the wave goes over has an ability to reduce the wave energy and thus cause an area of relative calm behind it and as a result of that calm, any sand that is moving down the coast can be either trapped or relative stability maintained. He indicated the problem with the erosion here is there is not enough sand moving down the coast so it creates a condition of erosion and if they were to put enough off-shore breakwater in, they could counteract that and any amount of sand coming down would be equal to the wave energy created and that would be the equilibrium condition avoiding the tombola condition. He stated a submerged breakwater is preferable to an emerged breakwater.

Mr. Heeke asked if part of this sand which is in suspension, is created by the inlet jetties, in part? Mr. Campbell responded the inlet jetties actually trap the sand and prevent it from coming down, so most of the sand here is generated from the beaches itself and what sand is placed by the Corps of Engineers when and if they dredge the sand from the inlet and place it on the shore. He stated also, when it is working, we have the sand transfer plant, but that has an uncertain future at this time.

Mr. Weinberg asked what is the economic difference between the use of rock and the sand retention device made of concrete, such as the PEP? Mr. Campbell responded they have not evaluated that but in Pinellas the rock revetment was about \$2,500 a running foot and the PEP Reef is less than that. Mr. Weinberg did not believe the life span of either one can be determined at this point. Mr. Campbell stated the rock is predictable, but the longevity of concrete cannot be predicted.

Mrs. Wiener stated she is a layman and it seemed obvious to the layman that when sand is placed there and there is nothing there to retain it, it will wash away. She thought if something is placed there to retain it, the question is how much time will it buy and wondered if there was any possibility at all that where the experiment reef is now located, that sand could be put there and that could be used as a study as that reef is already there? Mr. Rauch responded at the time the reef was installed, a bulldozer spread the sand that was placed there artificially because prior to the installation there was no beach. He reported that slowly there has been more sand showing up on the beach, so identically it is almost a scenario of the Mid-Town section, although on a smaller scale.

Mrs. Wiener asked Mr. Ryder as he goes around the State, has he found any device that indicates that it would add at least one-third to the sand situation when there is renourishment? Mr. Ryder responded there is not that many devices around the State but Deerfield Beach had a project which worked very well with a combination, but he didn't believe there was enough information right now to answer the question.

Mrs. Wiener asked since the State is the one that is searching for answers to this problem, if this indeed proved to be the answer to the problem, and if they all agreed on the PEP reef, would there be a possibility the monies the Town had spent for their share could be returned to the Town? Mr. Ryder responded the problem is any device used in this particular site may or may not be appropriate for other sites.

Mrs. Wiener stated she had a problem with that as she believed the physical laws of nature were the same anywhere as there may be an adjustment up or down, but basically they don't change as gravity is the same, undertows are the same, waves are the same, although the shoreline may be different and that is where you come into the adjustments, but she thought consideration should be given to rewarding that particularly community that might come up with the answer, be it the Town or any other community.

Mayor Marix understood that when the reef was put in, they were going to add sand, but when time had elapsed, enough sand had accumulated to cover the reef, and they didn't have to add the sand. Mr. Rauch stated that was correct. Mayor Marix felt that answered Mrs. Wiener's question, as they were scheduled to put in the sand, but in practice enough sand had accumulated and if they had put in more sand, it wouldn't have held there, as they already were all filled up. Mr. Rauch stated they were filled up and at this particular time, any excess sand that is being brought over the reef by wave energies, is being distributed to the southern beaches.

Mrs. Wiener asked while this has been going on, has it ever been compared with other beaches in the southern part of the County? Mr. Rauch stated they have evaluated the topographic measurements over a two year period and the County had also performed their studies and the County's finding was published about three months ago, whereby the average shore line, the 43 mile long County beaches have receded on the average four feet per year, or eight feet during the period the reef has been in place, so compared to the average, they have not only prevented erosion but they gained slightly, while the average beach north of here had declined eight feet.

Mrs. Wiener stated the reason she asked the question, she was at the shoreline at the foot of Sunrise Avenue where the Bradley Beach Club is located at the end of last summer, and found a lovely beach and the person who she was with stated this beach has grown in the past year and wondered exactly why this happened as some beaches have disappeared totally and others have increased or stayed the same, and wondered if it was possible as these things are

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being tested if this was taken into consideration. Mr. Rauch stated they have noticed that as well and if in certain periods of certain conditions, sand gain was gained by other stretches of county beaches and the one at 1820 South Ocean had gained even more than others and if sand had been put there, it was definitely more noticeable in the area around the reef, so all of them have fluctuated except the PEP reef side had held and even though there was erosion, their beach went back to the mean high water line on the day of installation. He stated if there was a reef all along the coast, all would gain.

