MEMORANDUM FOR THE RECORD 28 September 2012

SUBJECT: Freeport Harbor Channel Improvement Project, TX, Follow-up Civil Works Review Board, 23 August 2012

1. On 23 August 2012, the Civil Works Review Board (CWRB) met to review and act on the Freeport Harbor Channel Improvement Project (Project). The Board members included MG Michael Walsh (Deputy Commanding General for Civil and Emergency Operations, Chair), Mr. Steve Stockton (Director of Civil Works), Mr. Theodore "Tab" Brown (Chief, Planning and Policy Division), Mr. James Dalton (Chief, Engineering and Construction Community of Practice (CoP) and BG Michael Wehr (Commander, South Pacific Division). Mr. Douglas W. Lamont and Ms. Marianne Matherny-Katz, Office of the Assistant Secretary of the Army for Civil Works (OASA (CW)) and Mr. Gary Waxman of Office of Management and Budget (OMB) also attended. Participants included the CWRB members, representatives from the Office of Water Project Review (OWPR), Southwestern Division (SWD), Galveston District (SWG), Port Freeport, Planning and Policy Division (CECW-P), and Southwestern Division Regional Integration Team (SWD RIT).

   Everyone was welcomed shortly after 1300 by MG Walsh. He then made introductions and went around the room for participants to introduce themselves.

2. COL Christopher W. Sallese began with the project briefing. COL Sallese's briefing covered information on Texas being number one in the Nation for maritime commerce; that there are 15 deep draft ports (four in the top ten) and 13 shallow draft ports all linked together with the Gulf Intracoastal Water Way (GIWW) and having an economic value of $300 billion. In addition $20 billion in private investment is planned throughout the state. Port Freeport is the Nation's 27$^{th}$ largest waterway in total tonnage and is the 16$^{th}$ largest port in foreign imports and exports. The briefing included a re-cap of the issues raised at the previous CWRB in June 2011, and how those concerns were addressed and resolved. The result of the further analysis is that while the recommended plan remains the same as identified in June 2011, for the Lower Stauffer Reach, the NED plan increased from 46 ft to 51 ft. Now the NED plan matches the previously identified LPP for this reach. The economic model was approved by HQUSACE in March 2012 and the Independent External Peer Review (IEPR) concerns were addressed through the economic model sensitivity analyses and vertical team/Subject Matter Expert (SME) coordination. The briefing covered the project history and information about the Corps of Engineers and the non-Federal sponsor's long partnership. Port Freeport, the Non-Federal sponsor has been extensively involved throughout the study process.

3. The June 2011 CWRB action items from the panel included having the economic model approved and addressing the remaining IEPR concerns. The economic model approval process started in June 2011 when SWG initiated work with the Deep-Draft Navigation Planning Center of Expertise (DDNPCX). Actions taken included extensive updating and expanding information included in the model and improving functionality and documentation. The current model reflects the best practices in deep-draft navigation economic analysis and HQUSACE approved the model for one time use in March 2012.

4. The remaining IEPR concerns were related to petroleum and chemical forecasts, container benefits, service vessel benefits, increased draft of petroleum and chemical vessels and amount of sensitivity analyses conducted. To address the concerns SWG conducted 54 additional sensitivity analyses, revised methodologies to be consistent with Savannah Harbor Feasibility Study (best practices in container benefit evaluations) and coordinated all work with the DDNPCX, SWD and HQUSACE. The result of additional analyses associated with four of the IEPR concerns resulted in no change to the Recommended Plan and the result of additional analyses associated with one of the IEPR concerns resulted in an increase in NED depth for Reach 3 (lower Stauffer Channel). The end result is a better understanding of sources of risk through the additional sensitivity analyses performed and the model approval has resulted in a more robust model used to identify the Recommended Plan.

5. The reviews that have occurred since June 2011 included District Quality Control, SWD Quality Assurance, Agency Technical Review (ATR) including cost certification and economic model certification.

