

**U.S. NAVAL MOBILE CONSTRUCTION  
BATTALION FOUR**



**DEPLOYMENT COMPLETION REPORT  
MAR 2016 – OCT 2016**

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# **CHAPTER I**

## **EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

From March 2016 to October 2016, U.S. Naval Mobile Construction Battalion (NMCB) FOUR deployed 580 personnel from Port Hueneme, California to the U.S. Pacific Command (PACOM) Area of Responsibility (AOR) and U.S. Northern Command (NORTHCOM) AOR in order to support PACOM strategic and Fleet operational objectives; and operate as the forward deployed Pacific NMCB ready to support Major Combat Operations (MCO) and Humanitarian Assistance Disaster Repair (HA/DR).

From Camp Shields, Okinawa, NMCB FOUR exercised command and control and provided support to 14 detail sites at 15 locations (spread across 8 countries), while simultaneously executing 16 exercises at 20 locations (throughout 9 countries) resulting in over 24,000 man-days, \$7.1M of high quality and safe construction, and support for approximately 40,000 personnel from respective host nations. Command and control was ensured through deliberate planning prior to deployment and meticulous engagement throughout the deployment.

NMCB FOUR's participation in 16 exercises at 20 locations (throughout 9 countries) contributed to over 4,000 man-days of construction greatly improving the lives of over 19,000 local residents. Exercises included Pacific Partnership in the Philippines, Timor-Leste, and Indonesia; Cooperation Afloat Readiness and Training (CARAT) in Malaysia, Thailand, Philippines, Timor-Leste, and Indonesia; Key Resolve/Foal Eagle and Tempest Wind in South Korea; Balikatan in the Philippines, and Komodo in Indonesia. Additionally, NMCB FOUR participated in the USMC 9<sup>th</sup> Engineering Support Battalion's led exercises, Khaan Quest in Mongolia and Koa Moana in Fiji. These engineering capstone projects (ENCAP) significantly improved road infrastructure, elementary schools, and medical facilities, while providing an opportunity to partner with host nation allies such as the Armed Forces Philippines (AFP), Royal Cambodian Engineers (RCAF), Australian Engineers, Indonesian Engineers (TNI) and Timor-Leste Armed Forces (F-FDTL).

NMCB FOUR continued to increase MCO readiness through a combination of exercises and staff planning. Execution of Valiant Shield provided an opportunity to exercise satellite and high frequency communications when operating in a communication benign environment. Participation in Ulchi Freedom Guardian (UFG) provided significant insight into higher and adjacent command roles within Korea during a time of conflict. By observation of Airfield Damage Repair (ADR) exercises with Japanese Self Defense Air Forces (JSDAF) and 18<sup>th</sup> Civil Engineer Support (18<sup>th</sup> CES) in conjunction with operation planning for various OPLAN responses, NMCB FOUR directly influenced the PACOM deployed Battalion and Naval Construction Force's (NCF) readiness in support of OPLANs based on identified capability gaps and recommendations and shortfalls identified. The result of the in-depth staff planning provided the way forward to man, train, and equip during next homeport cycle in order to return to the Pacific AOR even more combat ready.

NMCB FOUR's Theater Security Cooperation (TSC) operations were conducted in the Philippine islands of Panay and Palawan, the Cambodian villages of Koh Kong and Takeo, and throughout Timor-Leste. The 5 detail sites effort's resulted in the construction of 6 new schoolhouses, 6 head facilities, and 2 maternity wards, greatly improving the education, health and quality of life for over 18,000 local residents in developing communities. Liaison Officers to the U.S. Embassy in Dili (Timor-Leste), Manila (Philippines), and Phnom Penh (Cambodia) continued the partnering effort with host-nations to further identify projects and opportunities for future U.S. and Seabee engagement.

Construction Readiness Operations (CRO) were strategically located in Chinhae (South Korea), Diego Garcia, San Clemente Island, Okinawa, and in mainland Japan sites Sasebo, Atsugi, Fuji, and Yokosuka. The 8 details actively planned and executed 15 tasked projects totaling \$4.8M in support of installation Commanders. NMCB FOUR Seabee efforts directly resulted in the improvement of over 60 miles of road, the completion of a 120' by 118' LCAC landing pad in support of RIMPAC 2016, and 16,000 cubic yards of crushed rock in San Clemente; completion of an over 300 meter seawall in Yokosuka; final completion of a 1,800 square foot cold storage warehouse in Chinhae; completion of two warehouses at White Beach and Tengan Pier in Okinawa; and over 7,500 yards of concrete placed in Sasebo, Okinawa, Chinhae, and Fuji.

NMCB FOUR conducted unit level training throughout the deployment maintaining a high proficiency on individual and team skills while cultivating small unit leadership through engagement in the planning and execution of training events. The Battalion conducted in-rate, Seabee combat warfare, and expeditionary warfare training during evening

hours and six planned Training Saturdays in addition to a week-long Basic Jungle Skills Course at Jungle Warfare Training Center, a 48-Hour Air Det Mount-Out Exercise, a Command Post Exercise, and a Communications Training Exercise.

Throughout the heavy operational tempo of the deployment, NMCB FOUR maintained a strong focus on ensuring the individual Seabees were ready, in every sense of the word. NMCB FOUR advanced 78 personnel to the next pay grade, reenlisted 36 members and qualified 111 members as Seabee Combat Warfare Specialists and 105 as Expeditionary Warfare Specialists. 1 Meritorious Service Medal, 11 Navy Commendation Medals, 66 Navy Achievement Medals, and 4 Military Outstanding Volunteer Service Medals were awarded to individuals for their specific achievements. NMCB FOUR's Dental Department maintained dental readiness at 100% while the Medical Department maintained a 90.7% medical readiness status both of which ultimately ensured our continued mission readiness. Ensuring mental readiness, our Psychological Health Team provider and Command Chaplain provided religious ministries, suicide awareness and prevention briefs as well as general coping and expectations to life on Camp Shields at every Battalion indoctrination program. The Command Chaplain, with detail support, also organized over 1,000 hours of community relation projects and activities strengthening the host-nation partnerships throughout the AOR. The entire Battalion maintained high situational awareness throughout the deployment as the Intelligence Department provided Foreign Military Intelligence Collection Activity reports on the entire AOR.

In addition to maintaining our full Homeport Table of Allowance (TOA), NMCB FOUR assumed authority of the Port Hueneme TOA and provided support to the Guam TOA. Meticulous attention to detail and relentless effort ensured all communications gear, weapons, Civil Engineer Support Equipment (CESE), tools and equipment were maintained and repaired as required ensuring a Full Mission Capable status across the board. This effort supported readiness for response to two Major Combat Operation Plans.

NMCB FOUR concluded the deployment aggressively completing assigned tasking and planning for an innovative homeport cycle, enabling future success in their return to the Pacific. Overall, NMCB FOUR continued the legacy of Seabees in the Pacific and demonstrated, through highly successful results, the strategic value of West Coast Battalions performing repeat deployments to the PACOM and NORTHCOM AOR.

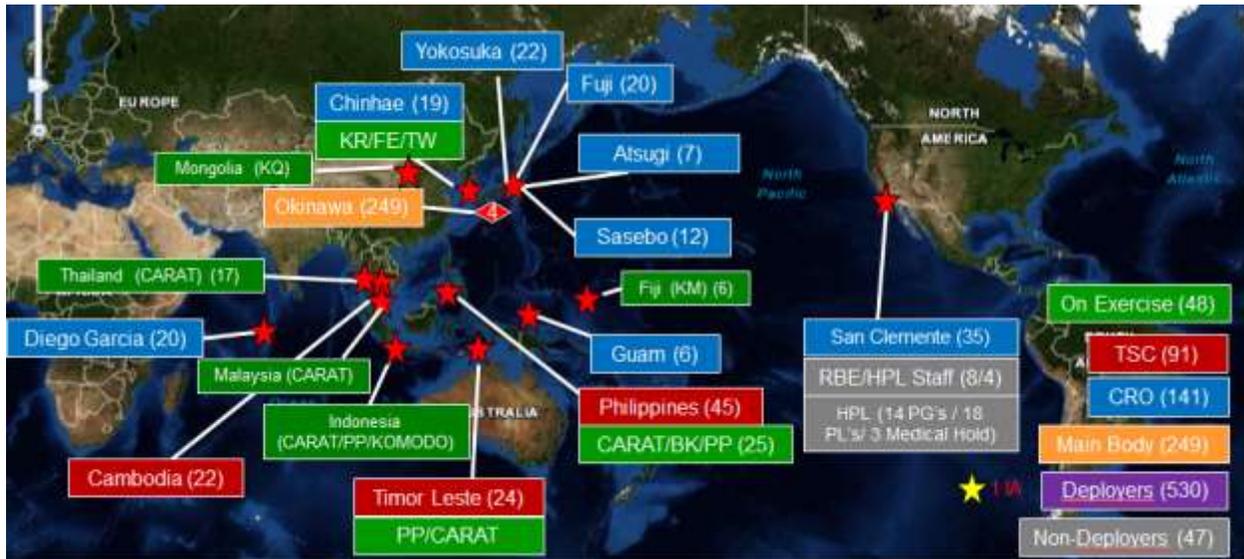


## **CHAPTER II**

### **OPERATIONS**

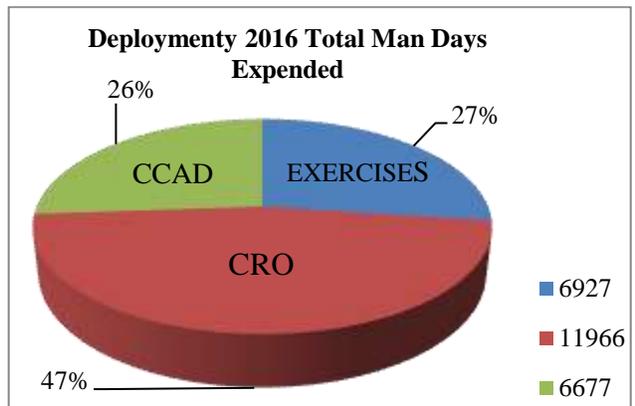
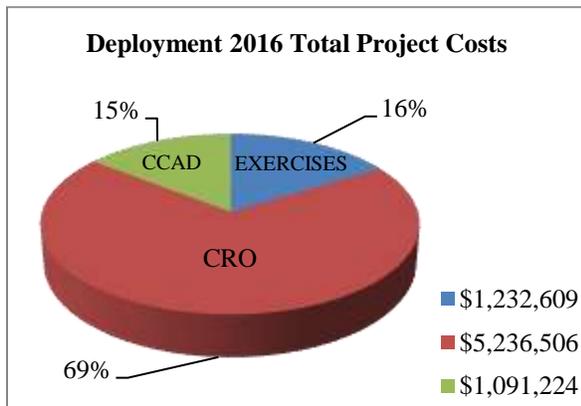
## OPERATIONS SUMMARY

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NMCB FOUR 2016 Deployment Personnel Locations

From Camp Shields, Okinawa, NMCB FOUR exercised command and control and provided support to 14 detail sites at 15 locations (spread across 8 countries), while simultaneously executing 16 exercises at 20 locations (throughout 9 countries) resulting in over 24,000 man-days and \$7.1M of high quality and safe construction.



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(AFP), Royal Cambodian Engineers (RCAF), Australian Engineers, Indonesian Engineers (TNI) and Timor-Leste Armed Forces (F-FDTL).

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NMCB FOUR's Theater Security Cooperation (TSC) operations were conducted in the Philippine islands of Panay and Palawan, the Cambodian villages of Koh Kong and Takeo, and throughout Timor-Leste from Seabee Camp Lenhoff. The 5 detail sites effort's resulted in the construction of 6 new schoolhouses, 6 head facilities, and 2 maternity wards, greatly improving the education, health and quality of life for over 18,000 local residents in developing communities. Liaison Officers to the U.S. Embassy in Dili (Timor-Leste), Manila (Philippines), and Phnom Penh (Cambodia) continued the partnering effort with host-nations to further identify projects and opportunities for future U.S. and Seabee engagement.



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warehouse in Chinhae; completion of two warehouses at White Beach and Tengan Pier in Okinawa; and over 7,500 yards of concrete placed in Sasebo, Okinawa, Chinhae, and Fuji.

NMCB FOUR continued the legacy of Seabees in the Pacific and demonstrated, through highly successful results, the strategic value of West Coast Battalions performing repeat deployments to the PACOM and NORTHCOM AOR. NMCB FOUR concluded deployment aggressively completing assigned tasking and planning for an innovative homeport cycle, enabling future success in their return to the Pacific.



## **DETAIL OKINAWA / MAIN BODY**

## NMCB FOUR OKINAWA DEPLOYMENT SUMMARY

NMCB FOUR Main Body forward deployed to Okinawa, Japan in March 2016 in the PACOM area of responsibility in order to support ongoing Construction Readiness Operations. Air Detachment was assigned six tasked projects with a total of 7902 man-days, from which three projects, Tengan Pier Ordnance Facility, CTF76 Warehouse, and Cargo Staging Yard were completed through a total of 1272 man-days expended. Two of the three tasked projects were carryover projects which were years past their original estimated completion date. For all three projects, Air Detachment overcame previously insurmountable logistical challenges through meticulous management and strengthened partnerships.

Air Detachment completed eight Commanding Officer Discretionary Projects with a total of 632 man-days. Projects included: placing the Seabee Tech Trainer concrete pad, constructing a guard shed and installing a vehicle gate for Camp Hansen Range Control, earthwork for Camp Hansen GP 303 and two retention ponds, electrical and communications work at the Technical Operations Center (TOC), installation of a septic tank in support of the Air Force Civil Engineer Squadron, placement of an asphalt vehicle search area, installation of a batting cage, and installation of water hazard signs. In addition, Air Detachment sent Seabees to the Jungle Warfare Training Center for the five-day Basic Jungle Skills Course, supported the Battalion mount out exercise, and conducted TOA inventory in support of the overall Battalion mission readiness.

CESE support for CRO Okinawa projects were provided by ALFA Co. The main concern that we encountered was the constant breakdown of CESE due to failing hydraulic hoses. This created some delays to the projects especially since these hoses were not readily available off the shelf. It took couple of weeks to a month for a dead-lined CESE being stuck in the middle of the project site that made the project crew work around it while waiting for it to be moved or replaced. The other additional issue with the CESE was the host nation's local policy for approving line haul request. It took 10 business days for the entire process to be approved causing more delays for the CESE to be on-site. ALFA Company can initiate emergency request through the local police, however, the CESE breakdown occurred more frequent and invalidate the repetitive emergency requests that gets initiated.

Material procurement remained the largest hurdle to overcome throughout the deployment. Air Detachment worked with MLO extensively to provide construction material requirements. Extensive procurement timelines made receiving material extremely difficult creating many challenges for the crews to overcome. In order to support the next Battalion, Air Detachment started the material procurement process for future projects.

### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material Cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-days Expended by Prior NMCBs	Man-days Expended This Deployment
<b>JK06-838</b>	3074	\$668,503	541	17.6%	100%	2533	541
<b>JK09-813</b>	1867	\$693,875	118	6.3%	100%	1750	118
<b>JK09-815</b>	614	\$350,652	614	100%	100%	0	614
<b>JK13-833</b>	722	\$209,310	0	0%	0%	0	0
<b>JK10-832</b>	401	\$112,311	0	0%	0%	0	0
<b>JK10-826</b>	1395	\$312,621	0	0%	0%	0	0
<b>Total</b>	8073	\$2,347,272	1122			4283	1272



**Project turnover**



**Project completion**

**White Beach CTF 76 Warehouse**  
**JK06-838**

**Project Purpose:** Construct storage facility at White Beach Naval Base, Okinawa Japan in support of CTF 76.

**Project Data**

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**Project Scope:** Construct a 37ft x 60ft reinforced CMU storage facility at White Beach Naval Base. The warehouse will include offices, (1) telephone and communication room, (1) unisex bathroom, and (1) kitchenette. This project will serve as a warehouse and office facility for CTF 76 Command Operations at White Beach.

<b>Personnel:</b>	6-9	
<b>Duration:</b>	Mar 16 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR	541
	Prior NMCBs	2533
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	3074
<b>Material Cost:</b>	\$668,503	
<b>Cost Avoidance:</b>	\$0	

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None.

**Significant Material Issues:** None in particular, however, material delivery must have a quicker turn-around time to prevent any project delays.