Mr. Weinberg asked if the PEP Reef was benefitted also by the South littoral drift, as well as the beach below it? Mr. Rauch stated there is very little or no drift in this area and very little sand and if you would look northward from the PEP reef, there is very little beach. Mr. Weinberg noted they were able to transfer sand to the south from the PEP reef to which Mr. Rauch agreed. Mr. Weinberg stated this beach in the past has benefitted from the south littoral drift. Mr. Rauch stated it came after a study of the Corps of Engineer revealed the average sand suspension was in the near shore zone and it consisted of sand which was 90% off-shore migration while only 10% was the littoral drift, so the quantity of on-shore/off-shore sand which is being caught and retained by the reef, then allowed the fill-up on the southern side and very little came from the littoral drift.

Mr. Weinberg asked if he was saying the Phipps Ocean Park was benefitting by the off-shore/on-shore drift rather than the south littoral drift to which Mr. Rauch agreed, noting there are some groins along Sloan's Curve, which would interfere with the littoral drift, so any gain or loss south of Sloan's Curve does occur, it is usually an on-shore/off-shore migration.

Mr. Rauch commented on the durability of the Reef, which is built out of 4000 PSI of concrete similar to pylons which are used for bridges in South Florida and have a forty year plus guarantee. Attorney Lickle asked for permission to clarify several points, one with regards to the observation of the beach at Sunrise Avenue as he thought that might be a benefit from the sand pump. Mrs. Wiener pointed out this has not been in operation for over a year. Mr. Lickle stated the migration of that sand and the dredging of the inlet has some effect.

Attorney Lickle wished to point out there have been two model studies done, one was a small model study done by FAU and Dr. Lin which produced waves in the tank test with sand there and at that point is when they modified the design in order to show an accretion in sand deposits and that test is available and was submitted to DNR. He stated the second test was the wave action. Mr. Ryder stated what he was discussing was the physical model study in the Mid-Town area. Mr. Weinberg asked Mr. Ryder if he cared to comment on the test results referred to by Attorney Lickle to which Mr. Ryder responded negatively.

Mrs. Wiener stated they have all read a lot of information and obviously there has to be a reason why after a two year period, there isn't a great reception on the part of the State and she would like to know why. Mr. Ryder stated so would they like to know. Mr. Lickle felt the problem was probably communication as there is a lot of miscommunication about what studies have or have not done. He felt there clearly was testing in models and in the field and he believed what Mr. Ryder was suggesting was doing a field test in the Mid-Town area. He stated there is no potential solution without risk and he thought they all understood that and he thought his client was at the stage of how much more testing was required before they get the suggestion that this reef might be an alternative solution. He didn't think there could ever be enough tests devised to create a zero risk factor and the DNR at this point does have all the data available but continues to request additional data and perhaps it is time for the DNR and the Town to take a little bit of a risk and come perhaps to a conclusion. He agreed with Mrs. Wiener that if the Town does come up with a solution, that the Town should be reimbursed or awarded for having done so. Mrs. Wiener felt the State would be at least as anxious as the Town to find a solution and in some of the information that has come back from the State, they simply didn't rubberstamp and that is why they are all in a quandary.

Mr. Heeke asked if there was any problem with credibility with FAU on the studies they have done or Dr. Lin's studies? Mr. Ryder stated he is sure they have taken a look at it but he doesn't know what DNR's opinion is on it right now. Mr. Lickle understood there was no debate about the data submitted as far as the testing, it simply is the interpretation of that data and the presentation of that data. Mr. Weinberg didn't see how an intelligent decision could be made by the Town Council if they haven't interpreted the data? Mrs. Douthit stated she gets the impression the DNR has not digested this information and wondered how many more years this would go on? Mr. Heeke stated this is all part of the frustration they have been dealing with as they have gone through many agencies and some would permit it and others don't and asked if they could ever get to a point where they would be speaking the same language among the agencies and in addition, it is an unfortunate burden of expense being foisted upon the applicant, the Town and others who have a concern. He stated the Council is genuinely concerned with the beaches in the Town and want a solution, but they are frustrated.

Mrs. Douthit asked Mr. Doney how long this has been going on? Mr. Doney responded the Comprehensive Coastal Management Plan was completed in late 1986 and the first application for a Beach Nourishment Project at Mid-Town was submitted in late 1987.

Ten minute break was taken.

Meeting was called back to order by President Heeke.

President Heeke commented on the statement made by Mr. Campbell on the fact that certain types of tank model studies proposed for the University of Florida they have physically been unable to reduce the sand size and it seems to him it is common sense that could adversely affect the validity of such testing and wondered if there was any alternative available which might be workable and acceptable. He stated his frustration on sending more studies on to the University of Florida when there have been some questions raised by the people learned in this field about how good those studies would be anyway once they are completed and they may have to go to more numerical type studies.