6. The Recommended Plan is the LPP for Freeport Harbor. COL Sallese described the LPP and its features. Reach 1 has an NED depth of 63/61 ft mean lower low water (MLLW), the LPP is 58/56 ft.; Reach 2 has an NED and LPP depth of 51 ft, Reach 3 has an NED and LPP depth of 51 and Reach 4 has an NED and LPP depth of 26. The 58/56 ft LPP for Reach 1 fits the Sponsor's goal (financial); NED Plan is 63/61ft. The Port consulted with local interests including industry and the Port felt that it is most cost effective for them to implement the LPP instead of the NED. The period of analysis they used was about 15 years. It was clarified that the U.S. Army Corps of Engineers (USACE) studies look at the National level benefits over a 50 year period of analysis while the Port's interests include both national and regional benefits. There are no pipeline relocations. The two pipelines that cross the navigation channel have more than sufficient cover for the project depth.

7. Dredging quantities are estimated at 17.3 million cubic yards (mcy) of new work material and an increase to 176 mcy of maintenance quantities over 50-years. Average annual operations and maintenance (O&M) costs increase by about $10.6 million cost-shared at a rate of approximately 52% Federal and 48% non-Federal.

8. The study addresses the Strategic Campaign Plan, particularly Goal 2. There has been close collaboration with all interested parties throughout the study. The Project adds value to the Nation. The Port is posturing itself for the future. Freeport LNG is redefining itself in regard to shale discoveries and processing; they are making changes to be able to export liquefied natural gas (LNG).

9. SWG recommended CWRB approval of the Feasibility Report and Environmental Impact Statement (EIS) for State and Agency Review. The project adds value to the Nation and the local interests have some $5 billion of planned investment within the study area. COL Sallese opened the presentation to questions.

10. Mr. Dalton commented on the number of additional sensitivity analyses that were run and stated that there is a need to get to a point of making value engineering decisions without doing lengthy analyses. He also commented on the vertical datum and sea level rise. MLLW is higher, how does it affect the cost-share and does the report address all that is needed on sea level rise? Mr. Pete Perez stated that cost-share is not affected by the 1 ft difference between MLLW and MLT [ correction: the cost-share is affected and is accounted for in the

report]. COL Sallese went on to discuss how the District will determine cost-share responsibilities for other TX coastal ports. Mr. Dalton stated that he didn't see how sea level rise and climate change impacts to infrastructure and channel operation was addressed in the report. This will be one of the first things addressed in Preconstruction engineering and design (PED).

11. Mr. Dalton questioned the proposed construction duration of 6 years and stated that we need to look at what would give us better efficiencies. COL Sallese explained that several factors determined the six year schedule including 1) restrictions on available dredging dates due to sea turtle environmental windows; 2) sequencing of work; 3) existing dredging equipment and amount of material to be moved. Efficiencies will be made up where we can.

12. Ms. Phyllis Saathoff, Acting Executive Director and CEO for Port Freeport presented the Sponsor briefing. Ms. Saathoff stated that the Port and the Corps have a long history on this study. The Port represents stakeholders and the State of Texas wants sustainability, is a growing port and wants to be a World-Class Port, not a niche port. The Port owns 7,000 acres of land. She emphasized that the Port is close to the open sea and is close to the Houston Metroplex (4$^{th}$ largest city). Freeport is close to a major petrochemical complex, has rail service and highway infrastructure, extensive pipeline system and supportive constituency from both industry and the public. The Port has plans to play a major role in containerization industry. The Port is working to build the "Port of the Future" and to become the "Port of Choice" for the 21$^{st}$ Century. The Port of Choice will have the Velasco Terminal, a $350 million container facility when complete, capable of handling 780,000 twenty-foot equivalent units (TEUs) annually. Highway infrastructure improvements will make access to the Port more efficient. The Port is working with the State on six new overpasses. Union Pacific has recently replaced the swing bridge over the Old Brazos River which will improve rail service to and from the Port. There is an extensive pipeline network connecting the Port and the petrochemical industry to other markets in the U.S. Full build-out of the Velasco Terminal will generate approximately 7,476 direct, indirect and induced new jobs, with economic value of $10 billion and State and local taxes of $396 million. Velasco will be online next summer. The Panama Canal should be completed by 2015, allowing the larger container ships access to the Gulf and South Atlantic ports. Port Freeport will be ready when the final piece of the puzzle (56-foot channel for petrochemical and oil industry and 51-foot channel for containers) is constructed.