**Project turnover**



**Project completion**

**Tengan Pier Ordnance Facility**  
**JK09-813**

**Project Purpose:** Provide an enclosed facility for the Naval Munitions Command for ordnance operations.

**Project Data**

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**Project Scope:** Construct a 38ft x 103ft pre-engineered building (PEB) with two electric roll-up doors, a four forklift charging bay, 36ft x 53ft maintenance area, one office space/conference room with communications lines, one unisex restroom, one septic tank, 500ft of new waterline, and one fire hydrant.

**NMCB FOUR Additional Scope:** Replacement of seven Butler roof panels and resealing of the roof, removal of the concrete bottom from a manhole, the removal of rust on the exterior of the building and repainting, the installation of six interior doors and hardware, finishing the installation of 240ft of electrical for interior electrical accessories, installation of the service main drop box and meter on the exterior of the building and testing all electrical, finishing the tile in the bathroom, roll-up door electrical repair, HVAC system repair and testing the plumbing.

<b>Personnel:</b>	5-8	
<b>Duration:</b>	May 16 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR	118
	Prior NMCBs	1750
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	1867
<b>Material Cost:</b>	\$693,875	
<b>Cost Avoidance:</b>	\$0	

**Significant Safety Issues:** None

**Significant QC Issues:** Correct electrical wiring throughout the facility.

**Significant Design Issues:** None

**Significant Material Issues:** None in particular, however, material delivery must have a quicker turn-around time to prevent any project delays.



**Before construction**



**Project completion**

**Tengan Pier Ordnance Facility**  
**JK09-813**

**Project Purpose:** Increase usable staging yard area for port operations at White Beach Naval Base.

**Project Data**

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**Project Scope:** Construct a 78m x 57m x 200mm (889 CM) concrete cargo staging area to include a “U”-drain at the south end and a re-graded swale on the north and west ends of staging area.

<b>Personnel:</b>	6-12	
<b>Duration:</b>	May 16 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR	614
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	614
<b>Material Cost:</b>	\$456,001	
<b>Cost Avoidance:</b>	\$326,000	

**Significant Safety Issues:** None.  
**Significant QC Issues:** None  
**Significant Design Issues:** None.  
**Significant Material Issues:** None.

## Labor Distribution Summary

### Main Body Okinawa

Month	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	80	296	266	487	463		
<b>Indirect Labor MDs<sup>1,2</sup></b>	35	155	50	100	116		
<b>Readiness/Training<sup>1</sup></b>	288	128	4	250	294		
<b>Total MDs Exp</b>	403	579	320	837	873		
<b># Total Personnel</b>	61	57	69	75	76	76	
<b># Direct Labor</b>	36	36	31	37	52		
<b># Workdays<sup>3</sup></b>	25	21	21	29	21		
<b>% Direct Labor<sup>4</sup></b>	59%	63%	45%	49%	68%		
<b>Ideal Capability<sup>5</sup></b>	1012	850	732	1207	1228		
<b>Availability Factor<sup>6</sup></b>	.75	.75	.75	.75	.75		

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.125 x DL x (# workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).

## OIC Discretionary Projects

### Project Listing

Seabee Tech Trainer Pad	90
Camp Hansen Range Rd - Guard Shed and Gate	70
Camp Hansen GP 303 - 15 Acre FTX laydown area with two retention ponds	300
Technical Operations Center (TOC)	65
Septic Tank Install - Air Force Civil Engineer Squad Support	5
Torii Station Gate 3 - Asphalt Vehicle Search Area	60
Baseball Batting Cage	30
Water Hazard Signs	12

**Total Man-days expended** **632**



**Hido Point Water Hazard Signs**



**Camp Shields Seabee Tech Trainer**



**Camp Hansen Range Rd Guard**



**Camp Foster Batting Cage**



**Torii Station Search Lane**



**Cape Zanpa Water Hazard Sign**

## Camp Maintenance

### Main Body

**Camp Maintenance Tasking** - NMCB FOUR Air Det was tasked with camp maintenance, typhoon preparations and clean-up, trouble calls, and CO discretionary projects on Camp Shields and White Beach, Okinawa, Japan. Air Det completed 859 Emergency Service Actions, 7 Maintenance Control Directives projects, contractor facilities support, berthing renovations and upgrades, and camp wide zone inspections. Camp maintenance personnel earned 1,477 man-days during the deployment.

Preventative Maintenance Actions [SJO's]	79 PM's (800 Hours)
Work Requests [Completed]	960
Standing Jobs [Remaining]	195 Open
Completed Jobs [WO/ESA]	859 (3,007 Hours)
Maintenance Control [MCD's]	7 (700 Hours)
006-15 NEX Side Walk	26MD
001-16 Partition Wall 7142	20MD
002-16 Medical Renovation	40MD
003-16 Medical Renovation II	40MD
004-15 Repair Retaining Wall For Material Laydown	26MD
005-16 Medical Hallway	59MD
006-16 HQ Door Painting	20MD
<b>Total Man-days expended</b>	<b>1477</b>



**Side Walk For Front Gate**



**Medical Renovation II**



**Medical Renovation II Finished**



**Medical Renovation Complete**



**Medical Renovation Complete**



**HQ Door Painting**



**Material Laydown Retaining Wall**

Camp Maintenance  
Labor Distribution Summary Chart

Month	16-Apr	16-May	16-Jun	16-Jul	16-Aug	16-Sep	Total
Direct Labor MDs <sup>1</sup>	147.64	146.51	316.21	174.01	138.4	147	1069.86
Indirect Labor MDs <sup>1,2</sup>	28.47	13.38	25.4	38.33	56.16	28	189.74
Readiness/Training <sup>1</sup>	87.56	24.66	4	5	1.77	94	217
Total MDs Exp	263.67	184.55	345.61	217.34	196.33	269	1476.6
# Total Personnel	14	17	16	18	17	14	
(AVG) # Direct Labor	9	12	11	13	12	9	
# Workdays <sup>3</sup>	18	22	26	25	22	18	
% Direct Labor <sup>4</sup>	64%	71%	69%	73%	71%	64%	
Ideal Capability <sup>5</sup>	1.125	1.125	1.125	1.125	1.125	1.125	
Availability Factor <sup>6</sup>	0.75	0.75	0.75	0.75	0.75	0.75	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1 x DL x (# workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).



## **DETAIL CHINHAE**

## **DETAIL CHINHAE DEPLOYMENT SUMMARY**

NMCB FOUR deployed a 19 person detail to Chinhae, South Korea in March, 2016. Detail Chinhae is located on Commander, Fleet Activities Chinhae Support and Training Base, also the only U.S. Navy installation in South Korea. Detail Chinhae was tasked with the completion of turnover project KO13-804 Construct Cold Storage Facility, and new start project KO16-814 Construct Equipment Parking & Storage, and support of two annual Major Combat Operations Readiness Exercises, KEY RESOLVE / FOAL EAGLE 2016 and ULCHI FREEDOM GUARDIAN 2016. The Detail was also charged with providing support to local tenant commands and deployed units, seeking out and executing OIC Discretionary Projects, and building relationships with Naval Special Warfare units and Republic of Korea Seabees.

All 19 personnel, with an additional 3 from HQ Company and 6 from Echo Company, deployed three weeks earlier than NMCB FOUR Main Body to participate in KR/FE 16. Advanced Party arrived on March 2<sup>nd</sup> to begin turnover with NMCB 3. Once turnover was complete on March 7<sup>th</sup>, 10 personnel were assigned to complete camp set up in support of 30NCR command and control requirements. The camp and COC constructed was the main focal point for 131 30NCR active duty and reserve personnel completing their certification CPX during KR/FE 16.

Delayed party, including the 9 person bolt-on, arrived on March 9<sup>th</sup>. Detail Chinhae participation in KR16 continued with 3 days of concurrent Airfield Damage Repair and Combined Port Restoration Team training. 18 personnel from Detail Chinhae (and HQ and Echo Company) and 36 RoK Seabees from Mobile Construction Battalion 1 completed this training by performing a skill demonstration for 30NCR CDRE and RoK Seabee Engineering School Commanding Officer. Additionally, 2 EAs were sent to Gwangyang Pier to perform a laydown area survey, and also provided support to RoK counterparts during the survey of "Admiral's Road" to perform a constructability review. Det Chinhae participation ended on March 28<sup>th</sup> after the complete retrograde of 30NCR personnel and equipment.

On March 23<sup>rd</sup>, Echo Company's 6 person crew and one HM3 from HQ Company deployed to a remote Island South of the Peninsula, Yokjido, in order to work alongside 25 RoK Seabees during the construction of a 1200 foot road section. The project consisted of removal of existing road, backfill and compaction of select fill, and placement of 237 cubic yards of concrete. The section that was completed is part of a larger, long term project to provide an access road for a RoK Navy telecommunications station, and was previously worked on by NMCB 5 during their 2015 PACOM Deployment. The project lasted until April 27<sup>th</sup>, and in addition to constructing the road, both U.S. and RoK crews executed COMREL at the local elementary school, assisting 19 children with learning lines for an English speaking play. The Yokjido Road Project crew departed Korea on April 29<sup>th</sup>.

At the conclusion of KR/FE 16, Detail Chinhae began construction on both tasked projects, finishing both in June 2016. KO13-804 was not originally part of NMCB 4 tasking, but due to issues with HVAC vendor delivery, NMCB 3 was not able to complete the project and it was turned over at 99% complete. Work on KO13-804 included initiating process of HVAC installation and monitoring vendor progress. The crew also made repairs to a photo cell, re-configured conduit in preparation for HVAC installation, and repaired one superficial crack in preparation for turnover to the Public Works Department. Final inspection was conducted on June 20<sup>th</sup>, 2016.

Meanwhile, on April 25<sup>th</sup>, the crew for KO16-814 began work by performing an initial survey at the site. Earthwork lasted approximately 2 weeks, and the crew received two SOW changes; first to remove a smaller existing pad, and second to cap and fill an existing waste water junction box. The Project Supervisor submitted a Field Adjustment Request to keep existing U-ditch at the entrance of the site, saving the PWD approximately \$1000 in construction and installation costs, and reducing Man-Day estimate from 164 to 144.

Camp Mujuk Projects began on 11 July and were completed on 11 August. During that period, a crew of 4 placed 15 cubic meters of concrete for a sidewalk, pad, and ramp, and also constructed three new horse shoe pits, totaling 75 MDs. All projects were funded by Marine Corps Community Services, and directly support recreational facilities for 83 Marines (permanent party). Materials for the project were bought in the local economy using MCCS purchase card. The projects at Camp Mujuk marked the first time in 7 years when deployed Seabees executed work at the base in Pohang, Korea. The project supervisor also identified 3 follow on projects, compiling a list and basic designs for completion by NMCB 5.

From August 22<sup>nd</sup> to September 1<sup>st</sup>, Detail Chinhae supported Exercise ULCHI FREEDOM GUARDIAN 2016 by providing 2 watch standers for CTF75. The watch standers worked 12 hour shifts in a bunker on the RoK Navy base, moving simulated elements of NEF units on CENTRIX-K. Both watch standers were removed before ENDEX due to substandard working conditions in the bunker.

On August 23<sup>rd</sup>, 6 personnel from Detail Chinhae joined 25 RoK Seabees and 18 RoK Navy civilian pier workers in a one hour demonstration of RoK Navy pier restoration capabilities. The crew placed 75 lb CMU blocks and backfilled with select fill to simulate pouring concrete. In addition to executing construction tasking, the detail's AM11 Work Center Supervisor also established a working DRMO program, DRMO'd one 15T Dump and one 6 PAX truck, and retrograded two units of CESE that were impractical for use in Chinhae, making room for future TOA additions and Alfa yard awning construction. Chinhae utilized 7 pieces of CESE including two MTVR Cargo's, and 11K loader, mini excavator, roller, skid steer, and a light plant. Detail Chinhae also provided continuous movement support to Naval Special Warfare units in Korea and the local deployed Task Element (TE) Charlie. The support provided saved the Navy \$75,000 in contracting costs. Detail personnel also provided support by fabricating doors, barriers, barricades, and targets for TE Charlie and ROK SEAL "breacher" training.

Construction materials for KO13-804 were procured through approval of add on Bill of Materials, and purchasing through SupplyCore. The major challenge was coming to an agreement with the HVAC vendor (since the vendor was not under an official contract) on what materials they would be required to supply and what the U.S. Navy would provide them with. Once an agreement was reached, supplies were ordered and delivered within 3 weeks. Materials for KO16-814 were purchased through PWD's MLO warehouse and were paid for by Public Works. Most materials arrived within 2 weeks, with concrete being delivered the day of placement. OICD materials were also purchased through the MLO warehouse, and were paid for directly by the tenant command or customer. Most OICD materials were readily available in the warehouse, except nonstandard items such as coded/electronic door handles, which the warehouse procured from the local economy. No material delays were experienced that affected construction tasking execution. Short fused support, like that to the local NSW Task Element, was hindered greatly by not being able to purchase small amounts of basic, inexpensive materials (plywood, angle iron, etc.) in the local economy. Many times, a request would be received only a few days before required delivery. On three occasions (the first during turnover with NMCB 3), the Detail's Fleet Fuel Card(s) were turned off without warning. Each time, NMCB 4 S4 was able to initiate the process to have the cards turned back on.

Partnership with RoK Navy Seabees was strictly limited to execution of specific tasks or exercises. A major hindrance to developing the relationship with RoK counterparts is the difference in planning styles. In contrast to U.S. Navy approach of in depth planning, creating a safety plan, quality control plan, drafting master activities lists, and construction activity summary sheets, and bill of materials, the RoK Navy typically only performs material take offs, generating equipment and materials lists before executing projects.

#### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-Days Expended by Prior NMCBs	Man-days Expended This Deployment on Project
KO13-804	2580	\$650,098.46	1947	99%	100%	2553	27
KO16-814	123	\$39,994.42	155	0%	100%	0	123
<b>TOTAL</b>	<b>2703</b>	<b>\$690,092.88</b>	<b>2102</b>			<b>2553</b>	<b>150</b>



**Midway through NMCB 3 2015-2016 Deployment**



**Project completion**

## Cold Storage Warehouse

### KO13-804

**Project Purpose:** Four Battalions worked on construction of the Cold Storage Warehouse in support of Commander, Fleet Activities Chinhae local MWR restaurant and events.

#### Project Data

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**Project Scope:** Construct a 22,700mm X 7,700mm solid concrete Cold Storage Warehouse with a concrete retaining wall, two exterior insulated doors, one interior insulated door, a loading dock with an automatic thermal insulated overhung sliding door with a protected metal canopy, one transformer and cable junction box, 50mm water line with hose bib, and the connection of the water main.

**Personnel:** 2 - 12 personnel from each Detail

**Duration:** Mar 14 – Jun 16

**Man-days Expended:** Pervious Battalions: 2,553    NMCB FOUR: 27    Cumulative: 2,580

**Tasking:**

WIP at turnover:	99%
WIP at deployment completion:	100%
MD Tasked to NMCB:	0
Total Project MD:	1947

**Material Cost:** \$650,098.46

**Labor Cost Savings:** \$436,128

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** Interior doorway widths and dock were adjusted to meet customer requirements. Initial plans would not meet customer needs (i.e. interior doorway not wide enough for MWR forklift, dock designed for larger U.S. style trucks).

**Significant Material Issues:** No material for HVAC installation was on-site at turnover causing approx. 5 week delay. Designer of record specified use of U.S. electrical material, which increased procurement timeline.



**Initial site work and pad demolition**



**Project completion**

## NSW Concrete Pavement Equipment and Parking Area

### KO16-814

**Project Purpose:** Detail Chinhae was tasked with this project in February 2016, deadline completion date first week of July. Pad is intended to be a temporary storage site for containers, equipment, and material currently stored in Upper War Storage. Upper War Storage will be converted into a 5 story NSW/EODMU5 compound.

#### **Project Data**

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**Project Scope:** Remove 50M guardrail system, remove concrete pad, excavate 327 CD of mixed soil and gravel. Grade and compact site, Place 264 cubic meters of concrete. Cut control joints and Install pre-cast concrete U-ditch sections with metal grating. Connect existing retaining wall with 200MM PVC pipe to storm drain.

**Personnel:** 6 - 13 personnel

**Duration:** Apr 16 – June 16

**Man-days Expended:** NMCB FOUR: 123                      Cumulative: 123

**Tasking:**

WIP at turnover:	N/A
WIP at deployment completion:	100%
MD Tasked to NMCB:	164
Total Project MD:	164

**Material Cost:** \$36,800

**Labor Cost Savings:** \$32,266

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** Slope on original plans went against natural grade of the site, submitted FAR to adjust direction of slope to decrease total earthwork. DOR also changed scope after project start to include removal of existing pad. Designs did not include existing sewer drain. PWD provided DCD to include removing sewer cap and back fill/compact. Existing U-ditch at entrance of job site was still functional, SOW change to de-task removal of existing U-ditch.