Mr. Patrick Martin, consultant with American Coastal Engineering addressed the Council stating that whether or not physical modeling would or would not be correct, it would be subjective among peers. He stated Dr. Lin has performed recently and sent to the DNR a very good three dimensional numerical model based upon best available topographical and metric information at the Mid-Town section, and it is his opinion that this numerical model is the best available model and test that they have at this point to determine the PEP Reef's merit in this particular location. He believes American Coastal would like to see this reef placed prior to beach renourishment, monitored and prior to the installation, they would work out with Mr. Campbell a proper location for the PEP Reef so that if renourishment does occur, they could work in harmony and that is where they would like to go. He didn't see the need for further studying on this as they have been working with the DNR and his personal observation is that it has been frustrating as they go back and forth over and over again and that he hopes they could move forward with it.

He stated DNR is conservative and he couldn't convince them with what has been provided to them, which he felt were exhaustive studies.

President Heeke stated his concern because he has asked the question about the credibility in the eyes of the DNR of Dr. Lin and FAU and whether this was in any way influencing the decisions being made or the interpretation of the studies and reverted to his opening comments that DNR is the only agency where the sand the PEP Reef has yet to

be approved for the permitting, except for the Corps of Engineers on the sand and this raises questions as to what is happening in Tallahassee. He heard Mr. Campbell indicate this morning he has some studies also available that could be helpful and asked Mr. Campbell to reiterate these.

Mr. Campbell advised as part of the Beach Nourishment evaluation, they set up and ran a computer model which takes and uses off-shore wave climate, refracts the waves into the shore and predicts the performance of fill and various configurations, including breakwater, groins and tested solutions. Mr. Weinberg asked how valid are studies like that? Mr. Campbell stated they are not 100%, but perhaps somewhere in the range of 15 to 20%. He said to make the studies more valid, however, they calibrate the models to replicate the historical shoreline record and take a period of fifteen years and calibrate it so that it gives the shoreline change which has occurred during that period of time. He stated given that calibrated model, running future scenarios, they have a higher level of confidence and the discussion he had earlier is that model is on the computer now and they could take the breakwater, with the model results that exist for wave reduction and run that model with the project currently proposed and see what the difference would be, with and without the breakwater and get a handle on potential performance. He believed that just by drawing the cross-sections, a determination could be made as to how much toe of fill volume would be replaced; and secondly, the model could tell them about longevity of the project with and without the breakwater.

Mr. Weinberg asked how long would it take and how much would it cost? Mr. Campbell responded the cost would be approximately \$7,000 to set up the breakwater and time-wise, the next six weeks to two months.

Mayor Marix felt it would seem since the DER did not disprove of the reef and no-one else disapproved, although the DNR has not as yet give their permit, she couldn't see what harm could be done by trying the reef to see what it does with regards to wave action if and when they get the money to put sand in, they would, but she is not convinced they will get that money. She knows they have been six years on this project and have spent over a million dollars and they are still sitting here with no beach. She felt they were denying themselves the possibility of any sand being held in place and denying themselves the knowledgeability of knowing whether it would work and they are getting nowhere and she asked what the big damage would be if they would put the reef in place and see what happens, even without sand. She didn't think they had anything to lose as we don't have a beach now. Mrs. Wiener felt they would be spending a lot of money. Mayor Marix felt they couldn't be spending it much quicker than they are now as they have some money put aside for the sand, which they probably cannot match, but she felt they are in a dangerous situation for the people who live here and they are getting nowhere.

Mrs. Wiener responded as Mr. Ryder indicated, and his Department seems to be telling us that the two in conjunction would work, but that the PEP Reef is not going to be bringing the sand in. Mayor Marix believed Mr. Ryder was saying it would be good to have them both. Mrs. Wiener stated that was right, but with the sand. Mayor Marix felt if they could afford one, they should test that one while they are trying to get the money for the other and her question was directed to Mr. Ryder. Mr. Ryder clarified that he is not in the permitting side of this as that is done by the Bureau of Engineering Regulation but with respect to putting in the PEP Reef in first and studying it, he didn't have a problem with that, but the only thing is that when they get ready to do a restoration project they would then have decisions to make as to whether it would have to be moved. He believed the PEP Reef will compliment the Beach Restoration Project as a sand retention device and if there was some way for it to be known where the PEP Reef should be located in relation to the Beach Restoration Project and place it at that location to determine what will happen over the next year or so while the Town is getting the Federal funding, he sees no problem with doing that, excepting they will have to get a permit from Tallahassee.