13. Port Freeport sits in the midst of one of the world's largest petrochemical complexes with Dow Chemical, ConocoPhillips/Teppco Seaway, Freeport LNG, Bryan Mound Strategic Petroleum Reserve and many other chemical refiners. Dow has recently announced several expansions. Dow exports 48% of all the products they manufacture which complements the President's goal of doubling exports in five years. ConocoPhillips/Teppco Seaway imports approximately 12 million tons of crude annually which is pumped to its refinery in Sweeny, Texas and other refineries across the U.S. Freeport LNG has recently announced a $2+ billion liquefaction project allowing them to also export domestic product, complementing the President's goal of doubling exports in five years. Port Freeport is home to one of two Federal Strategic Petroleum Reserve storage sites in Texas. It has capability of holding a total of 226 million barrels of crude petroleum. Port Freeport and its stakeholders truly add value to the area, the region and the Nation.

14. The Freeport Harbor Channel Improvement Project will improve navigation and safety for the Port, allow for two-way traffic for certain class vessels, allow for crude carriers to maximize vessel loading at 800,000 barrels versus the current light loading of only 500,000 barrels, thereby taking advantage of economy of scale. It will also allow the larger crude carriers to discharge their crude at a safe and secure berth versus. lightering that goes on now and allow the larger 7,000 TEU container vessels access to Velasco Terminal versus 4,500 TEU vessels at the current 45-foot draft.

15. Port Freeport is also pursuing a separate project to widen the Freeport Harbor Entrance Channel. This is a $35 million project being funded by local interests. This will accommodate the largest LNG tankers in service today. As with the widening project, the Port is strongly committed to the Freeport Harbor Channel Improvement Project. Combined, the Federal government and the Port have contributed approximately $8.3 million to this project to date. This is a good project in terms of it being environmentally friendly; there are no overhead obstructions, no pipeline issues, an abundance of dredged material placement areas and a short dredging project of 11.8 miles. The $291 million price tag is an investment in our nation that will pay enormous dividends for decades. The non-Federal share is $114 million.

16. BG Michael Wehr raised the question of the timing and duration of the construction and will that allow the expected benefits to be captured. Ms. Saathoff responded that the Port will work with environmental issues and will visit the Hill to get support for funding to efficiently get the project constructed.

17. BG Thomas Kula, Southwestern Division Engineer, showed several slides emphasizing the ports of the Gulf area and their importance to the Nation. Four of the top 10 ports of the nation are located in Texas. Port Freeport is number 16. The Southwestern Division concurs fully with COL Sallese's findings and recommendations, is in full support of the Recommended Project, confirms that the Report complies with applicable policy and law in place at this time, anticipates favorable response to the draft Chief's Report and agrees that review throughout the process has improved and strengthened the project. Quality assurance has been maintained by Centers of Expertise involvement including the Cost Estimating DX, the DDNPCX, Engineer, Research and Development Center (ERDC) and all requirements have been met. SWD appreciates the support and teamwork from everyone. SWD recommended release of the Report for State and Agency (S&A) Review and complete the Chief of Engineers Report by the end of the calendar year, develop strategy to move the project forward in a timely manner with adequate funding streams and capitalize on the Panama Canal expansion by 2015.

18. Agency Technical Review (ATR) was addressed by Mr. Lee Ware from the OWPR. The project review was led by the DDNPCX with additional reviewers in Savannah, New Orleans and Mobile Districts. The ATR back-check was certified on 2 June 2011 with all 144 comments being resolved and closed. Final ATR was certified in June 2012; 29 comments were received and closed. The economic model review in March 2012 had 50 comments that were received and closed; the model was approved for one time use.