**Significant Material Issues:** Underground utility (sewer drain) was not on plans provided by DOR.

## OIC Discretionary Projects

### Project Listing

CNFK C-Wire	6
NSW/EODMU5/Exercise Support/Mobilization	164
Key Resolve / Foal Eagle	376
Breacher Course Support	28
NGIS Lounge Renovation	46
FATS Trainer Renovation	65
Camp Mujuk Support Projects	75
Armory Shelving Installation	10
AKW COMREL	12

**Total Man-days expended** **570**



**Breacher Course crew  
pre-fabricating doors for  
installation at NSW/RoK**



**Combined Pier Restoration Team –  
KR/FE16**



**Camp Mujuk picture before  
project start**



**Aikwonwang School COMREL**



**FATS Trainer Renovation**

## Labor Distribution Summary

### Main Body

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total	%Total
Direct Labor MDs <sup>(1)</sup>	250	166	143	126	112	224	12	1,033	67%
Indirect Labor MDs <sup>(2)</sup>	0	47	60	60	60	63	42	332	22%
Readiness/ Training <sup>(1)</sup>	0	20	40	38	38	19	19	174	11%
Total MDs Exp	250	233	243	224	210	306	73	1,539	100%
# Total Personnel	29	29	19	19	19	19	19	N/A	
# Direct Labor	20	20	13	13	13	13	13	N/A	
# Workdays <sup>(3)</sup>	14	20	21	20	20	21	14	30	
% Direct Labor <sup>(4)</sup>	68%	68%	68%	68%	68%	68%	68%	68%	
Ideal Capability <sup>(5)</sup>	268	384	273	250	249	262	182	1,868	
Availability Factor <sup>(6)</sup>	85%	85%	85%	85%	85%	85%	85%	85%	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects “X” coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.125 x DL x (# Workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).



## **DETAIL DIEGO GARCIA**

## DETAIL DIEGO GARCIA DEPLOYMENT SUMMARY

NMCB FOUR deployed a 20 personnel Detail to British Indian Ocean Territory (BIOT) Diego Garcia in March 2016 to conduct Construction Readiness Operations in support of Naval Facilities and Engineering Command (NAVFAC) Far East (FE) Public Works Department (PWD), Naval Support Facility (NSF), as well as host and tenant commands aboard Diego Garcia. The Detail began construction on project DG14-814: Compressed Gas Cylinder Storage Facility in support of the Base Operational Support (BOS) Contract and conducted various OIC discretionary projects improving facilities throughout the island.

The entire Detail arrived on 17 March and conducted an efficient turnover with NMCB THREE. Following turnover, the detail prepared the NMCB compound and materials for construction, and on 11 April, began move-in to the compressed gas facility job site; beginning the first Seabee project construction on Diego Garcia in three years. The facility consists of a 144 by 20 foot pad, partition walls, and a steel structure to protect the compressed gas bottles from the elements. The facility will also be outfitted with a fire protection system that would protect the facility from catastrophic bottle failure. The compressed gas facility consists of 408 man days of labor and \$628K in material and contract costs. Construction began with the demolition of the in place facility, which required the integration of Seabee and BOS contractor construction crews due to the lack of Seabee equipment present on the island. The detail then began construction of the new facility, which first required site excavation and preparation for concrete placement. Because of the immense workload on the BOS contractor at the time, equipment use was limited. Working through the delays, the Seabees, with the aid of some of the contractor crew completed most of the labor intensive work by hand. Once the excavation was complete, utilizing the entire DET labor force, concrete was placed, and the CMU partition walls were erected. Concurrent to the vertical and horizontal construction, the crew was placing the wiring that will connect the facility to a nearby warehouse and preparing for the installation of the fire detection and suppression systems that will later be installed by the contractors. On 19 August, following the completion of the CMU walls and 50% of the projected man days, the work on the project was halted to wait for material delivery which is scheduled for October and November 2016. The crew then began preparing the project site for turnover with NMCB FIVE in September.

During the time the compressed gas facility was under construction, the detail was working to get their second project started, the dog kennel renovation. By May, the majority of project materials had been received and the detail began looking at a start date. Prior to start, the largest coordination piece for this project was the living arrangements for the dogs. Initially, it was assumed that the dogs would be allowed to live with their handlers in the barracks, but this COA was rejected by the base CO since there were no plans for renovating the rooms post project completion. In an effort to satisfy temporary living requirements for the dogs, the NSF handlers reached back to the MWD Region Japan and the Fleet Forces Program Manager. Feedback was received from Fleet Forces that the 5 run plan would be unacceptable considering the inevitability of returning to 4 American dogs in the kennel. In effort to accommodate the 7 run requirement, in accordance with DG PWD and FEAD, the detail created a set of "red lined" drawings to be used as a design modification, which would have maintained the current kennel footprint and enclosed the portions of the runs that are currently exposed to the elements. This COA was also declined by the MWD COC as any new construction on the kennel would require that the run dimensions be increased to meet the current instruction requirements. Per the Program Manager, if the construction had begun, and not brought the kennel into the new required specs, the kennel would have been de-certified. With no available COA to keep the 7 run footprint and meet the dimension requirements from the new instruction, NSF Security requested a re-scope of the project and the current remodel design was cancelled.

Throughout the deployment, and especially following work stoppage on compressed gas, the detail sought out and completed 14 OIC discretionary projects, totaling 433 man days of construction in support of numerous commands around the island. During the first month of the deployment, three projects were completed at an MWR facility, "Jake's Place" that brought the outdoor patio and food storage facility into within code, so the facility could be used during the CNIC and CNRJ base visits along with the NSF CO change of command. Several other projects were completed to help improve facilities around the base, in support of the base Chapel, weapon range, incinerator site, USAF AMC, and base telecommunications. Another set of projects was completed to help restore Sunset Park, a Philippine heritage park used regularly by the 1500 contractors on the island. The detail built and installed a fence, seating areas, and repaired roofing on the park's gazebos, restoring the abandoned park to a usable facility.

The detail made preparations for turnover with NMCB FIVE and departure up until the 11 person AP flew out on 16 September. Shortly following was the 22 September arrival of NMCB FIVE's AP, a successful turnover completed on 28 September, and the re-deployment of NMCB FOUR's DP on 30 September.

**PROJECT SUMMARY**

<b>Project Description</b>	<b>Total Project Man-days</b>	<b>Total Project Material Cost</b>	<b>Man-days Tasked</b>	<b>Tasked %</b>	<b>Final WIP (%)</b>	<b>Man-days Expended by Prior NMCBs</b>	<b>Man-days Expended This Deployment</b>
<b>OIC Discretionary</b>	352	0	150	56%	100%	226	359
<b>P&amp;E Compressed Gas Cylinder Storage</b>	176	0	176	27%	100%	0	160
<b>Camp Maintenance</b>	106	0	106	17%	100%	0	140
<b>Total</b>	634		432			226	659



**Project in early stages of completion**



**Project at turnover**

## Compressed Gas Cylinder Storage Facility

### DG14-814

**Project Purpose:** The compressed gas cylinder storage facility is a FY-14 project that began construction in April, 2016 due to material procurement and delivery issues. Four Battalions had completed P&E on the project while awaiting 100% materials for project completion. The project required daily integration of KTR and NMCB FOUR personnel which greatly improved the island's gas cylinder storage and protection capability.

#### **Project Data**

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**Project Scope:** Construct a Compressed Gas Cylinder Storage Facility, complete with reinforced concrete floor slab, ramps, steel pipe supports, girts, rafter purlins with roof panels, wall sidings, CMU Wall partition, and including electrical and fire protection systems.

<b>Personnel:</b>	4 - 16	
<b>Duration:</b>	Apr 16 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR: 200	
<b>Tasking:</b>	WIP at turnover:	00%
	WIP at deployment completion:	51%
	MD Tasked to NMCB:	407
	Total Project MD:	407

**Material Cost:** \$558,000

**Cost Savings:** Unknown

**Significant Safety Issues:** None

**Significant QC Issues:** Quality of structural welding (performance shared between DET personnel and KTR). Oversight of fire protection installation and coordination with KTR for FP Engineer inspection.

**Significant Design Issues:** None.

**Significant Material Issues:** Material procurement took >2 years. Solution to material issues was BOS KTR procurement. Quote/Order/Delivery timeline was 8 months with expected delivery in October and November.

OIC Discretionary Projects

**Project Listing**

Jake’s Place Fire Pit Installation	52
Jake’s Place Railing Repair	25
Jake’s Place Cooler Enclosure	33
Funbrella Installation	24
Sunset Park Fence	30
Small Arms Range	29
Air Force Planning Tables	33
Chapel Door Repair	29
Sunset Park Tables	25

**Total Man-days expended** **280**



**Jake’s Place Walk-In Cooler Enclosure**



**Jake’s Place Fire Pit**



**Jake’s Place Railing Repair**

## Labor Distribution Summary

### Detail Diego Garcia

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total	% Total
Direct Labor MDs <sup>(1)</sup>	0	312	305	271	214	226	255	1583	61%
Indirect Labor MDs <sup>(1,2)</sup>	180	88	88	84	76	84	84	684	28%
Readiness/ Training <sup>(1)</sup>	0	20	28	65	90	47	51	301	11 %
Total MDs Exp	180	420	421	420	380	357	387	2565	100%
# Total Personnel	20	20	20	20	20	17	17		
# Direct Labor	15	15	15	15	15	12	12		
# Workdays <sup>(3)</sup>	9	22	22	21	19	21	21	114	
% Direct Labor <sup>(4)</sup>	75%	75%	75%	75%	75%	71%	71%	74%	
Ideal Capability <sup>(5)</sup>	138	316	316	301	272	240	240	1583	
Availability Factor <sup>(6)</sup>	0%	84%	82%	77%	67%	79%	79%	78%	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) Ideal Capability = # of Direct Labor \* # of Workdays \* 1.125 \* .85 (Det Site AF)
- (6) Actual Availability Factor = Direct Labor MDs / Ideal Capability.



## **DETAIL SAN CLEMENTE ISLAND**

## DETAIL SAN CLEMENTE ISLAND DEPLOYMENT SUMMARY

NMCB FOUR deployed a 34 personnel detail to NALF San Clemente Island (SCI) on March 11, 2016 to support the base through quarry operations, road repairs, and vertical construction projects. SCI is an island off the coast of California that supports off shore bombardment, Naval Gunfire, and Aviation weapons training, the island consists of over 350 support military and civilian personnel. Move-in and turnover from NMCB THREE was completed on March 17. After turnover, one crew member relocated to Naval Base San Diego to serve as the Detail parts expeditor supported by CBMU 303. Throughout deployment, three additional crew members joined the Detail in order to accomplish additional vertical project tasking. The Detail executed a total of 2388 man-days on tasked projects, 194 man-days on OIC-Discretionary projects and camp maintenance combined, and 150 man-days of planning and estimating.

Detail SCI operated the Mid-Island Quarry to include blasting, mucking, hauling, crushing, and drilling. Six blasts were conducted during the deployment averaging 950lbs of explosives per blast. These blasts allowed the quarry crew to muck 20,000 CD of material from the quarry, establishing functional benches, and to crush over 23,000 CD of ¾ inch minus and 1 ½ inch minus aggregate. Numerous challenges were faced by the Seabees working within the quarry, the main areas include parts supportability for the \$1.2 million dollar crusher, quarry dumps, excavator, and the aging Terex Rock Drill, it proved to be a challenge met head on but constant coordination and planning went into ensuring zero down time throughout the deployment within the quarry due to CESE unavailability. Safety was a number one focus as well in quarry, large pieces of CESE moving around in synchronized harmony as well as explosive placements rounded out the top two safety concerns for the men and women working on the quarry crew. At the end of deployment, the quarry had crushed 23,000 CD of ¾ inch minus and 1 ½ inch minus material and 15,200 CD was stockpiled at the quarry. In addition to operating the quarry, the crew improved the site by leveling and grading an area for the Pioneer Crusher which was relocated within the quarry to better execute the 5 year plans for development of the quarry set by 30<sup>th</sup> NCR.

Detail SCI repaired and maintained 10 miles of the island unimproved roads. The road repair crew improved 60 miles of the AVMR with two, 2 inch lifts of ¾ inch minus aggregate from the quarry compacted to 95% as measured by sand cone test. The crew also repaired extensive erosion issues at the newly constructed baseball field on the island. The crew also completed 150 MDs of construction for the El Capitaine staging area above the LCAC Pad in West Cove, bringing in over 500 CD of fill and capping with ¾- material at 4" thick and vibratory compacted to 95%. The road crew also repaired and brought to grade the VC-3 Runway in preparation for the application of an epoxy coating to support UAV operations on the island. Rounding out the deployment the road crew completed the hauling of over 6,500 CD of material to the Lithium Battery Test Site project, essentially building up a level pad on the side of the eastern mountain top range from a 5% slope to level. The challenges faced by the road crew were extensive as the CESE used in this endeavor is very near its end of serviceable life expectancy, the 15 ton dumps which have served the Seabees well for over 20 years are becoming more and more difficult to maintain and Seabee ingenuity was on high display in keeping these trucks in good repair.

CESE population expanded from 58 to 63 units. Four HMMWVs, an 11k forklift, D6T Dozer, Eagle Crusher, MK28 Tractor, and Cheater Trailer were shipped off island for DRMO and or Depot Level maintenance, and 13 units of CESE were gained. Units gained include five HMMWVs, a two 966 loaders, 11K forklift, 12k forklift, D5M Dozer, 15 Ton Dump Truck, 924 Loader, and concrete hopper and conveyor. The addition of these pieces of CESE made a tremendous impact on the efficiency and safe operation on SCI as well as allowed Seabees the ability to familiarize and operate the latest CESE assets available to the NCF.

Detail SCI constructed a 120 foot x 118 foot x 8 inch concrete LCAC Landing pad. The project, SC15-821: Construction comprised of placement of 448CD of concrete for the LCAC Pad proper, to include apron dirt work, ramps, and thickened edges for on/off load of tactical wheeled and tracked equipment. The impact of this project was felt immediately by the base in the form of RIMPAC 2016 exercise which kicked off immediately on the heels of the LCAC completion. This project was challenging mainly due to two reasons, concrete procurement and delivery to the island and as well as the extremely tight timeline for which completion must have been gained in front of a fleet and internationally coordinated exercise in RIMPAC 2016. Superb dedication to completion ensured the "Can Do" spirit of the Seabees lived on through this project impacting 10,000 American and international troops within 30 days of completion.

Detail SCI also constructed a 47'x32' Comfort Station at VC-3. The project, SC15-822: Construction consists of a footer perimeter and concrete slab cast in place with CMU walls and wooden framed roof, with asphalt shingles. Interior consists of toilets, urinals, electrical and running water. This one story building was brought up to 57% complete by turnover and will be completed by NMCB FIVE by December 2016. This structure will impact thousands of ground forces deployed to the island in the flavor of Marines and Naval Special Warfare personnel, providing facilities that will provide water and running toilets and sinks that have previously been portable latrines and water bulls.

OIC-D projects for other units a lean-to roof, 3'x 4' structure to cover an exposed air compressor and a block protective wall around SCORE ground mounted transformer made of CMU block, the planned total for the two OIC-D's is 131 MDs. Another OIC-D project of 44 MDs removed six separate sections of walkway and then formed up and placed 36 CD of concrete in order to better improve the safety and usability of walkways in Wilson Cove. This directly resulted in the Island OIC lifting a ban on walking around Wilson Cove after dark, allowing foot traffic to and from the Ship Store and Salty Crab.

### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material Cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-days Expended by Prior NMCBs	Man-days Expended This Deployment
SC15-821	251	\$430,000	251	100%	100%	0	251
SC16-419	832	0	832	100%	100%	0	832
SC16-826	709	0	709	100%	100%	0	709
SC16-840	69	0	69	100%	100%	0	68
SC15-822	920	\$480,000	524	57%	57%	0	0
OIC-D	175	0	175	100%	100%	0	175
P&E	150	0	150	100%	100%	0	150
<b>Total</b>	3106	\$910,000.00	2710				2570



**MPTP overview**



**Stockpile of mucked out rock from 16 August blast**

MPTP Operations  
SC16-419

**Project Purpose:** Conduct continuous blasting, quarry and crushing operations. Execute N43/R43 quarry development and equipment relocation plans.