Mr. Ryder felt if this happened and it compliments the Beach Restoration project and it is located where the Beach Restoration project will exist, then he sees no problem with giving it a try for the first year or so. Mayor Marix wondered if one of the engineers could answer that question of whether the Reef could be put in the correct place to be placed for when it would be needed? Mr. Rauch responded that even though they have not been requested to do so by the Town, they made additional studies and this study was concluded on Mr. Campbell's finding about the beach slope being a natural one in southeastern United States and there is a four to five and one half per cent of beach slope. He stated over the past thirty years, the whole bottom has been decreased and lowered to about one foot below. He stated if they want to have a one hundred foot wide beach and if the sand would be placed in a horizontal level, one hundred feet wide and in order to have this amount of sand stay in place would require a sloping beach extending from 600 to 800 feet from the wall, whereby it would cover a very large amount of marine habitat. He stated if they would like to have a 100' wide beach and in order to achieve same, it could be established with a natural beach slope four and one half degrees, and the reef would be placed 225' from the wall or is in a corridor which has been mentioned in the permit between 200 and 250 feet from shore, depending on the water level at the time of installation. He stated they could place sand 600' off shore due to the fact the bottom of the ocean is sloping down with the water depth at 14 to 18 feet, in order to make a base for this 100' by nourishment, they would have to follow the declining ocean bottom and the amount of sand it would require would be three times as much and if they placed a reef they would need only one-third of the amount of sand in order to establish a natural beach slope. He stated in order to put in a reef, the cost would be approximately \$500 per foot for the reef and \$330 for the sand to establish a 100 foot wide beach. He stated to pump sand in, it would cost \$989. He stated they would have a more stabilized beach and they may be able to determine over the twelve month test period that they are able to mitigate the undertow and riptides. Mayor Marix stated the point she was trying to get to is that on the plans the Town has at this point where the sand would be, would he be able to place the reef in the place where it would have to be when they came to do the sand? Mr. Rauch responded affirmatively, noting if the plan for the Mid-Town Beach was the future beach be 150' wide, subsequently they would place the reef further out, but the end result of a 100' foot wide beach and in order to comply with that, this is a natural phenomena that is being practically requiring this particular distance, which is 200 to 250 feet off shore.

Mrs. Wiener stated when something comes before this Council, there are always two sides of the story, and this PEP reef may be the greatest idea ever, however, when any kind of work is going on in the Town, in order to protect the Town, we require a performance bond and she asked if the requirement of a performance bond was a feasible request for this particular project? Mayor Marix asked if she was asking American Coastal to guarantee the results of the construction? Mrs. Wiener responded affirmatively, stating she didn't believe the Town should be an experimental laboratory and if we can get a performance bond, she would be willing to go with this project. Mr. Rauch explained he has been working for seven years on this project and there are three groups judging this project, one is the environmentalists, secondly, the engineers, scientists and biologists; thirdly, the agencies that are in charge of the permitting and a fourth group which is a silent group, the taxpayers. Mrs. Wiener asked again if there was in their industry such a thing as a performance bond? Mr. Rauch replied there was a bond on the first structure which required them to remove the reef in the event there were any adverse effects and the bond was in the amount of \$30,000 and it is not in effect any more. Mrs. Wiener stated that was an entirely different bond than of what she was speaking. Attorney Lickle responded he was not aware of performance bonds of this type.

Mayor Marix commented that they know sand is not a permanent solution and there is no way we can ask for a performance bond on sand, since it will always have to be replaced. She stated they are looking for a solution to a state-wide problem and they wouldn't have the problem if they could guarantee it would work.

Mrs. Wiener strongly believed that if the makers of a product believe in it and know that their test results are favorable, there should be no problem and she would not want to be involved in something that would have no

guarantees. Mrs. Wiener recalled Mr. Heeke had said earlier the fact that the DNR is the only agency that has not granted permitting to the reef raised questions in your mind and she asked what were the questions? Mr. Heeke responded he does have questions as the length of time it has taken and the fact that the other agencies, including the Corps, have permitted this as they are all looking at the same project, and he thought perhaps the DNR is looking at it from a slightly different point of view.

Mrs. Wiener explained what she was trying to get at is sort of like someone is taking care of a heart problem and the doctor who is taking care of your broken leg, says you can go ahead and the doctor who is taking care of the brain surgery says "fine", but the person who is ultimately responsible for your heart, says there is a problem, and she didn't know if that was the situation here with the DNR, or if they are on an equal footing with the other agencies with regard to the permitting.

Mr. Weinberg supposed if DNR didn't approve, could the Town proceed with it anyhow? Mr. Ryder responded the Town could not proceed without a permit. He stated he agreed with Mrs. Wiener's analogy. Mrs. Douthit felt DNR hadn't said anything positive in all the years this has been going on. Mayor Marix didn't believe perhaps the other agencies know how quite serious the situation is in Palm Beach.