19. Mr. Ware of the OWPR gave the final briefing. HQ reviews included the feasibility scoping meeting (FSM) on 6 July 2005, alternative formulation briefing (AFB) on 3 April 2009 and PGM dated 17 July 2009, feasibility review conference (FRC) held on 11 August 2010, draft report review (concurrent with public) 12 January through 11 February 2011 and Planning

Guidance Memorandum (PGM) dated 8 March 2011, draft Final Report – 6 April 2011 with PGM 19 May 2011 and Final Feasibility Report/EIS began on 14 June 2011. The HQUSACE team review of the Revised Final Report began on 19 July 2012. Policy issues highlighted included Economic Analysis and Projections, Model Certification and Datum Conversion and Cost Sharing.

20. The HQUSACE OWPR recommended approval to release the draft Chief's Report, Feasibility Report and EIS for S&A review.

21. After the presentations Mr. Tab Brown had several questions. 1) What was the cost and benefit difference for Lower Stauffer based on the change to the NED plan for that reach? Mr. Bob Heinly stated that Federal share would increase by approximately $1.8 million and the non-Fed share would decrease by approximately $500 based on the new NED. 2) Does the EPA have any concerns based on their EC-2 rating? COL Sallese stated that the report provides the proper level of coordination, there are no problems and we are expecting final approval. 3) What is the status of the Biological Opinion; are we expecting any cost increase due to potential conservation measures required in the Biological Opinion? COL Sallese stated that the National Marine Fisheries Service is working on the opinion, it just hadn't been issued yet. He further stated that the Freeport widening permit was issued and that reasonable and prudent measures to protect sea turtles would be implemented, which is similar to this project. 4) On IEPR concern #1, the panel's point was the gap between global insight and Department of Energy (DOE) projections – do we have long term projections with Global Insight? COL Sallese stated that Global Insight provides a more regional outlook, where DOE is from a more National perspective. Ms. Becky Moyer noted that Global Insight is a standard used across the Corps and the analysis did rely on the DOE for finished petroleum products. For crude, however, it was thought that the DOE Annual Energy Outlook's forecast decrease of US crude oil imports of 25-40% through 2035 was a significant shift from how the world is operating today and did not represent a reasonable future assumption. 5) Is the PCX on board with resolution of all comments? COL Sallese, the project has the full support of the vertical team. 6) To the Port - you have used conservative estimates on TEUs for the Valasco Phase 1 construction? Ms. Saathoff responded with yes, about 1/3 of what could be accomplished.

22. Mr. Dalton asked whether the report had a risk register table identifying project risk. Mr. Heinly stated that yes one was included and it addresses engineering, costs and H&H. Mr. Dalton suggested that a risk management plan be developed to manage the risk items that are identified in the risk register.

23. MG Walsh stated that the Corps is the first Federal agency that put out a sea level rise plan, which is the beginning of being able to understand what needs to be addressed in Planning Reports. COL Sallese stated that sea level rise will be a significant factor on the rest of the coast.

24. Mr. Doug Lamont commented that no relocation costs was great and wanted to verify that the $1.7 million in LERRDS was for the dredged material placement areas. The answer was yes.

25. Ms. Matheny-Katz asked about the percentage of benefits for each commodity. Mr. Needham explained that approximately 75-80% were from crude; 15 % containers; 3% petro-products; 3% chemicals and 2 % service vessels.

26. Mr. Brown motioned that the report be released for State and Agency Review. The motion was seconded by Mr. Stockton and the panel vote was unanimous to release the report.

27. COL Sallese presented the District Lessons Learned and they focused on the new Civil Works Transformation 3x3x3 program and how to better the ATR process. Mr. Harry Kitch asked if we could get to the same result in three years and for three million if we started today? COL Sallese stated that we need to do that, to look at the end point and ask what makes sense and what do we need to get there; charettes should help. COL Sallese said the answer today is yes, we could do that. Mr. Dalton stated that for ATR, put expertise where it needs to be and to be more specific in what you are looking for from the vertical team to be successful. Letters would be coming out soon on more structure for the ATR process. MG Walsh stated that we need more structure in ATR process and in the Review Plans. BG Kula's Lessons Learned focused on 1) improved integration with vertical team, 2) CW Transformation will require corporate pieces in place and well staffed and accountable with defined measures of success. Also, BG Kula stated that actions taken by other federal and State should be factored into the benefit to cost ratio (BCR).