**Project Data**

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<b>Project Scope:</b>	Maintain a stockpile of 15,000 CD of 3/4” minus material to support road work and other construction activities on SCI.	
<b>Personnel:</b>	Average of six Personnel	
<b>Duration:</b>	Mar 16 – Oct 16	
<b>Man-days Expended:</b>	NMCB FOUR	730
<b>Tasking:</b>	WIP at Deployment Completion	101%
	Total Project MDs	832
<b>Material Cost:</b>	\$0	
<b>Cost Avoidance:</b>	\$0	

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None

**Significant Material Issues:** Many corrective repairs were required throughout deployment to maintain and fix older malfunctioning equipment. Repair parts often took several weeks to obtain and electrical problems came up due to excessive vibration and dust in which quarry equipment was required to operate. During time when equipment was down operations continued to improve efficiency of the operation and better prepare for future work.

The WIP of 100% is based on only crushing 100%(15,200CD) of the tasked 15,000 cubic yards of aggregate .



**Before construction**



**Project completion**

**Repair/ Renovate LCAC Pad at West Cove**  
**SC15-821**

**Project Purpose:** Repair and renovation of LCAC Pad to increase effectiveness of landing area for future training while reducing wear and erosion on surrounding site.

**Project Data**

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**Project Scope:** Place 120' x 118' concrete paved area to support multiple Landing Craft Air Cushion (LCAC) operations to include concrete apron, ramps, and thickened edges for on/off load of tactical wheeled and tracked equipment.

<b>Personnel:</b>	Average of eight Personnel	
<b>Duration:</b>	Apr – Jun 16	
<b>Man-days Expended:</b>	NMCB FOUR	307
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Project Segment MDs	251
	Total Project MDs	251
<b>Material Cost:</b>	\$430,000	
<b>Cost Avoidance:</b>	N/A	

**Significant Safety Issues:** None  
**Significant QC Issues:** None  
**Significant Design Issues:** None  
**Significant Material Issues:** None



**Before construction**



**Project at turnover**

**Construct Male and Female Comfort Station at VC3**  
**SC15-822**

**Project Purpose:** Construct Comfort Station for both males and females at VC3.

**Project Data**

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**Project Scope:** Project involves construction of new single story CMU comfort station head facility. Complete with concrete footer with concrete pad, CMU walls, interior plumbing and electrical, water tank supply, and leach field.

<b>Personnel:</b>	6	
<b>Duration:</b>	Jun 16 – Nov 16	
<b>Man-days Expended:</b>	NMCB FOUR	524
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	57%
	Total Project MDs	940
<b>Material Cost:</b>	\$480,000	
<b>Cost Avoidance:</b>	N/A	

**Significant Safety Issues:** NONE

**Significant QC Issues:** NONE

**Significant Design Issues:** None

**Significant Material Issues:** Getting material necessary to keep project moving forward has been difficult. All materials are now currently on order and awaiting delivery.



**Before Construction**



**El Capitaine completed**

Road Maintenance  
SC15-826

**Project Purpose:** Repair roads on multiple locations throughout the island. Clearing, grading, filling and compacting according to island OIC priorities.

**Project Data**

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**Project Scope:** Repair and maintain all unpaved roads and parking areas in various locations. Remove any wash boards or erosion by grading. Place select fill and watered and rolled to support continued access across SCI

<b>Personnel:</b>	Average of five Personnel	
<b>Duration:</b>	Mar 16 – Oct 16	
<b>Man-days Expended:</b>	NMCB FOUR	730
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Project Segment MDs	709
	Total Project MDs	709
<b>Material Cost:</b>	\$0	
<b>Cost Avoidance:</b>	\$?	

- Significant Safety Issues:** None
- Significant QC Issues:** None
- Significant Design Issues:** None
- Significant Material Issues:** None



**Before Construction**



**Bathroom completely painted**

Women in Service Head Facility Renovation at NSW  
SC16-840

**Project Purpose:** Renovate a Comfort Station for females entering Navy Special Warfare

**Project Data**

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**Project Scope:** Renovate Female Comfort Station to include the removal of two vanities, eight sinks, all mirrors, tile, and drywall; replacement of outer door; addition of two sinks, two showers, and drain from showers; rewiring electrical system; and construction of CMU privacy wall.

<b>Personnel:</b>	3	
<b>Duration:</b>	Jul 16 – Aug 16	
<b>Man-days Expended:</b>	NMCB FOUR	68
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	69
<b>Material Cost:</b>	\$23,900	
<b>Cost Avoidance:</b>	N/A	

**Significant Safety Issues:** NONE

**Significant QC Issues:** NONE

**Significant Design Issues:** None

**Significant Material Issues:** The only outstanding items were the partitions for the toilets. Update: Partitions installed.

OIC Discretionary Projects

**Project Listing**

Compressor Shed and Wall at SCORE	81
Transformer Block at SCORE	50
Wilson Cove Walkway	44
<b>Total Man-days expended</b>	<b>175</b>



**Compressor Shed Completed**



**Wilson Cove Walkway**



**CMU Block Wall**

Labor Distribution Summary  
Detail San Clemente Island

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	185	327	408	427	422	390	280	2439
<b>Indirect Labor MDs<sup>1,2</sup></b>	47	92	113	156	146	131	90	775
<b>Readiness/Training<sup>1</sup></b>	17	34	54	36	36	36	17	230
<b>Total MDs Exp</b>	232	419	521	568	521	370	3214	232
<b># Total Personnel</b>	34	34	36	36	36	37	36	
<b># Direct Labor</b>	18.5	18.5	19.5	19.5	19.5	20.5	20.5	
<b># Workdays<sup>3</sup></b>	9	23	23	21.5	21	24	13	
<b>% Direct Labor<sup>4</sup></b>	54%	54%	54%	54%	54%	55%	55%	
<b>Ideal Capability<sup>5</sup></b>	188	479	505	472	460	553	299	
<b>Availability Factor<sup>6</sup></b>	94%	75%	86%	73%	98%	71%	93%	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.125 x DL x (# Workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).



## **DETAIL YOKOSUKA**

## DETAIL YOKOSUKA DEPLOYMENT SUMMARY

NMCB FOUR deployed a 22-personnel detail to Yokosuka, Japan in support of Commander Fleet Activities Yokosuka. Detail Yokosuka's Advanced Party (AP) and Delayed Party (DP) arrived at Yokosuka 14 March and 23 March from Point Mugu via chartered air, respectively. AP immediately began the turnover process and finished 17 March. AP and DP participated in the required week long Area Orientation Brief/Intercultural Relations training during the weeks of 21-25 March and 28 March to 1 April, respectively.

Detail Yokosuka assumed work on the Briggs Bay Seawall located along the northern perimeter of CFA Yokosuka. The Detail picked up work beginning at Section 10 of 12 with backfill and compaction and with demolition and debris removal at Section 12. AP began work on the project site 28 March and was joined by DP personnel 1 April.

The Detail was immediately presented with challenges regarding the tie-in of the newly constructed wall with the original as well as sedimentation build-up along wall where the U-Ditch and Catch Basins were to be placed. During turnover, the Detail was briefed on a Field Adjustment Request (FAR), later accepted by PWD Yokosuka, which would allow for a "drill and epoxy" method to be used to tie new rebar in with the old wall. Request for Information (RFI) 018, pertaining to the application of a cementitious coating to the surface of the wall, was turned over to the Detail with action items still remaining to be fulfilled by the NMCB Det. The first unfulfilled item related to a destructive investigation requested in October to be conducted for a misaligned buttress in Section 2. The Detail informed PWD within the first week of operations that they would be removing the cap block from the misaligned buttress to verify that rebar was installed correctly despite the visual misalignment. After visiting the job site, PWD engineers observed rebar tied in correctly from the buttress to the wall and provided correspondence stating that no further work, or rework, was necessary to prove the construction quality of the buttresses in question. The remaining item from RFI 018 required PWD Yokosuka to issue a DCD for the application of the cementitious surface coating, VANDEX. After several weeks of follow-up with PWD Yokosuka, the DCD was signed and issued on 20 April.

Operating outside of an established Memorandum of Agreement (MOA), the Detail was presented with a material procurement issue with Fleet Logistics Center Yokosuka (FLCY). Since there existed no official documentation requiring Class IV support, a large portion of the procurement process was left with the Detail to execute IOT minimize the tax on FLCY and enable the ultimate success of the logistics process. The issue persisted throughout deployment, and will persist until an eventual MOA is signed between 30NCR and FLCY. Despite that and due in large part to the flexibility and determination of our LS, we were still able to procure \$90K in construction materials and service contracts.

After the VANDEX DCD was issued to the Detail by PWD Yokosuka in April, efforts were made to develop and submit a CAS Sheet to Battalion for review and acceptance into the YO13-811 project package. While inquiring about procurement for the necessary support materials for the application of the VANDEX, the Detail was informed that the VANDEX listed in the DCD had not been used on the base before and was therefore not listed on the base AUL. The Detail had been working through local connections to procure the VANDEX when informed that the process for AUL inclusion was typically 40-50 days at a minimum, which was communicated to FEAD immediately. FEAD was unaware that HAZMAT would not accept AUL application material directly from the Detail and instead needed FEAD to act as the originating source. The Detail was able to find a cheaper, local alternative to VANDEX called POWDAX that was submitted to FEAD for review and to be processed for AUL inclusion.

While completing the demolition of Section 12, the Detail discovered a new catch basin and line of U-Ditch buried by more than a foot. An RFI was submitted to FEAD on 27 April to either include the new catch basin in the scope of work or leave it buried and continue working. FEAD engineers visited the job site, conducted an investigation on the existing storm water network, and determined that the Detail's recommendation to include the seventh catch basin in the scope of work was necessary. The new material was ordered and the seventh catch basin was installed as the termination point of the U-Ditch network for the wall.

The Detail devoted a significant amount of time and effort to inventory, maintain, and streamline the large MLO and CTR warehouse located at Detail spaces. At turnover, the Detail determined that out of over 20,000 line items in CTR, approximately 30% were in need of repair or replacement. The Detail assigned their CM to either repairing the damaged tools or identifying them for DRMO. The Detail LS replicated this process for the large amount of excess

material being stored in the warehouse and was able to provide Details in Fuji and Atsugi with tools and materials that Detail Yokosuka had no immediate need for. Of the 433 line items stored in the excess warehouse, totaling 3,914 material quantity items, nearly 1,400 quantity items were delivered to DRMO or other Det sites for reuse. The Detail was also able to coordinate with the Camp Czar located in Okinawa for the removal and disposal of an outdated and heavily damaged HAZMAT locker with fire suppression system, freeing up over 60 SF of material laydown space.

Through communication with the NEX Facility Management Director, the Detail was able to execute the demolition and removal of a 525 SF aluminum storage shed along with backfill and compaction of the area. The Detail finished the OIC-D work by placing brick pavers in the compacted area and installing concrete ramps along the curbside, fulfilling the NEX facility's need for additional parking.

The Detail began excavation at the Purdy Shade Structure project on 2 Aug. The project was located directly adjacent to the Purdy Gym and the Berkey Athletic Fields. Over the course of the following six weeks, the Detail was subjected to Tropical Depression Lionrock, an additional Tropical Cyclone Condition of Readiness (TCCOR) Level 3 storm event, and the last work week characterized by continuous rain. Despite the relentless obstacles presented, the Detail, through arduous effort and several overtime work days, was able to meet their goals of placing the underslab conduit and the entire concrete pad prior to turnover. The fortuitous timing of the rain along with the project leadership's constant vigilance and forward planning enabled the seamless transition between NMCB FOUR and NMCB FIVE, who will continue by placing the footers and erecting the PEB structure.

Late in deployment the Detail was tasked to investigate an apparent latent defect with the HVAC units within a previously executed MWR project located at the Ikego Housing District. The Detail assigned their lead UT to conduct the investigation and coordinated with the Self Help Seabees in order to capitalize on a training opportunity. Through the investigation, the Detail was able to determine that the installation of the copper tubing, and the fittings thereof, were improperly constructed. Furthermore, the material used for the high side of the lines was incorrect as well. After developing a BOM for the repair, the Detail was able to identify the correct material within the excess material inventory for the project, stored in the Detail Warehouse. After finding all of the repair materials through the excess inventory and the local vendor network, the Detail executed the repair, installing 400 linear feet of copper tubing, 170 fittings, testing the system for leaks, and charging the lines with 10kg of R410a. The Detail was able to complete the repair in 10 total man-days expended, saving the Navy over \$5000 in material and labor costs while reclaiming \$300 in recycled copper through the base.

#### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material Cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-days Expended by Prior NMCBs	Man-days Expended This Deployment
<b>YO 13-811</b>	1894	\$371,988	411	21	99	1575	458
<b>YO 15-818</b>	290	\$472,191	85	BPT Start	24	-	131
<b>Total</b>	2184	\$844,179	496			1575	589



**Briggs Bay Seawall Section 1**



**Briggs Bay Seawall Post-POWDAX application**

Briggs Bay Seawall  
YO13-811

**Project Purpose:** Provide a new CMU block seawall along the Tokyo Bay waterfront area at the north end of CFA Yokosuka.

**Project Data**

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**Project Scope:** Demolition and replacement of approximately 355 meters of CMU block, U-Ditch, concrete footing, and seven catch basins.

<b>Personnel:</b>	Average of 11 Personnel	
<b>Duration:</b>	May 15 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR	460
	Prior NMCBs	1575
<b>Tasking:</b>	WIP at Deployment Completion	99%
	Total Project MDs	411
<b>Material Cost:</b>	\$371,988.45 (Estimated)	
	\$335,530.54 (Actual)	
<b>Cost Avoidance:</b>	\$36,457.91 (Material cost)	

**Significant Safety Issues:** None

**Significant QC Issues:** Misaligned buttresses constructed by prior Battalions caused PWD engineers to call into question the method and quality of construction according to designs; destructive investigation conducted in March by NMCB FOUR eliminated those concerns.

**Significant Design Issues:** Designs provided by PWD Yokosuka were drafted by the P&E department rather than the engineers who work in FEAD. This created significant problems when the Detail began to have questions regarding contradictions in the prints and recommendations for design modifications based on site conditions. The FEAD engineers were hesitant to answer or respond to our questions since they did not develop the designs, and the P&E personnel would not answer questions regarding their design because they are not themselves engineers and therefore not qualified to answer in an official capacity. A preconstruction conference was not conducted for this project which would have allowed such an oversight to be caught prior to construction on the wall commencing. Future projects incorporated the preconstruction conference in an effort to expose issues similar to this. Cementitious spray material was applied to the wall prior to completion. No NCF entity or base contractor had experience with such an application and the design engineers who required it had never used it on a design prior to this project. The translated MSDS and application information was provided to 30NCR for future use by the Pacific Fleet Seabees.



**Purdy project site just after move-in**



**Pads 1 & 2 completed prior to turnover**

## Purdy Pavilion Shade Structure YO15-818

**Project Purpose:** Construct PEB for MWR Purdy Gym

### Project Data

**Project Scope:** Construct new 6,000 SF PEB to include excavation of soil, installing concrete foundation, square footings with embedded anchor bolts, and concrete walkway to the pavilion; drinking fountain, water flow meter, and new catch basin; hand holes, new panel board, and underslab empty conduit.

<b>Personnel:</b>	Average of 11 Personnel	
<b>Duration:</b>	Jul 16 – Dec 16	
<b>Man-days Expended:</b>	NMCB FOUR	117 MDs
	Prior NMCBs	0 MDs
<b>Tasking:</b>	WIP at Deployment Completion	24%
	Total Project MDs	290 MDs
<b>Material Cost:</b>	\$472,191	
<b>Cost Avoidance:</b>	\$5,008.20 (Material cost; excess obtained from adjacent Detail)	

**Significant Safety Issues:** The size of the PEB and the large amount of overhead work associated with it demanded a clearly articulated and in-depth fall protection and safety plan in order to mitigate the risks inherent in assembling large steel members. The NMCB FOUR team scheduled the project in a way to allow NMCB FIVE to take full ownership of the PEB assembly in order to minimize any potential lapses in communication due to turnover or separate planning and execution cells.

**Significant QC Issues:** The large amount of concrete involved in the placement of the foundation necessitated phased sections and an intricate form plan. The Detail spent the month of June reworking and refining the form plan in order to ensure the best solution was in place prior to start of construction. A joint decision between NMCB 4 and 5 was made to establish the transition point between the last pad placement and the first footing placement.