Mrs. Wiener understood Mr. Ryder requested this meeting be held today. Mr. Ryder indicated he suggested the Town may want to discuss some alternative measures. Mrs. Wiener asked what the purpose of this meeting was, if in fact there would be no permit forthcoming from the DNR.

Mr. Ryder stated they have a permit application before them for a PEP reef and one for a Beach Restoration project and the idea of discussing the alternatives is whether the Town is going to have one or the other, which one they should have or should it be a combination. He personally felt that sometime down the road, the combination would be the way to go and assuming they could get more information on the PEP reef as to how well it will retain sand once the restoration project is in place. He thought that is exactly what the PEP reef is for, a sand retention device, however he thought they would have to have some studies on that. He believed if it was going to be just a PEP reef project alone, he didn't think that would provide the Town with the protection they desire. He thought a combination of both could possibly save a lot of money and that is the reason for the meeting. Mr. Weinberg asked if he was in a position to give any authorization at this point? Mr. Ryder stated not as yet, as it behooves his department to make a determination as to what degree of success the PEP reef will have in sand retention with the beach restoration project. He understood their frustration with this project as projects of this type are tedious and complex and the average period of time the sand is on the beach is seven to eight years.

Mr. Heeke recalled during that period of time they have had a revetment to the seawall and it was fortunate one of the members of the Council was able to get that through the Governor's office, or they wouldn't have been able to proceed even on this emergency type measure.

Mr. Ryder didn't believe his agency had enough information to make up their minds on this project, and they have requested additional information as they don't feel comfortable with the amount of information available at this time.

Mrs. Wiener asked if they have viewed the site and talked with Mr. Rauch and his staff, as she believed that was the way to find out information with eye to eye contact. Mr. Heeke believed Mr. Campbell should also be a part of that. Mr. Ryder didn't know.

Mr. Lickle asked if the purpose of this visit was then to try to find out where the Town wanted to go at this point and asked if this impacted on his office to have this type of direction from the Town that they might like to further investigate a beach retention project, like a PEP Reef? Mr. Ryder responded it is right now an either/or situation, that is the PEP Reef or a Beach Restoration Project and he was not sure that was the best way to be going. Mr. Ryder stated the Beach Restoration is by far the best alternative and where he sees the PEP Reef come into play, would be to compliment the Beach Restoration Project to a great extent. Mr. Lickel observed in Mr. Ryder's office right now, it is presented as an "either/or".

Mr. Heeke recalled at a Town Council meeting, we had some of the agency people on the telephone and the Town requested two separate permits which were mutually exclusive and they came back to us stating they wanted one permit for administrative control, even if the projects are mutually exclusive. He asked Mr. Ryder what would his position be if a study was run and it was found they did not need as much toe of fill, or it revealed that if we used a submerged break-water system for the toe of fill, in combination with the Beach Nourishment, so the application would have to be modified to have a combination project.

Mr. Ryder responded he believed the Beach Restoration project as designed now is the appropriate measure. He sees the PEP Reef as a need to hold that sand on the beach a lot longer, and that is the unknown quantity - how effective will it be as a sand retention device. He didn't believe the toe of fill should be reduced any from the current design as it exists as the project as designed is what the Town needs. He stated the only question he has is whether the PEP reef will hold the sand and number two, to what extent? Mayor Marix asked if they went ahead and tried to do them both, and if they put the Reef in first and wait for the federal funding, they would be partly there and possibly could have some good studies by that time. Mr. Ryder stated he sees no problem with that as long as the Reef is placed in the location where it will compliment the Beach Restoration Project, and that would require engineering analysis.

Mr. Campbell advised to identify the decisions for the Council today, pointing out they are at a state where the permit for the DNR is being readied to be issued and the question before the Council is there are two projects which are probably incompatible as they haven't been designed together and does the Council wish the projects to be made compatible and then at a later point, decide which one should be pursued. He stated the second route the Council could take is do they want the mandate from DNR to proceed as stated, which would be the "either/or" permit and that is what Mr. Ryder is asking. He believed in order to do that the graphic presented today by Mr. Rauch would have to be evaluated by their firm to make a determination if it is an accurate depiction of the cross-section and how would it impact the beach restoration project from the toe standpoint and the possible analysis of longevity of the project could be done as well.

Mrs. Douthit believed they should be compatible and asked how much would be charged for the engineers to do their study? Mr. Campbell responded to run the longevity model would be \$7000 and the evaluation of the information submitted today would be \$2000 and that would only take a few days.

Mrs. Wiener wondered if Mr. Rauch's people could make the determination of whether or not it is compatible? Mr. Campbell responded the Town hired them as their Coastal Engineers and referred to the analogy presented by Mrs. Wiener earlier stating the Town hired them to be their heart surgeon and they have looked at tried and tested methods (new drugs) and they are talking today with the surgeon and the experimental drug salesman, so they have to look at the situation in that context and cannot put equal weight on his recommendation and the others that would come before them. Mr. Campbell stated they have looked at all of these units and made his recommendation on that which his firm feels would solve the problem, gain the funding and the permits and proceeded on that path, but today

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is the question of whether or not to augment that system with a PEP Reef, which is a good question, but it has to be looked at in the perspective of what is prudent, tested and recommended and then what they might do to augment that and he feels that his recommendation to go forward with the Beach Restoration program has already taken into account many of these things, however, such elements such as the PEP reef can be revisited and combined to be more compatible and that is where they are today. Mr. Heeke believed they would be able to make a more informed judgment if they were made compatible. Mrs. Wiener stated if one permit is made out of the whole thing, and then DNR doesn't approve, we would be back to round zero and would have to start all over again, and that is her concern. Mayor Marix believed she heard Mr. Ryder state if the plans are compatible, he doesn't see a problem with them starting with the reef and trying to get the money for the sand, as long as they are compatible.

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Mr. Ryder stated he said if the reef is placed now, it should be placed in a spot where it will be compatible with the beach restoration project, however, that needs to be analyzed by the Town's engineer, to make that determination. Mr. Heeke asked if they would accept the analysis run by Mr. Campbell's people? Mr. Ryder stated he would, however, CP&E has no vested interest and already have the restoration project so they have no vested interest in running an analysis on the PEP Reef. Mrs. Wiener did not agree, stating we are now talking about considerably less sand and a smaller project. Mr. Ryder indicated he would not do the project with less sand. Mrs. Wiener stated she would be more comfortable if all testing whether it be for the PEP Reef or for the possibility of combining them were done totally independently. She did not agree with the statement made earlier by Mr. Ryder that Mr. Campbell's group had no vested interest as she feels they do, and they are great people but the fact remains that the project will be a much smaller project sand-wise and be less expensive, and Mr. Ryder states it isn't going to be less expensive. She stated the Council gets different things from different people and that is what makes it frustrating. She heard Mr. Rauch state if they placed the reef in a certain position they would need one-third less sand, so she would like to see a totally independent testing and she didn't think it would be right to have anyone of the two groups here today or anyone associated with them do the testing. Mr. Ryder indicated he had no credibility problems with any of these people, and perhaps they could have the University of Florida do the testing as they would be totally independent. Mr. Heeke stated that would be the computer model and not the physical model. Mr. Ryder stated that would be the same model that could be run by Mr. Campbell.

Mr. Lickle stated Dale Padgett of DNR has observed that the permits at any time could be merged administratively. Mrs. Mitchell of American Coastal Engineering stated that was so, but leaving the Town the option of having both of these go forward separately now, with the idea that after the studies are made, that may happen further down the road. Mrs. Wiener asked how long it would take to do this testing. Mrs. Mitchell stated she was told last week that the material they submitted was turned over to a peer group at the University of Florida and it would be a matter of someone picking up the phone asking them to, while they are reviewing the current materials, to also consider this study and let us know the time it would take and the costs.

Mr. Lickle suggested that if someone from DNR on the permitting side could visit Palm Beach to allow the Council to direct their questions to them and find out what their concerns are, would be helpful. Mr. Ryder stated he would suggest that. Mr. Heeke asked Mr. Campbell or Mrs. Mitchell to check with DNR and ask them to secure an estimated cost figure from University of Florida to run the studies and perhaps Mr. Campbell would be willing to loan them the computer program so they could check on that.

Mr. Dusey advised the Mayor and Town Council that when he was in conversation with DER prior to the meeting last summer, there was strong feeling on their part that if these projects were merged, the Town would have to start over from the DER perspective and he thought this was very important as they have two or three years invested in this project as well as thousands of dollars getting the permit and they would have to start over. He stated also if the projects are merged, the Federal Funding is gone.