**Significant Design Issues:** The original designs for the PEB were generated in 2010 and covered an existing PEB that had been stored at various sites in Japan over several years prior to NMCB FOUR arrival in Yokosuka. After conducting a joint-unit constructability assessment with NMCB THREE, the decision was made by 30NCR to purchase an entirely new PEB of the same design. Efforts were made to obtain the corresponding 2015 design specs from the vendor, but they did not arrive until two weeks before the original estimated start date for construction. The new designs included footings that went from 6.5'X6.5' in the 2010 designs to 14'x14' in the 2015 designs. This increase in footprint caused the entire concrete foundation footprint to exceed the area allotted next to Purdy Gym

due to physical limitations and existing underground electrical lines. The Detail, in conjunction with PWD FEAD, Battalion Operations, and 30NCR, brainstormed several alternative solutions and pursued modifications to the designs provided by the vendor. The joint effort of all parties involved resulted in the decision to remove 20' from the middle section of the PEB, adjusting the overall footprint size to 60'x100' and enabling it to fit within the limits of the site. Prior to receiving the excavation permit for the site the Detail discovered a discrepancy between site approval documentation and underground utilities drawings maintained by PWD Utilities. Site Approval research indicated that underground utilities effectively paralleled the perimeter sidewalks, leaving the footprint layout clear of buried cables. PWD Utilities conducted a site survey as a part of excavation permit protocol and revealed that the low-voltage electrical lines connecting three light poles adjacent to the project site were not installed according to PWD GIS information. PWD Utilities agreed to temporarily remove the light poles from the power grid and remove the buried cable in order to allow the project to proceed without impact to the construction schedule.

Labor Distribution Summary  
Detail Yokosuka

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
Direct Labor MDs <sup>1</sup>	25	104	157	116	89	120	125	736
Indirect Labor MDs <sup>1,2</sup>	71 <sup>8</sup>	245	165	252	275	260	220	2135
Readiness/Training <sup>1</sup>	49	39	33	19	10	22	15	187
<b>Total MDs Exp</b>	145	388	354	387	373	373	373	2393
<b># Total Personnel</b>	22	22	22	22	22	22	22	
<b># Direct Labor</b>	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
<b># Workdays<sup>3</sup></b>	13 <sup>7</sup>	18 <sup>7</sup>	17 <sup>7</sup>	19 <sup>7</sup>	20 <sup>7</sup>	20 <sup>7</sup>	20 <sup>7</sup>	
<b>% Direct Labor<sup>4</sup></b>	57%	57%	57%	57%	57%	57%	57%	
<b>Ideal Capability<sup>5</sup></b>	183	253	155	267	281	281	281	
<b>Availability Factor<sup>6</sup></b>	0.40	0.56	0.79	0.50	0.35	0.35	0.35	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.125 x DL x (# Workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).
- (7) Rain Days: March 28; April 4, 7, 8, 11, 14; May 4, 10, 11, 17, 27; June 13, 21, 23, 28, 29; July 15, 21;
- (8) DP personnel included as "X08" coded indirect labor numbers



## **DETAIL CAMBODIA I**

## **CONSTRUCTION CIVIC ACTION DETAIL CAMBODIA I DEPLOYMENT SUMMARY**

NMCB FOUR deployed to Cambodia in March 2015 in order to provide humanitarian aid, civil assistance and support theater security cooperation objectives throughout the Kingdom of Cambodia. The Detail's scope of work included the construction of four 5-stall head facilities and one maternity ward in direct support of US Embassy and United States Agency for International Development (USAID) initiatives to improve sanitation conditions and maternity care throughout the Kingdom. The head facilities were completed at schools in Takeo (Three Schools), Kampong Speu, and the maternity ward was constructed at a local health center in Takeo.

The Detail arrived in two groups with 14 personnel arriving on 10 March and 6 personnel arriving 23 March by commercial flight. Upon arrival, NMCB FOUR conducted an efficient turnover with NMCB THREE and began working. Working from their initial berthing location in Takeo at the Sotheavy Guesthouse, the Detail began construction of OIC-D projects. Due to the challenge of not having funding upon arrival, the Detail honed their skills using nonstandard materials. The Detail completed 13 projects at Moeung Char and Damrey Yorktek Secondary Schools while waiting for project funding. The experience the crews gained through the OIC-D projects allowed them to be confident and ready to tackle the tasked projects.

On 4 April & 8 April, construction began at the Moeung Char Secondary School Head Facility (Project #26709) and Damrey Yorktek Secondary School Head Facility (Project #26710) respectively. The projects provided a quality bathroom facility to a school serving over 200 and 400 students. The Detail worked through and quickly adapted to Cambodian construction materials and practices, successfully executing the 164 man-day facilities. Beginning 18 April, the Seabees were joined by 8 Army engineers from the Royal Cambodian Armed Forces (RCAF) to assist with construction. The combined teams split into two crews to complete the projects concurrently. Working hand in hand with their American counterparts, the RCAF Army engineers integrated in nearly all activities to include safety briefs, construction efforts, and off-duty MWR events. The units at each site worked together seamlessly and exchanged expertise and best practices during all construction phases. Their mil to mil engagement and coordination was paramount to the successful completion of both projects. They also developed a relationship with the NAVFAC-provided life support contractor that supported the Detail with material procurement and transportation. The crews also experienced a new challenge of working at schools with very inquisitive children. They maintained a great balance of keeping the children at an appropriate distance away to keep them safe and playing with them during breaks. The crew completed the Moeung Char head facility 19 May and Damrey Yorktek head facility 27 May and properly concluded all efforts with well-deserved ribbon-cutting events on 20 May and 31 May attended by local community members.

After completion of the two head facilities, the Detail began to construct a maternity ward at the Praphnom Health Center (Project #25094) in Takeo on 25 May and a head facility at the Ro Laing Secondary School (Project #26713) in Takeo on 2 June with continued assistance from RCAF engineers. The 5-stall head facility provided improved sanitary toilets for 233 students and 9 teachers. The 2-room standalone maternity ward augmented the existing health center serving 10,521 people across 2 districts. While construction continued on the maternity ward, the Detail's Corpsman continued give back to the community by teaching an 8-hour course on first aid, hygiene, and sanitation to the health center staff. The Ro Laing Secondary School head facility was completed early, on 13 Jul, and had a very well received ribbon cutting ceremony on 19 Jul.

Upon completion of the Ro Laing School Head Facility, the Detail started on the last head facility at Snom Kropeu Primary School (Project #26712). Construction began on 15 Jul with the continued partnership of the RCAF engineers. The 5-stall head facility provides improved sanitary and health conditions for over 400 students and 9 teachers. The two crews completed both the Snom Kropeu Head Facility and Praphnom Maternity Ward on 26 Aug. The head facility ribbon cutting was held with great participation and success on 31 Aug. The final ribbon cutting for the Detail was held on 2 Sep for the Praphnom Maternity Ward. The outstanding community support and appreciation left the Detail with a great high note for tasked projects to be completed.

Prior to final retrograde and turnover, the Detail was afforded a special opportunity to complete discretionary work in the local Takeo Province. Coordinating small scopes of work at both the local primary and secondary schools, the Seabees were able to improve living conditions for the children whose town greatly welcomed the Seabees to be based out of. The Detail completed minor improvements including painting, construction of needed burn pits, new

playground equipment, and the construction of a new wheelchair ramp to improve handicapped access to the Health Center maternity ward.

Two Backhoes, two Skidsteers, and a 12K Forklift were utilized in country to effectively construct all projects. The redundancy of CESE in Cambodia allowed the Detail to execute simultaneous projects with no delays in production. An additional skidsteer was shipped into country to replace one of the skidsteers due for higher maintenance. The outstanding support for Detail Guam with timely repair parts allowed the CESE to remain fully functional with minimal issues.

The Detail made its final preparations at Sotheavy Guesthouse for move-out. On September 18, Detail Cambodia moved to Phnom Penh to depart Cambodia the following day and prepare for the arrival of NMCB 5. As an added bonus on September 19, the Detail travelled to Siem Reap to visit Angkor Wat, Cambodia's most well-known destination and one of the Seven Ancient Wonders of the World. The Advanced Party of 16 personnel departed Cambodia on September 20 from Phnom Penh. Turnover was completed on September 27 and the Delayed Party team of 5 personnel departed Cambodia to cap a highly successful 2016 deployment for NMCB FOUR.

### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material Cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-days Expended by Prior NMCBs	Man-days Expended This Deployment
26709	164	\$24,434	164	100	100	0	121
26710	164	\$24,085	164	100	100	0	121
25094	301	\$47,097	301	100	100	0	326
26713	164	\$21,583	164	100	100	0	107
26712	164	\$24,471	164	100	100	0	82
<b>TOTAL</b>	957	\$140,945	957			0	757



**Before construction**



**Walls going up**

**Moeung Char Secondary School Head Facility**

**CA15-912**

**Project Purpose:** Conduct HCA construction at Moeung Char Secondary School in Takeo, Cambodia.

**Project Data**

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**Project Scope:** Construct a new concrete block five stall restroom facility. Building to include a prefabricated steel truss roof and local roof sheeting, Asian style toilets, two-chamber block septic system, leach field, gutters, rain water catchment storage tank, and sidewalk. Building will be stucco finished with high quality paint and will have mural dedication sign.

**Personnel:** 12 Crew (8 Seabees & 4 RCAF Engineers)

**Duration:** Apr 16 – May 16

**Man-days Expended:** 121

**Tasking:**

WIP at deployment completion:	100%
MD Tasked to Detail:	1307
Total Project MD:	164

**Material Cost:** \$22,892

**Cost Savings:** \$3,130

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** 1 additional course was added to the facility to increase the overall height of the building, thus increasing the elevation of the gutters and the elevation at which the catchment tank could be mounted. The elevated catchment tank, built on four courses of block, provided improved water pressure to each stall and sink.

**Significant Material Issues:** None



**Before construction**



**Project completion**

**Damrey Yorktek Secondary School Head Facility**  
**CA15-913**

**Project Purpose:** Conduct HCA construction at Damrey Yorktek Secondary School in Takeo, Cambodia.

**Project Data**

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**Project Scope:** Construct a new concrete block five stall restroom facility. Building to include a prefabricated steel truss roof and local roof sheeting, Asian style toilets, two-chamber block septic system, leach field, gutters, rain water catchment storage tank, and sidewalk. Building will be stucco finished with high quality paint and will have mural dedication sign.

**Personnel:** 12 Crew (8 Seabees & 4 RCAF Engineers)

**Duration:** Apr 16 – May 16

**Man-days Expended:** 121

<b>Tasking:</b>	WIP at deployment completion:	100%
	MD Tasked to Detail:	1307
	Total Project MD:	164

**Material Cost:** \$22,909

**Cost Savings:** \$3,112

**Significant Safety Issues:** Student safety on site was a primary concern due to the high population of students at the school and the proximity between classrooms and the project site. Green fencing was placed around the project site to help keep students away. Frequent communication with the school director was conducted to remind students to stay away from the fencing.

**Significant QC Issues:** None

**Significant Design Issues:** 1 additional course was added to the facility to increase the overall height of the building, thus increasing the elevation of the gutters and the elevation at which the catchment tank could be mounted. The elevated catchment tank, built on four courses of block, provided improved water pressure to each stall and sink.

**Significant Material Issues:** None



**Before construction**



**Project completion**

## Praphnom Health Center Maternity Ward

### CA15-917

**Project Purpose:** Conduct HCA construction at Praphnom Health Center in Kampot, Cambodia.

#### Project Data

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**Project Scope:** Construct a new concrete 7 meter by 8 meter two-room building behind existing health center. Building will be concrete columns on spread footings with a concrete slab on grade and roof beam. Walls will be core filled and reinforced CMU block, roof will be steel trusses with hat channel purlins and corrugated metal sheeting. Interior and exterior finish will be stucco finished with high quality paint.

**Personnel:** 12 Crew (8 Seabees & 4 RCAF Engineers)

**Duration:** May 16 – Aug 16

**Man-days Expended:** 326

**Tasking:** WIP at deployment completion: 100%  
MD Tasked to Detail: 1307  
Total Project MD: 301

**Material Cost:** \$47,437

**Cost Savings:** \$11,948

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None

**Significant Material Issues:** None



**Before construction**



**Project completion**

## Ro Laing Secondary School Head Facility

### CA15-914

**Project Purpose:** Conduct HCA construction at Ro Laing Primary School in Kampot, Cambodia.

#### Project Data

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**Project Scope:** Construct a new concrete block five stall restroom facility. Building to include a prefabricated steel truss roof and local roof sheeting, Asian style toilets, two-chamber block septic system, leach field, gutters, rain water catchment storage tank, and sidewalk. Building will be stucco finished with high quality paint and will have mural dedication sign.

**Personnel:** 12 Crew (8 Seabees & 4 RCAF Engineers)

**Duration:** Jun 16 – Jul 16

**Man-days Expended:** 107

**Tasking:**

WIP at deployment completion:	100%
MD Tasked to Detail:	1307
Total Project MD:	164

**Material Cost:** \$22,491

**Cost Savings:** \$3,715

**Significant Safety Issues:** Student safety on site was a primary concern due to the high population of students at the school and the proximity between classrooms and the project site. Green fencing was placed around the project site to help keep students away. Frequent communication with the school director was conducted to remind students to stay away from the fencing.

**Significant QC Issues:** None

**Significant Design Issues:** 1 additional course was added to the facility to increase the overall height of the building, thus increasing the elevation of the gutters and the elevation at which the catchment tank could be mounted. The elevated catchment tank, built on four courses of block, provided improved water pressure to each stall and sink.

**Significant Material Issues:** None



**Before construction**



**Project completion**

**Snom Kropeu Primary School Head Facility**

**CA15-801**

**Project Purpose:** Conduct HCA construction at Ro Laing Primary School in Takeo, Cambodia.

**Project Data**

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**Project Scope:** Construct a new concrete block five stall restroom facility. Building to include a prefabricated steel truss roof and local roof sheeting, Asian style toilets, two-chamber block septic system, leach field, gutters, rain water catchment storage tank, and sidewalk. Building will be stucco finished with high quality paint and will have mural dedication sign.

**Personnel:** 12 Crew (8 Seabees & 4 RCAF Engineers)

**Duration:** Jul 16 – Aug 16

**Man-days Expended:** 82

<b>Tasking:</b>	WIP at deployment completion:	100%
	MD Tasked to Detail:	1307
	Total Project MD:	164

**Material Cost:** \$24,471

**Cost Savings:** \$1,735

**Significant Safety Issues:** Student safety on site was a primary concern due to the high population of students at the school and the proximity between classrooms and the project site. Green fencing was placed around the project site to help keep students away. Frequent communication with the school director was conducted to remind students to stay away from the fencing.

**Significant QC Issues:** None

**Significant Design Issues:** 1 additional course was added to the facility to increase the overall height of the building, thus increasing the elevation of the gutters and the elevation at which the catchment tank could be mounted. The elevated catchment tank, built on four courses of block, provided improved water pressure to each stall and sink.

**Significant Material Issues:** None

## OIC Discretionary Projects

### Project Listing

Repaint Existing Head Facility (Moeung Char)	4
Construct Foot Bridge (Moeung Char)	10
Replace Head Facility Roof (Moeung Char)	14
Construct Outdoor Benches (Damrey Yorktek)	2
Weld Bicycle Racks (Damrey Yorktek)	4
Repair Existing Septic Tank (Moeung Char)	6
Install Water Well Drainage (Moeung Char)	6
Install Retainage Pond Drainage (Moeung Char)	6
Construct Volleyball Court (Damrey Yorktek)	10
Construct Volleyball Court (Moeung Char)	10
Repair Vehicle Gate (Damrey Yorktek)	4
Repair School Columns (Damrey Yorktek)	4
Repaint Existing Head Facilities (Damrey Yorktek)	8
Construct Wheel Chair Ramp (Praphnom)	10
Renovate Basketball Court (Takeo)	8
Construct 4 Burn Pits (Takeo, Kampot)	15
Paint Health Clinic (Praphnom)	10
Construct 2 See-Saws Cher Teal Primary School (Takeo)	10

**Total Man-days expended**

**147**



**Repaint Existing Head Facility (Moeung Char)**



**Construct Foot Bridge (Moeung Char)**



**Construct Volleyball Court (Damrey)**

### Labor Distribution Summary

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total	Total
<b>Direct Labor MDs1</b>	136	194	141	158	153	105	80	967	69%
<b>Indirect Labor MDs1,2</b>	0	75	49	89	53	71	10	347	25%
<b>Readiness/Training1</b>	0	16	32	0	32	16	0	96	6%
<b>Total MDs Exp</b>	136	285	222	247	238	192	90	1410	100%
<b># Total Personnel</b>	20	20	21	21	21	21	21		
<b># Direct Labor</b>	15	15	15	15	15	15	15	15	
<b># Workdays3</b>	10	21	24	23	21	24	14	137	
<b>% Direct Labor4</b>	75%	75%	71%	71%	71%	71%	71%		
<b>Ideal Capability5</b>	150	315	360	345	315	360	210	2055	
<b>Availability Factor6</b>	.91	.67	.48	.46	.59	.34	.38	.52	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.000 x DL x (# Workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).