Mayor Marix thought there was a difference they could work on - the difference between merging and being compatible, as she viewed being compatible giving the opportunity to merge later on. Mr. Ryder advised they would still need that information requested to make the determination if they would be compatible. Mayor Marix didn't believe that they would have to refile the permit at this time as long as they are compatible, and if they are compatible and permission to install the reef is granted, awaiting the sand money, they would be operating separately but the condition of permitting of either would be that they had to be compatible with each other. Mr. Ryder stated the compatibility analysis needs to be run and if the PEP Reef is placed to complement the Beach Restoration project, then possibly it might continue to be two applications with one being compatible with the other and that is a possibility. Mayor Marix stated if that is workable, it might be well to follow through on it rather than designing something new which we wouldn't be able to afford anyway because of the Federal monies. Mr. Ryder stated ordinarily when they are thinking of merging, they would be thinking of bringing the toe of fill of the beach restoration project landward somewhat and that could cause a lot of problems with the DNR as he didn't think the toe of fill should be brought back at all, and reiterated the design project on the beach restoration is quite appropriate as it stands now. He thought they would additionally have problems with the Federal government if they did that. However, he said if they just placed the Reef in addition to the designed beach, he didn't believe there would be a problem, but the only thing that would be necessary is to do the studies to determine if they can be compatible and try to make a determination on the effectiveness of the PEP Reef.

Mayor Marix commented that even if they lost the gaining of the sand money, if the reef were compatible, it might waste sand, but it might be a workable reef further out. Mr. Rauch advised the criteria is what would have to be taken into consideration as for the reef to perform at its best, there has to be a certain amount of water over the top of the reef. He stated studies have revealed there is approximately two and one-half to four-feet at the upper edge of the reef being the water level, which makes the unit work best. He commented that if they would have to place the reef further out, that would mean they would be in deeper water and subsequently, for every fifty feet or so, the reef would have to be larger. He stated the structure proposed is two units together which is over fifty tons and if it is going further out, the cost would increase. Mayor Marix asked Mr. Ryder to give his comments on Mr. Rauch's statement. Mr. Ryder thought they would have problems with the Corps of Engineers with regards to participation financially in the project. He thought the project as designed maximizes benefits and the reduction in that would cause problems with the Corps, and perhaps the State as well. He believed that the PEP reef could be placed further offshore in deeper water, but whether it works as well or works at all is anyone's guess. He asked if the modules themselves came in different sizes and could they be made larger. Mayor Marix stated Mr. Rauch stated they could, however, it will be more expensive and they would not be sure of the efficiency. Mrs. Wiener asked if the PEP Reef has been tested that far out? Mr. Rauch responded the tests were performed on a four, five and six foot high wave action, and the six foot high was designed to provide a one hundred foot wide beach.

Attorney Lickle recalled Mr. Ryder has said there may be a problem with the Corps if the nourishment project was cut back and asked why would they have a problem with less sand - is that because it is a standard model used throughout the State or is it the accepted beach renourishment model, because certainly less sand means less damage to the environment, both from a cover-up and a pumping situation and he doesn't know why they would have a problem with a scaled down project. Mr. Ryder responded the Corps has cost analysis of all the projects, as far as storm protection benefits and recreational benefits and if the project is adequately designed to provide these benefits, the cost ratio would be at one - but if the benefits are reduced, the cost ratio would be below one and the Corps of Engineers does not become involved in any project that is below one. Mr. Lickle asked if this was based on historical date of beach renourishment projects? Mr. Ryder stated it was based on this particular project.

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Mayor Marix referred to the exhibit shown to them this morning by Mr. Rauch and asked if the beach was the same there? Mr. Lickle stated it was 100 feet to the water's edge, so what they are talking about is the design of the beach after it meets the water and how that differs in storm protection. Mr. Dusey asked if Mr. Campbell could comment on whether the beach was the same on the proposal? Mr. Campbell responded he has not evaluated that proposal. Mr. Campbell responded he has not evaluated that proposal which was submitted this morning. He advised it was important to understand that when a beach restoration is installed, it restores the dry beach and has a toe that goes considerably off-shore and shallows the water in that area. He felt one other way of making the projects compatible would be to place the off-shore units on top of the fill at the proper depth and the proper distance off-shore and not using them as a perch but as originally intended, which was to create an off-shore breakwater effect. He stated in the analysis that the University of Florida would be undertaking, they could take a look at that as well, possibly not moving them into deeper water but placing them at the proper location after the fill is in. Mayor Marix stated that would be if they ever got the monies. Mr. Campbell recalled one of the problems with regards to the Federal monies this year was that the GD, had not been totally reviewed by the Corps and we were not in the Corps' budget, so they had to get into the budget outside of that process. He believed the timing that they currently are going through that the Corps would have approved the document by the time they take up their issues of proposing budgets and they will be in the next budgeting cycle and get into the next process.

Attorney Jay Jurgens advised the Mayor and Council that there has been a lot of good dialogue this morning, but since his practice is limited to environmental permitting, he wished to caution them to not merge the permits, as he could foresee problems with the different agencies. He stated there is no reason why they can't move parallel with the two different projects, secure permits on both and build them in a timely fashion. He believed the way the DER permits are currently structured, they would jeopardize both of the permits if they merged the DNR Permit at this time. He felt it took a lot of work and effort to get the DER Permits in hand and they very well could be jeopardized and would have to start over. He believed there was no reason why if the Council was going to move forward with the sand project and then compliment it with a reef that the current application pending before DNR could be modified with whatever changes the studies would indicate to make it necessary for them to make the projects complimentary. He felt they may have to modify the sand permit slightly but more than likely that project is designed the way it should be and it would simply be a matter of modifying the Reef permit, as the additional studies should indicate and then they could go back to the DER and seek a modification of the existing permit, which hopefully they would treat as a modification.

Mayor Marix asked if it would serve any purpose for Mr. Ryder to go back to Tallahassee, before a decision is made on this matter, and tell them what has gone on here this morning? Mr. Heeke believed they could appreciate the DER problem that we don't want to start from round zero and the whole object of this exercise is to get a beach. He stated they are getting ensnared as each bureaucracy has different tests and requirements and he is sure Mr. Ryder can sense the Council's extreme frustration and they are trying to chart a course which will not jeopardize either approach, and so they would be in a position to move forward financially, depending on the Federal funding. He stated they have no problem with what kind of a program it will be, and whether it is a marriage of the two or one or the other, but he felt they needed to be in a position to make a decision to move forward.

Mayor Marix pointed out the more they wait, the more inflation will eat them up and also there always is the impending storm.

Mr. Weinberg stated they evidently must have the compatibility feasibility study as the reef and the restoration have to be able to work together. Mrs. Douthit thought they elected to proceed with that. Mr. Heeke advised they needed a motion. Mr. Weinberg moved that a compatibility study be made and no action be taken until that study is completed and then it be studied by the Town Council. Mrs. Douthit stated she would second it with the condition that Mr. Campbell's computer program with all its information could hopefully be provided to the University in an effort to save time and money. Mr. Heeke asked if the Council wished to have an estimate of what this study will cost? Mr. Weinberg amended his motion to state that after an acceptable estimate is received, a compatible study be made and no action to taken until the study is completed and submitted to the Council.

Mayor Marix asked if Mr. Ryder would be good enough to find out what they should be doing as well.

Mrs. Douthit as the seconder accepted the amended motion. On roll call, the motion carried unanimously.

Mr. Heeke commented that they would all be looking to Mr. Ryder's office for their recommendations as they are exhausted with regards to ideas. Mr. Ryder stated his office is also. Mr. Heeke stated Mr. Ryder's department could serve a very important function in this by making suggestions bearing in mind, the other considerations which are looming out there with regards to the Corps and the DER. Mr. Heeke thanked Mr. Ryder for focusing on this today.

Adjournment

VI. ADJOURNMENT. There being no further business, the meeting was adjourned at 12:22 PM.

Grace T. Peters
Town Clerk

TOWN COUNCIL MINUTES OF
MEETING HELD ON JULY 9, 1991

Roll
Call

I. CALL TO ORDER AND ROLL CALL: The Town Council meeting of the Town of Palm Beach was called to order by President Heeke at 9:30 AM on July 9, 1991 in the Town Hall Council Chambers. On roll call, the following were found to be in attendance: Mayor Marix, President Heeke, President Pro Tem Weinberg, Councilman Ilyinsky, Councilwomen Douthit and Wiener. Also attending for all or portions of the meeting were: Mr. Doney, Attorney Monaghan, Mrs. Peters, Mr. Dusey, Mr. Elwell, Mr. Jakubiak, Mr. Moore, Mr. Frank, Mr. Zimmerman, Chief Terlizzese, Chief Elmore and Mr. Dytrych.

Invocation

II. INVOCATION AND PLEDGE OF ALLEGIANCE: Invocation was given by Father Warren and Pledge of Allegiance was let by President Pro Tem Weinberg.

III. APPROVAL OF MINUTES - None.

IV. APPROVAL OF AGENDA: Motion was made by Mr. Ilyinsky, seconded by Mrs. Wiener to approve the agenda with the following changes: withdrawn was Item XIII. B.2 - Variance No. 36-91, Wynne S. Ballinger and postponed to the August 13th Town Council Minutes was Item XIII. B.2, Variance No. 38-91 - Donald Trump. On roll call, the motion carried unanimously.

Pre-
sentation

V. PRESENTATION: Mayor Marix recognized Sgt. William L. Cypher of the Police Department with a plaque for his 24 years 2 months of service.

Comments
of Mayor

VI. COMMENTS OF THE MAYOR: "As we gather for this July meeting, we are in the middle of summer.... hot weather, not much traffic, many people on vacation; even Mar-a-Lago has been deferred from this meeting.