## **DETAIL CAMBODIA II**

**CONSTRUCTION CIVIC ACTION DETAIL CAMBODIA II  
DEPLOYMENT SUMMARY**

NMCB FOUR deployed two Details to Cambodia in March 2016 in order to provide humanitarian aid, civil assistance and support theater security cooperation objectives throughout the Kingdom of Cambodia. Detail II's tasking included the construction of one 5-stall head facility at the Koh Kong Secondary School and the retrograde of Detail II to Okinawa. The Seabees scope of work was in direct support of US Embassy initiatives to improve sanitation conditions throughout the Kingdom.

Detail II deployed, via commercial air, in two groups with 11 personnel arriving on 9 March and five personnel arriving 20 March. Upon arrival, NMCB FOUR Detail II conducted turnover with NMCB THREE Detail I at the NMCB storage warehouse located at the Royal Cambodian Armed Forces' compound in Phnom Penh. Once turnover was complete, the detail moved to their hotel located in Koh Kong. The hotel was located three minutes from the project site.

The release of project funds to the Cambodia Operational Support Contract (COSC) contractor was delayed pushing the start of construction five working days. The detail used the delay as an opportunity to complete Officer in Charge Discretionary (OICD) projects for the school, which also benefitted the detail as additional training laying CMU block. Four members of the Royal Cambodian Armed Forces (RCAF) joined the Detail and the addition of their experience and expertise to the team greatly enhanced the crew's ability to place CMU block and stucco. Detail II completed the head facility in 33 working days, 16 days ahead of schedule.

CCAD Cambodia II used one 420 backhoe belonging to the Guam NMCB TOA. The unit operated efficiently to allow for the successful execution of the mission. NMCB FOUR's detail did not have any CESE issues requiring battalion support, however, if issues did arise the Cambodia Operations Support Contract could fund CESE parts and repairs.

The mission was an overall success; a head facility was completed for a school improving sanitation and health conditions, the RCAF engineers and Seabees gained valuable experience, and regional partnerships were enhanced. The ribbon cutting ceremony was held on 16 May and attendees included NMCB FOUR's Commanding Officer, CDR Lengkeek, the Chief Deputy of Provincial Department of Education Youth and Sport, and the Deputy Chief of District Office of Education Youth and Sport, along with 100 local students and teachers.

Detail II completed turnover with Detail I on 18 May and arrived in Okinawa on 20 May.

**PROJECT SUMMARY**

<b>Project Number</b>	<b>Total Project Man-days</b>	<b>Total Project Material Cost</b>	<b>Man-days Tasked</b>	<b>Tasked %</b>	<b>Final WIP (%)</b>	<b>Man-days Expended by Prior NMCBs</b>	<b>Man-days Expended This Deployment</b>
<b>CA15-916</b>	257	\$23,750	257	100	100	0	257



**Before Construction**



**Project Completion**

**Koh Kong Secondary School Five Stall Head Facility**  
**CA15-916**

**Project Purpose:** Conduct HCA construction at Koh Kong Secondary School in Koh Kong, Cambodia.

**Project Data**

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**Project Scope:** New construction of a 9’x25’ head facility building with five individual head-stalls. Construction consisted of an 8-inch concrete pad with rebar and CMU block walls tied together with lintel blocks and rebar. Each stall was separated by a CMU block divider wall and the overall project consisted of approximately 600 CMU blocks. The roof consisted of six pre-fabricated metal trusses overlaid with a fiber cooled roofing system. Each stall had a wooden door, Asian style toilet, tile, and water catchment basin. The water supply was a 2000L rain water catchment system. The plumbing system included a water drain and a 4,700L septic tank with a leach field. The building was finished with stucco and paint along with a mural and brass plaque dedication.

**Personnel:** Average Seabee crew size: 10  
Average HN crew size: 4 (18 Apr – 11 May)

**Duration:** Apr 16 – May 16

**Man-days Expended:** NMCB FOUR 257  
Prior NMCBs 0

**Tasking:** WIP at Deployment Completion 100%  
Total Project MDs 257

**Material Cost:** \$23,750

**Cost Avoidance:** \$2,270

**Significant Safety Issues:**

1. Seabees incorporated four Royal Cambodian Armed Forces (RCAF) engineers into the crew, but the RCAF personnel adopted and adhered to Seabee safety standards and completed the project with zero safety mishaps.

**Significant QC Issues:**

1. Low quality local CMU block varying in dimensions. Variances made achieving plumb and level for all walls and corners challenging for the inexperienced crew.

2. Crew was inexperienced with stucco application and relied heavily on the RCAF's expertise. On the job training from the RCAF was required during execution.

**Significant Design Issues:**

1. An approved set of drawings without specifications was provided prior to construction. The drawings were redline drawings and contained a hand sketched FAR for the water basins for the stalls and septic tank with limited detail. To overcome the unclear drawings, the Detail made elevation and plan view computer aided construction drawings of the septic tank and stall water basins in order to apply accurate dimensions for construction.
2. Due to the lack of complete and updated drawings and QC issues with the CMU block, the Detail completed mock-ups of portions of the CMU block facility in order to establish the block pattern needed to achieve the required interior dimensions of each stall and determine the correct locations of the under slab utility stub-ups. The mock up was made into elevation and plan view computer aided construction drawings to assist the Detail in building the facility in accordance with the established pattern. This method maximized efficiency and minimized CMU block waste because limited cuts were made.
  - a. Due to the building dimensions, half block was also used to reduce cuts of the standard block where needed.

**Significant Material Issues:**

1. Actual size of CMU block was 7.5"Wx7.5"Hx15.5"L vice 6"Wx6"Hx16"L as shown in the drawings. CMU block dimensions varied up to 1/2".

OIC Discretionary Projects  
Mar – May 2016

**List of Projects**

Koh Kong Secondary School Soccer Goals	9
Koh Kong Secondary School Trash Burn Pits (x5)	20
Koh Kong Secondary School Schoolhouse Exterior Paint	5
Primary School Monkey Bars	16
Primary School Library Security Bar Repair	3

**Total Man Days Expended** **53**

Koh Kong Secondary School Trash Burn Pits: Constructed five 5’x5’ CMU block trash burn pits from previous Battalion excess material. The burn pits allow for the school to centralize trash burning rather than burning trash in random location on the school grounds.

Koh Kong Secondary School Schoolhouse Exterior Paint: Painted 2,000SF of the exterior of a four room schoolhouse to enhance the appearance of the school facilities.

Primary School Monkey Bars: Constructed a monkey bar set to replace rusted and unusable playground equipment for a local primary school.

Primary School Library Security Bar Repair: Repaired the security bars for a library constructed by a previous Battalion at a local primary school.

### Labor Distribution Summary Chart

Month	Mar 16	Apr 16	May 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	0	101	156	257
<b>Indirect Labor MDs<sup>1,2</sup></b>	0	0	0	0
<b>Readiness/Training<sup>1</sup></b>	0	128	0	128
<b>Total MDs Exp</b>	0	229	156	385
<b># Total Personnel</b>	16	16	16	
<b># Direct Labor</b>	10	10	10	
<b># Workdays<sup>3</sup></b>	0	22	11	
<b>% Direct Labor<sup>4</sup></b>	63	63	63	
<b>Ideal Capability<sup>5</sup></b>	0	187	94	
<b>Availability Factor<sup>6</sup></b>	0.85	0.85	0.85	

Notes:

- (7) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (8) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects “X” coded time from timecards.
- (9) Number of Workdays = DL workdays + DL training days
- (10) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (11) MD Capability = (ME \* DL \* Workdays) = 1.0 x DL x (# Workdays)
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training MDs) / (MD Capability).



## **DETAIL TIMOR-LESTE**

## **CONSTRUCTION CIVIC ACTION DETAIL TIMOR-LESTE DEPLOYMENT SUMMARY**

NMCB FOUR Detail Timor-Leste's deployment tasking included five major projects and two joint exercises. Upon successful turnover with NMCB THREE on March 14th, NMCB FOUR Detail Timor-Leste started the construction of the Manleuana Three Classroom School in support of the Engineering Line of Effort (LOE) for Exercise Pacific Partnership 2016 (PP16). The project crew worked with F-FDTL engineers for two months, added Australian engineers on May 24th, and finally incorporated ACB 1 Seabees and US Marines with the arrival of the USNS Mercy in June. The Detail and multinational partners also completed the Aimutin Primary School Flood Mitigation project, constructing a seepage pit and laying paving stones in the school compound's central courtyard for a total of 228 man-days. Aimutin was completed on 18 June, concluding with a ribbon-cutting and Exercise closing ceremony held 20 June at the Aimutin Primary School with representatives from each participating nation.

The crew completed the Manleuana School on 19 July, with a ribbon cutting ceremony on 20 July. Dignitaries included US Ambassador Karen Stanton and F-FDTL Vice Chief of Defense Forces Brigadier General Filomeno de Paixio de Jesus, as well as local community and Ministry of Education leaders. The project totaled 517 man-days over 93 work days of construction. The crew also constructed a CMU and concrete-lined drainage ditch to address the school compound's frequent flooding problem and prolong the life of the new school.

The second half of the deployment focused on the construction of the Vemasse Four Classroom School in the Bacau district, a remote, high-profile project three hours East of Dili that had been plagued for two years with design and funding problems. On July 12, the crew moved onto the site and commenced demolition of an existing 3-room school with the support of the F-FDTL. They excavated 4.5 feet of expansive soil from the new building's footprint, backfilling and compacting 782 tons of select fill to create a solid base for the structure. The crew completed the 66 CM slab placement on 24 August, pressing forward to complete the walls and roof prior to turnover with NMCB FIVE with 536 mandays and 83% WIP. The detail also supported the logistics and life support requirements for Exercise CARAT Timor-Leste in August, a CTF-75 owned exercise whose appr. 100 participants included C7F FASTPAC Marines, NMCB 4 Seabees, EODMU5 mechanics, CRG 1 Master-at-Arms and F-FDTL Naval Component Sailors and Marines.

A crew of 6 punched out three hours West to Hatolia to complete the renovation of a Maternity Ward and Community Health Clinic, consisting of water and electrical utility installation and repairs, tile work and interior and exterior paint. They completed 85 mandays of quality renovation in two and a half weeks before rejoining the Vemasse crew to finish out the deployment. The Detail did not start the Manatuto Maternity Ward and Community Health Clinic, Phase II renovation, as material procurement and funding delays coupled with the long lead time for the generator delivery resulted in a turnover to NMCB FIVE.

The CECE items heavily used on Timor projects were the Skidsteers, and a Back Hoe. Because of the location, one of the challenges we ran into were repair parts. Even for general maintenance and wear and tear items like tires, filters, hydraulic hoses, seals etc.. All these items need to be coordinated through Guam for delivery which caused delays in procurement. To overcome these issues we had to use RMS to have items fabricated such as seals and hoses. In the interim to acquire POL's, we had to trade line items from the IDIQ to purchase them. A list was generated as to what common items are frequently required to maintain the equipment for NMCB Five which should help when turning over to the next.

Overall, the Detail successfully completed three major projects, brought a fourth to 83% WIP, completed two exercises, and supported 30NCR objectives of increasing interoperability between host nation military forces and execute humanitarian assistance construction.

**PROJECT SUMMARY**

<b>Project Number</b>	<b>Total Project Man-days</b>	<b>Total Project Material Cost</b>	<b>Man-days Tasked</b>	<b>Tasked %</b>	<b>Final WIP (%)</b>	<b>Man-days Expended by Prior NMCBs</b>	<b>Man-days Expended This Deployment</b>
<b>TL15-804</b>	65	\$29,543.12	65	100%	0%	0	0
<b>TL15-806</b>	85	\$13,987	85	100%	100%	0	87
<b>TL15-809</b>	645	\$361,708.25	645	100%	83%	0	617
<b>TL16-815</b>	517	\$167,856.59	517	100%	100%	0	455
<b>TL16-823</b>	228	\$14,626.64	228	100%	100%	0	134
<b>Total</b>	1540	\$587,721.60	1540			0	1293



**Before Construction**



**Project Completion**

**Construct Flood Mitigation Project Aimutin Primary School**  
**30694**

**Project Purpose:** Provide drainage control and exterior renovations alongside multinational engineering forces during Pacific Partnership 2016 to increase interoperability in preparation for future HA/DR operations.

**Project Data**

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**Project Scope:** Excavate area 2”- 3”. Grade to proper slope for drainage and place a layer of sand. Place and level pavers, fill cracks with sand to lock in place. Paint interior and exterior of school buildings after cleaning walls and patching any holes.

**Personnel:** 6 NMCB FOUR CCAD Seabees, 15 PHIBCB ONE Seabees, 5 US Marines, 3Royal Australian Air Force Engineers, and 9 F-FDTL Engineers

**Duration:** May 16 – Jun 16

**Man-days Expended:** NMCB FOUR 134  
 Prior NMCBs 0

**Tasking:** WIP at Deployment Completion 100%  
 Total Project MDs 228

**Material Cost:** \$14,626.64 (HAMIN)

**Cost Avoidance:** \$0

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None

**Significant Material Issues:** None



**Before construction**



**project completion**

## Construct Three Room School House Manleuana Primary School 27433

**Project Purpose:** Demolish existing school building damaged by earthquakes and long-term flooding, replace with new three classroom school building, and conduct training with F-FDTL to increase interoperability and develop construction skills. Adopted as the ENCAP for Pacific Partnership Timor-Leste 2016 after original project wasn't funded by PACOM.

### **Project Data**

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**Project Scope:** Construct a new three-room classroom building that includes concrete slab, CMU block walls, steel truss roof with hat channel purlins and corrugated steel roof sheeting. Building will be stucco finish with high quality paint.

**Personnel:** 16 NMCB FOUR Seabees, 10 F-FDTL Engineers, plus 9 Royal Australian Air Force Engineers, 14 PHIBCB ONE Seabees, and 10 additional F-FDTL Engineers (during PP16 portion of project)

**Duration:** Mar 16 – Jul 16

**Man-days Expended:** NMCB FOUR 763  
Prior NMCBs 0

**Tasking:** WIP at Deployment Completion 100%  
Total Project MDs 517

**Material Cost:** \$167,856.59

**Cost Avoidance:** \$6,500 saved by using excess material from Camp Lenhoff

**Significant Safety Issues:** None

**Significant QC Issues:** A consistent quality control standard was lacking through the lifespan of the project. Schoolhouse was tasked to a Timorese standard of construction; planned, estimated, and briefed to a US standard of construction; and work elements were built to Timorese, Australian, and US standards.

**Significant Design Issues:** New elevation of the building did not account for the seasonal flooding of the building's footprint. The project crew adapted by submitting a FAR to raise the finish elevation of the slab and designing, excavating, and lining a drainage ditch for the courtyard to capture rainwater and runoff.

**Significant Material Issues:** Teak wood was extremely tough, requiring additional labor to cut to size and pre-drill holes for nails due to lack of functioning nail guns in country and nearly doubling pre-fabrication timelines. Lintel

block was extremely prone to breaking, resulting in a 200% waste factor and doubling the allotted time for lintel roof beam construction. Stucco mix was incorrectly ordered by the prime contractor, crew adapted by sub-contractor delivering sand and cement for crew to mix by hand. Learning curve on local stucco mix dramatically slowed stucco application, and was partially mitigated by hiring local tradesman to augment the crew.



**Before construction**



**Project turnover**

**Construct Four Room School House Vemasse Secondary School**  
**28886**

**Project Purpose:** Construct new four classroom school building, and work side by side with F-FDTL to increase interoperability and develop construction skills.

**Project Data**

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**Project Scope:** Construct a new four-room classroom building that includes concrete slab, CMU block walls, steel truss roof with hat channel purlins and corrugated steel roof sheeting. Building will be stucco finish with high quality paint.

**Personnel:** 21 NMCB FOUR Seabees and 15 F-FDTL (11 DL Engineers)

**Duration:** Jul 16 – Sep 16

**Man-days Expended:** NMCB FOUR 617  
Prior NMCBs 0

**Tasking:** WIP at Deployment Completion 83%  
Total Project MDs 645

**Material Cost:** \$361,708.25

**Cost Avoidance:** \$0

**Significant Safety Issues:** None

**Significant QC Issues:** None.

**Significant Design Issues:** Original building location was in a rice paddy subject to seasonal flooding of 2-2.5 feet. The building was originally designed with a floating slab to sit over the ground. After several FARs and RFIs, a slab on grade design was approved whereby the Detail demolished an existing dilapidated three room school to take advantage of the higher elevation; excavated, backfilled and compacted the building footprint to mitigate the poor quality soil that caused the previous structure to fail; and used a bulldozer to grade the school property to facilitate future drainage.

**Significant Material Issues:** Remote, logistically challenging location dramatically increased the price of material delivery, especially concrete which was procured at \$649 / CM after nearly 14 months of negotiations. Concrete costs the Detail \$192 / CM in Dili, the capital city. Required initial BOM to change twice and three add-on BOMS.



**Before construction**



**Project completion**

**Renovate Hatolia Maternity Ward and Health Clinic**  
**26166**

**Project Purpose:** Perform electrical, plumbing, and surface renovation of Hatolia Maternity Ward and Community Health Clinic to increase buildings' sanitation standards and improve patient capacity.

**Project Data**

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**Project Scope:** Renovation of existing maternity ward and health clinic, including plumbing & water storage, rough and finish electrical, finish repairs, openings, tile, and interior and exterior paint.

<b>Personnel:</b>	6 NMCB FOUR Seabees	
<b>Duration:</b>	Aug 16 – Aug 16	
<b>Man-days Expended:</b>	NMCB FOUR	87
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	85
<b>Material Cost:</b>	\$13,987	
<b>Cost Avoidance:</b>	\$0	
<b>Significant Safety Issues:</b>	None.	
<b>Significant QC Issues:</b>	None	
<b>Significant Design Issues:</b>	None.	
<b>Significant Material Issues:</b>	None.	

Labor Distribution Summary  
Detail Timor-Leste

Month	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	273	223	293	285	358	257	1689
<b>Indirect Labor MDs<sup>1</sup></b>	130	93	93	93	101	88	598
<b>Readiness/Training<sup>1</sup></b>	21	42	21	21	0	24	129
<b>Total MDs Exp</b>	424	358	407	399	459	369	2416
<b># Total Personnel</b>	23	23	23	23	26	26	
<b># Direct Labor<sup>2</sup></b>	17	17	17	17	20	20	
<b># Workdays<sup>3</sup></b>	32	23	23	23	25	17	
<b>% Direct Labor</b>	74%	74%	74%	74%	77%	77%	
<b>Ideal Capability</b>	490	352	352	352	450	268	
<b>Availability Factor</b>	0.9	0.9	0.9	0.9	0.9	0.9	

Notes:

- (1) Expended.
- (2) Figure prescribed by S3C, includes one CM who is not assigned to a project crew
- (3) DL workdays + DL training days, April includes March data



## **DETAIL PANAY**

## **CONSTRUCTION CIVIC ACTION DETAIL PANAY DEPLOYMENT SUMMARY**

NMCB FOUR deployed Construction Civic Action Detail (CCAD) Panay in August 2014 to conduct Theater Security Cooperation (TSC) Operations as part of NMCB FOUR's 2016 PACOM Deployment. NMCB 4 CCAD Panay was tasked with standing up a new CCAD site on the island of Panay, Philippines. Additionally, CCAD Panay was tasked with living expeditiously in an attempt to reduce life support costs. This deployment will be used in developing changes for other CCAD sites. CCAD Panay was initially tasked with the construction of 2-two room schoolhouses (Jaena Sur ES, Bongloy ES) and 1-one room schoolhouse (Malitbog HS). The standardized construction of the schoolhouses was in accordance with Philippines Department of Education design. The design utilized cast-in-place columns, CMU block walls, steel truss roof, and stucco finish.

Immediately upon arrival in Panay the CCAD established relationships with AFP counterparts and coordinated support with local Philippine government officials in advance of commencing tasked construction. Coordination problems forced the CCAD to spend the first two months in holding waiting for the local AFP command, 3<sup>rd</sup> Infantry Division (3ID), as they waited for orders from their higher command, CENTCOM. In addition to the delay due to Host Nation coordination, numerous logistical challenges needed to be overcome to establish a functioning CCAD site. Funding for the Camp Peralta Barracks renovation and projects were yet to be approved. The CESE, Tools, and future berthing solution (Super CLUs), had yet to arrive on the island.

CCAD Panay stayed in communication with main body and 30NCR while working through the logistical challenges. The CESE arrived and the funding was approved on 21APR16. To offset the wait for tools the decision was made to purchase the bare necessities utilizing the first project's BOM (Jaena Sur ES). To remedy the coordination issues with the AFP the OIC and LNO worked to bring the entire AFP chain of command to understand the mission of the CCAD. They visited the CENTCOM U7 in Cebu to develop face to face relationships and give weight to the potential good the CCAD was capable of. After many discussions the green light was given to begin the first project on 11MAY16. Due to the delay in starting the first project it was decided to push Malitbog ES to NMCB 5.

CESE arrived from Guam TOA in moderate shape. The Skid Steer did not come with Tracks and they have still not shipped. No tracks meant that the Skid Steer was useless in any amount of rain, which happened frequently. Without a pre-built ARP Tricon any parts that are ordered are at least 6 months away from the island. The worst issue encountered was hydraulic line brakes. Hydraulic lines can easily be repaired but require a crimp kit to do so. Fortunately the hoses can be bought on the life support contract. Response time for parts is the biggest risk to CESE operations on Panay and pre-staged parts is the best way to remedy that.

As previously stated the CCAD was tasked with living expeditiously. To accomplish this the CCAD first renovated, then moved into a vacant barracks building on Camp Peralta located 15 min. away from Jaena Sur ES. The renovation included building partition walls for male and female separation, a drop ceiling to reduce the air conditioning load requirement, and installing a 2000L water tank and attached IHP pump to supply water to the showers and restrooms. The CCAD moved into the barracks on 08MAY. The CCAD utilized this berthing solution for the entirety of the Jaena Sur project.

Once the Camp Peralta barracks were completed work was begun at Jaena Sur ES building a two-classroom building. Major obstacles that were overcome were; the inability for a transit mixer to access the site, the lack of tools, and inexperience of the crew. The inability for a transit mixer to access the site meant that all concrete would be hand mixed. This increased the manning requirement for concrete placements and time spent on the activity. Despite the challenge and increased time the project crew developed procedures and borrowed techniques from the AFP engineers to complete all concrete placements without adding any additional time to the schedule. To begin work on the project, tools were purchased as they were needed. This required increased coordination with the contractor purchasing the BOM. Weekly meetings were established to ensure good communication between the CCAD and contractor. The inexperience of the crew was quickly remedied by partnering with the AFP engineers to learn their TTPs during construction. The Jaena Sur ES two-classroom building project took 59 duration days and cost \$65,813.

While living at Camp Peralta and working on the Jaena Sur project the SuperCLUs and Tools arrived from Port Hueneme on 26JUN16. The tools were immediately put to use on the project and the SuperCLUs were sent to Camp Hernandez in preparation for the second berthing location.

The second berthing site was located at Camp Hernandez as previously stated. There the CCAD utilized super-efficient Containerized Living Units or, SuperCLUs. This method of berthing is being proposed as the future solution for all CCAD sites. Cost effectiveness and reliability were major factors that were monitored while CCAD Panay lived in the SuperCLUs. The camp setup was completed by a 7-man team that relocated prior to the completion of Jaena Sur. The 7-man team took only two days to establish the camp overcoming challenges in generation by aiding the contractor in the setup of a new 25kW generator to power the camp.

After the camp was established the 7-man team began work on the Bongloy ES two-classroom building. For a period of three weeks CCAD Panay ran split operations at Bongloy and Jaena Sur. Good communication kept all parties informed and allowed the CCAD to complete Jaena Sur on time on 19JUL16. After the turnover the remainder of the CCAD relocated to Camp Hernandez.

The project at Bongloy presented several challenges of its own. The soil at the site was almost entirely clay and there were trees in the way of the proposed building footprint. To take care of the latter, the local barangay assisted in removing the tree. The soil made it increasingly difficult to operate equipment on the site and almost impossible dig by hand. With much effort and even more skill the crew was able to get the site established and earthwork completed with minimal delays. Weather was also a major challenge while working at Bongloy. Tents were designed and procured to cover the entire project site eliminating the weather as a cause of delay. This allowed the CCAD to work during the rain and prevent loss of compaction before concrete placements. The tents also served to allow the crew to work in the shade. The Bongloy ES two-classroom building project took 47 duration days and cost \$37,000.

All members of CCAD Panay arrived in Panay 20MAR16. The CCAD completed the construction Jaena Sur ES (PA16-816) on 19JUL16 and the construction of Bongloy ES (PA16-817) on 08SEP16. CCAD Panay redeployed an AP to Port Hueneme, CA (14 PAXs) via Okinawa, Japan on 21SEP16 and redeployed DP to Port Hueneme, CA (8 PAXs) via Okinawa Japan on 04OCT16.

#### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material Cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-days Expended by Prior NMCBs	Man-days Expended This Deployment
<b>PA16-816</b>	471	\$65,813.03	471	100	100	0	471
<b>PA16-817</b>	471	\$40,000.00	471	100	100	0	471
<b>Total</b>	942	\$105813.03	942			0	942



**Before construction**



**Project completion**

**Construct Two room School House Jaena Sur Elementary School**  
**PA16-816**

**Project Purpose:** Provide additional classrooms for an overburdened elementary school and conduct training with AFP to increase interoperability and develop construction skills.

**Project Data**

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**Project Scope:** Construct 2-room school house consisting of clearing area, forming pad and vertical construction with block and finish with metal roof.

<b>Personnel:</b>	Average of 15 DL	
<b>Duration:</b>	May 16 – Jul 16	
<b>Man-days Expended:</b>	NMCB FOUR	471
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	471
<b>Material Cost:</b>	\$65,813.03	
<b>Cost Avoidance:</b>	\$35,494.77	

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None.

**Significant Material Issues:** During the beginning of the project, materials were showing up just in time due to the concurrent work on the barracks. Material procurement improved two weeks into the project.



**Before construction**



**Project completion**

**Construct Two Room School House Bongloy Elementary School**  
**PA16-817**

**Project Purpose:** Provide additional classrooms for an overburdened elementary school and conduct training with AFP to increase interoperability and develop construction skills.

**Project Data**

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**Project Scope:** Construct 2-room school house consisting of clearing area, forming pad and vertical construction with block and finish with metal roof.

<b>Personnel:</b>	Average of 15 DL	
<b>Duration:</b>	Jul 16 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR	471
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	471
<b>Material Cost:</b>	\$39,000	
<b>Cost Avoidance:</b>	\$58,553	

**Significant Safety Issues:** None  
**Significant QC Issues:** None  
**Significant Design Issues:** None.  
**Significant Material Issues:** None.

## Labor Distribution Summary

### Detail Panay

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	0	0	180	192	334	197	90	993
<b>Indirect Labor MDs<sup>1,2</sup></b>	0	0	110	120	109	138	92	569
<b>Readiness/Training<sup>1</sup></b>	207	467	68	21	42	22	0	827
<b>Total MDs Exp</b>	207	467	358	333	485	357	182	2389
<b># Total Personnel</b>	23	23	22	22	22	22	22	
<b># Direct Labor</b>	17	17	16	16	16	16	16	
<b># Workdays<sup>3</sup></b>	9	22	22	23	21	24	14	
<b>% Direct Labor<sup>4</sup></b>	74%	74%	73%	73%	73%	73%	73%	
<b>Ideal Capability<sup>5</sup></b>	172	420	396	414	378	432	187	
<b>Availability Factor<sup>6</sup></b>	.85	.85	.85	.85	.85	.85	.85	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.125 x DL x (# Workdays)



## **DETAIL SASEBO**

## DETAIL SASEBO DEPLOYMENT SUMMARY

NMCB FOUR deployed to Commander, Fleet Activities Sasebo (CFAS) on March 2016 to conduct Construction Readiness Operations in support of Naval Facilities and Engineering Command (NAVFAC) Far East (FE) Public Works Department (PWD) Sasebo supporting 21 CFAS departments, 14 military tenant commands, 9 non-military contiguous activities and organizations, and 15 forward deployed naval forces (ashore). Detail's scope of work included constructing a retaining wall for Naval Munitions Command East Asia Division (NMC EAD) Hario Ordnance Facility, executing OIC-D projects and establishing backlog for future battalions. Detail Sasebo Advance Party (AP) with seven personnel arrived on 14 March and immediately began efficient turnover with NMCB THREE completing the process on 18 March. Subsequently, Detail Sasebo Delayed Party (DP) with seven personnel arrived on 23 March. DP and AP personnel completed the mandatory week long CFAS Area Orientation Brief / Intercultural Relations Course from 28 March – 01 April and 11 – 15 April, respectively.

On 21 March, Detail Sasebo began pre-construction site survey for SA16-803 "Construct Retaining Wall near Fire Station Bldg. 3105". Subsequently, a pre-construction meeting was held on 24 March to discuss existing site condition and constructivity of current design. Prior to the proposed 11 April project start date, Facilities Engineering and Acquisition Division (FEAD) made the determination to redesign the retaining wall on 06 April.

Due to delay on S16-803, Detail aggressively pursued OIC-D and camp maintenance work. For the month of April and May, Detail pressure washed CFAS Command Suites Bldg. 80 picnic area and brick sidewalks ensuring facility is presentable and prepared to host command functions throughout the summer season. Detail also completed work for Commander Undersea Surveillance Detachment Sasebo repairing pedestal grout, fasting wall sheet metal and filling gaps to prevent water leakage during heavy rainstorm. In addition to constructing mock up formwork for the retaining wall project, Detail conducted joint training with Self Help Seabees installing new drywall and painting spaces to improve technical skills and enhance cooperation between PWD and NMCB Seabees. Furthermore, Detail planned and estimated five OIC-D projects. Projects include "Construct Gazebo" for Navy Gateway Inn and Suites (NGIS), "Construct Concrete Pad and Install Bleacher" for Morale, Welfare and Recreation (MWR) Department's Nimitz Park Tennis Courts, "Replace 1,700 SF of Outdoor Patio Tiles" for NGIS, "Construct 2,000 SF Reinforced Concrete Pad" for U.S. Naval Ship Repair Facility and Japan Regional Maintenance Center (SRF-JRMC) and "Construct 3,000 SF Reinforced Dive Locker Concrete Pad" for Naval Sea Systems Command's Salvage and Diving Division.

From 04 May to 21 May, Detail constructed a 25 square meter wooden gazebo for NGIS. The 30-room facility is in need of a designated tobacco use area to comply with the SECNAVINST 5100.13e, Navy and Marine Corps Tobacco Policy. Due to the Seabees efforts, the project was completed ahead of PWD's planned FY16 construction backlog.

From 23 May to 10 June, Detail constructed a 30 square meter concrete pad to include installing a 4-row 8-meter long bleacher at Nimitz Park. Nimitz Park is a U.S. Navy facility open to the public and a popular recreation area for U.S. service members, dependents, civilian contractors and Sasebo residents. Successful completion of the project enabled MWR to host E.J. King High School and CFAS sponsored tennis tournaments.

On 26 May, FEAD released the revised design for the retaining wall. Upon completion of additional planning and estimating for the new scope, Detail commenced work on 13 June. On 08 July, Detail conducted a joint construction operation with JMSDF Sasebo District personnel successfully placing 11 cubic meters of concrete. Crew Leader and Project Safety integrated their crew of six Seabees with two JMSDF "Seabees" effectively managing tasking and safety supervision during the entire evolution. JMSDF Facility Division leadership observed Seabee construction operations enhancing relation and operability with JMSDF "NMCB" counterparts. On 05 September, the Detail completed the retaining wall project significantly reducing debris and water runoff to the parking lot and access road improving operational readiness and quality of life for personnel stationed at the Hario Ordnance Facility Fire Station.

From 26 August to 15 September, Detail removed and replaced 20 square meters of ceiling tiles and insulation for Explosive Ordnance Disposal Mobile Unit FIVE (EODMU-5) Platoon Five Zero One. The detachment cannot utilize Bldg. 1366 due to the pungent odor from months of stray animal dwelling above the ceiling. Successful

completion of the project significantly improved the indoor air quality enabling use of spaces enhancing EOD's logistics capacity and operational readiness.

Additionally, the Detail completed maintenance and community support activities during deployment. The Detail installed two overhead projects and screens for Unaccompanied Housing (UH) Department training and recreation rooms enhancing training capabilities for UH staffs and morale for 688 sailors berthing in Bldg. 151 barracks. Working with MWR, the Detail constructed four obstacle courses for CFAS 2<sup>nd</sup> Annual Spartan Dash. Support efforts ensured timely completion of each obstacles contributing to the overall success of the event where over 250 SOFA eligible members participated.

One major challenge during deployment is establishing a streamlined process of executing PWD Requirements Branch shop projects (OIC-D) for Seabee execution. SA16-803 is a sustainment/maintenance (ST) funded project typically performed by PWD Production shop or Self Help Department. Due to the addition of chain link fence and water proofing membrane to the scope, Detail submitted additional Material Request/Identification Documents (MRID) to PWD Sasebo Fleet Logistics Command Yokosuka (FLCY) Detachment Sasebo. No MOU exist to support NMCB Detail Sasebo for construction material procurement. SA16-803 is not a 30NCR CRO funded project and thus material procurement is processed locally through PWD similar to all OIC-D projects completed by Seabees during deployment. Once this has been established and following the material request process established by Self Help, the Detail has significantly minimized procurement delay.

#### OVERALL DEPLOYMENT SUMMARY

<b>Project Description</b>	<b>Total Project Man-days</b>	<b>Total Project Material Cost</b>	<b>Man-days Tasked</b>	<b>Tasked %</b>	<b>Final WIP (%)</b>	<b>Man-days Expended by Prior NMCBs</b>	<b>Man-days Expended This Deployment</b>
<b>SA16-803</b>	137	\$20,052	137	24%	100%	0	184
<b>P&amp;E</b>	173	0	173	31%	100%	0	173
<b>OIC Discretionary</b>	170	\$21,363	167	30%	100%	0	170
<b>Camp Maintenance / COMREL</b>	98	N/A	98	15%	100%	0	98
<b>Total</b>	575	\$41,370	575			0	625



**NMCB FOUR Seabees placing concrete**



**Project Completion**

**Retaining Wall at Hario Ordnance Fire Station (ongoing)**  
**SA16-803**

**Project Purpose:** Water flows from the backside of the embankment into the parking lot causing flooding during rainy season. Retaining wall will divert water to existing drainage ditch and catch basin. Extending the drainage

**Project Data**

**Project Scope:** Construct 22,716 mm x 900 mm x 560 mm retaining wall, install 26,580 mm x 1,500 mm chain link fence, and excavate 31,000 mm extension ditch near Hario-Shima Ordnance Fire Station Bldg 3105.

<b>Personnel:</b>	Average of 6 NMCB 4 Seabees	
<b>Duration:</b>	Jun 16 – Sep 16	
<b>Man-days Expended:</b>	NMCB FOUR	184
	Prior NMCBs	N/A
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	137
<b>Material Cost:</b>	\$20,052	
<b>Cost Avoidance:</b>	\$17,948	

**Significant Safety Issues:** None.

**Significant QC Issues:** 1) Due to the limited availability of water on site, sod (grass) was not irrigated daily but twice a week in conjunction with potable water delivery to the adjacent facility (Fire Station Bldg. #3105). Hario Ordnance has no water main; water truck from main base service the installation bi-weekly. Det replaced 12 meters of sod that has withered due to lack of water; peak summer season was not conducive on growing sod due to high heat and limited rainfall and water availability during construction. 2) Mix design and application of water proofing coating were unfamiliar with the crew. Det conducted several test mix and application methods prior to achieving desirable results.

**Significant Design Issues:** Due to existing site condition addressed during the pre-construction meeting, FEAD initiated a DCD. Revised design received 26MAY2016.

**Significant Material Issues:** Significant delay in procuring 30 meters of chain link fence (42-day lead-time). Chain link fence is not an off the shelf item requiring additional fabrication lead-time from the manufacturer.



**NMCB FOUR Seabees Troweling Concrete**



**New Gazebo near NGIS**

**NGIS Smoking Area Shelter (Gazebo)**  
**SA16-25**

**Project Purpose:** Navy Gateway Inn Suites (NGIS) Bldg. 1455 needed a smoking area shelter (gazebo) to comply with SECNAVINST 5100.13e and NPL Accreditation Standards.

**Project Data**

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**Project Scope:** Clear existing landscape, remove (1) evergreen tree, place 15ft x 15ft x 4in concrete slab and assemble precut gazebo kit.

**Personnel:** Average of four NMCB FOUR personnel

**Duration:** May 16 – May 16

**Man-days Expended:**

NMCB FOUR	49
Prior NMCBs	N/A

**Tasking:**

WIP at Deployment Completion	100%
Total Project MDs	49

**Material Cost:** \$14,850; Materials procured by PWD and NGIS

**Cost Avoidance:** \$5,984 of labor cost

**Significant Safety Issues:** None.

**Significant QC Issues:** None.

**Significant Design Issues:** None.

**Significant Material Issues:** None.



**NMCB FOUR Seabees Screeding Concrete**



**New Bleacher at Nimitz Park Tennis Court**

**Nimitz Park Tennis Court Bleacher**  
**SA16-22**

**Project Purpose:** MWR in conjunction with DoDEA requested the installation of bleacher at the new tennis courts at Nimitz Park for use during school tournaments and sports events.

**Project Data**

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**Project Scope:** Place 10ft x 30ft x 6in reinforced concrete pad, assemble and install 4-row aluminum bleacher.

<b>Personnel:</b>	Average of six NMCB FOUR personnel	
<b>Duration:</b>	May 16 – Jun 16	
<b>Man-days Expended:</b>	NMCB FOUR	75
	Prior NMCBs	N/A
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	75
<b>Material Cost:</b>	\$4,945; Materials procured by PWD and MWR	
<b>Cost Avoidance:</b>	\$8,976 of labor cost	

**Significant Safety Issues:** None.  
**Significant QC Issues:** None.  
**Significant Design Issues:** None.  
**Significant Material Issues:** None.



**Bldg 1366 conference room**



**Project Completion**

**Replace Ceiling Tiles in Bldg. 1366**  
**OIC-D**

**Project Purpose:** EODMU 5 Detachment 51 is requesting replacement of ceiling tiles and insulation in Bldg. 1366 conference/multi-purpose room due to damage from stray animal habitation.

**Project Data**

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**Project Scope:** Remove and replace 288 sf of ceiling tiles and insulation, reinstall fixtures as needed.

**Personnel:** Average of four NMCB FOUR personnel

**Duration:** Aug 16 – Sep 16

**Man-days Expended:** NMCB FOUR 46  
Prior NMCBs N/A

**Tasking:** WIP at Deployment Completion 100%  
Total Project MDs 46

**Material Cost:** \$1523; Materials procured by PWD

**Cost Avoidance:** \$2,040 of labor cost

**Significant Safety Issues:** None.

**Significant QC Issues:** None.

**Significant Design Issues:** None.

**Significant Material Issues:** None

## Additional Support Operations



**Pressure washing at Bldg. 80**



**Grout repair in Bldg. 6019**

### **Project Data**

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Mar-May	Planning and Estimating for OIC-D projects	148
May	Planning and Estimating for Retaining Wall Redesign	25
Apr-Sep	General Maintenance	
	- Repair Grout and Wall Panels Bldg. 6019	12
	- Pressure Wash Bldg. 80	14
	- Paint 2 <sup>nd</sup> Deck Floor, Bldg. 319	11
	- Install drywall at Self Help CTR, Bldg. 319	14
	- Install overhead projectors and screens in UH Bldg 151	10
	COMREL	
May-Sep	- USO Fleet Landing Renovation	11
	- Construct mailbox for E.J. King High School	10
	- Construct Obstacle Course for CFAS Spartan Run 2016	11
	- USO Nimitz Park Repair Kitchen Door and Cabinet	5
	- Construct Reception Desk for Hario Chapel	5
	<b>Total Man-days Expended:</b>	<b>271</b>

Labor Distribution Summary  
Detail Sasebo

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	30	159	144	85	68	78	61	625
<b>Indirect Labor MDs<sup>1,2</sup></b>	0	13	14	13	11	11	11	73
<b>Readiness/Training<sup>1</sup></b>	19	29	17	0	17	9	0	91
<b>Total MDs Exp</b>	49	201	175	98	96	98	72	789
<b># Total Personnel</b>	14	14	13	12	12	12	12	
<b># Direct Labor</b>	10	10	9	9	9	9	9	
<b># Workdays<sup>3</sup></b>	9	23	24	23	22	25	14	
<b>% Direct Labor<sup>4</sup></b>	71%	71%	70%	75%	75%	75%	75%	
<b>Ideal Capability<sup>5</sup></b>	86	220	207	176	168	191	120	
<b>Availability Factor<sup>6</sup></b>	0.57	0.85	0.78	0.48	0.51	0.46	0.51	

Notes:

- (1) Direct and Readiness/Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects "X" coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) Ideal Capability = # of Direct Labor \* # of Workdays \* 1.125 \* .85 (Det Site AF); Note – 1.0 MDE for Retaining Wall Project
- (6) Actual Availability Factor = (Direct Labor MDs + Readiness/Training) / Ideal Capability.



## **DETAIL PALAWAN**

## **CONSTRUCTION CIVIC ACTION DETAIL PALAWAN DEPLOYMENT SUMMARY**

NMCB FOUR deployed Construction Civic Action Detail (CCAD) Philippines in March 2016 to conduct Theater Security Cooperation (TSC) Operations and Exercise Related Construction (ERC) as part of NMCB FOUR's 2016 PACOM Deployment. Upon arrival in Palawan, Philippines the CCAD turned over the detail site with NMCB FIVE while establishing relationships with local Armed Forces Philippines (AFP) counterparts, and coordinating with local government officials and volunteer clubs within the community, such as the Rotary Club, in order to find Officer-in-Charge Discretionary (OIC-D) and Humanitarian Assistance Minimum (HA-MIN) projects to execute during the deployment as well as follow-on tasking to keep NMCB FIVE employed during the initial phase of their deployment. After the completion of RIP/TOA on 14 March 2016, the Detail immediately began preparations to participate in the Balikatan 2016 Exercise. The team worked with the Armed Forces of the Philippines (AFP) 2<sup>nd</sup> NMCB, with security provided by the 3<sup>rd</sup> Marine Brigade, to complete a concrete with steel roof open pavilion and a three-stall comfort station with CMU block septic tank. The remaining tasked projects completed conformed to Philippine Department of Education 2016 specifications for new school construction. At Tacras Elementary School in Narra, the CCAD was charged with construction of a 2-room schoolhouse with water catchment tank and replacement of a shallow water-well pump. At Pancol Elementary School in El Nido, the CCAD completed construction of a 2-room schoolhouse with water catchment tank.

As part of its TSC mission to increase interoperability between US and Philippine forces, the CCAD's crews partnered with members of the 2<sup>nd</sup> NMCB Vertical Engineering and Utilities Company (VEUC) and the 3<sup>rd</sup> Marine Brigade of the Philippine Marines during construction of the projects. Additionally, the CCAD engaged local government units (LGUs), especially barangay (township) officials, to encourage community participation in construction efforts. This interaction enhanced communication between the AFP, CCAD, and LGUs and produced opportunities for the partnership to give back to the community. These OIC-D projects included placing sidewalks at local schools, painting bus stop waiting sheds throughout Puerto Princesa, and working with the Rotary Club to complete interior construction and playgrounds at local preschools.

The first project executed by was a concrete pavilion and comfort room with septic tank executed as part of the Balikatan 2016 Exercise. The project was a 90-minute drive from the closest hotel and there were no communications. These difficulties were mitigated by having the crew deploy with their TCOPS and stay on-site for 2 days and rotate back to the hotel on the 3<sup>rd</sup> night for refresh of gear. The leadership also brought a satellite phone and BGAN in order to maintain an emergency source of communications if any issues arose. The OIC rotated back to the hotel each night in order to maintain communications during the fast paced evolution. The project was an overall success, finishing both in 27 calendar days.

Following the completion of Balikatan 16, the crew rotated to Narra, Palawan to execute work at Tacras Elementary School. The jobsite was 45 minutes away from the hotel, and at the hotel there were very limited communications. Of the two cell networks on the island, only one of them worked at the hotel, while both worked at the project site. This issue was mitigated by the OIC and AOIC remaining on-site daily during construction activities. This also helped to dial in the First Class Petty Officers to the expectations required for the construction. This project was a great success, finishing 20% ahead of schedule and \$43K under budget.

Following the completion of Tacras Elementary School, the crew rotated to El Nido, Palawan to perform work at Pancol Elementary School. Once again, the project site was 45 minutes away from the hotel and there was limited communications at the jobsite. Like Balikatan 16, the crew brought a satellite phone with them to the site each day in order to maintain communications. After walking around the site area, it was determined phone calls and texts could be utilized but there was not sufficient data for emailing reports. This was mitigated by the OIC and AOIC remaining at the hotel during the day and performing 2 scheduled site visits per week as well as unscheduled visits for Definable Features of Work.

There were 4 pieces of CESE used at Palawan; a loader, skid steer, back hoe, and one light plant. All CESE was organic to the Okinawa TOA with the exception of the back hoe. After the first week of the project, 2 units of CESE, Backhoe and Front End Loader, became deadlined due to mechanical parts breakdowns. It is believed the fuel pump in the Backhoe went bad due to the poor fuel quality of the diesel on the island. The Electronic Control Module on the Front End Loader went down due to a poor design by the manufacturer, causing the part to receive direct heat

from the engine. The Backhoe was brought back to fully operational, but the Front End Loader parts had not been received prior to turnover. These issues were mitigated by working with the local Barangay Officials to utilize the CESE owned by the city. This helped to complete the project on time, in one less work day than Tacras Elementary School, and \$35K below budget. Following the completion of this school, NMCB FIVE arrived to execute turnover.

All members of CCAD Palawan arrived in Palawan 10 March 2016. The CCAD completed Balikpapan 2016 pavilion and comfort station (PH-809) on 16 April 2016, the two-room Tacras Elementary School (#27601, PH16-811) on 29 June 2016, and the two-room Pancol Elementary School (#27600, PH16-810) on 20 September 2016. The NMCB FOUR CCAD turned over with NMCB FIVE's CCAD on 27 September 2016 as part of the RIP/TOA. CCAD Philippines redeployed the Advanced Party to Okinawa, Japan (16 Personnel) on 18 September 2016 and the Delayed Party element (6 Personnel) on 01 October 2016.

#### PROJECT SUMMARY

Project Number	Total Project Man-days	Total Project Material Cost	Man-days Tasked	Tasked %	Final WIP (%)	Man-days Expended by Prior NMCBs	Man-days Expended This Deployment
<b>PH16-809</b>	438	\$48,662	438	32	100	0	418
<b>PH16-811</b>	441	\$71,379	441	33	100	0	523
<b>PH16-810</b>	468	\$86,416	468	35	100	0	507
<b>Total</b>	1,347	\$206,457	1,345			0	1,448



**Pavilion Initial Photo**



**Pavilion Completion Photo**



**Before construction**



**Comfort Station Completion Photo**

**ENCAP Site 4 Napsan Elementary School**  
**Exercise Balikatan 16 Project**

**Project Purpose:** Focus of exercise: 1) Increase interoperability with Armed Forces Philippines (AFP) Seabees and Marines. 2) Conduct SME exchange between participants 3) Enable access to Philippines. Focus of construction was humanitarian civic assistance (HCA) and providing the school with a pavilion and much needed 3-stall comfort station with CMU block septic tank.

**Project Data**

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**Project Scope:**

Construct a new single-story three-stall CMU block comfort station with septic system and water catchment tank. Construct a 7M x 16M concrete and steel open pavilion. Install 2 new manual water pumps to draw water from existing well.

**Personnel:** Average of 16 Personnel DL + 1 E-6 Project Supervisor  
Average of 11 DL AFP Seabees + 1 Overhead and 1 Ltjg OIC

**Duration:** Mar 16 – Apr 16

**Man-days Expended:** NMCB FOUR 418  
Prior NMCBs 0

**Tasking:** WIP at Deployment Completion 100%  
Total Project MDs 438

**Material Cost:** \$48,662

**Cost Avoidance:** \$0

**Significant Safety Issues:**

- Working with different units and with different languages caused communication concerns. BU2 Talavera, a native Philippines Detail member, aided in translating duties. Daily safety talks were led in multiple languages to avoid hazards and reduce risk while working with counterparts who spoke different languages.
- Scaffolding rentals do not come complete. Detail had to fabricate toe boards, mid rails and top rails out of 2” x 4” to prevent the chances of falling personnel, tools and debris. Mudsills are also placed under the legs for stabilization.
- Detail Safety Petty Officer must monitor military members and civilian contractor closely for proper use of PPE and equipment.
- Hydration, proper nutrition and adequate breaks are a must due to excessive heat and humidity.
- Members must utilize gloves, concrete boots and aprons during concrete placements to minimize the chance of lime burns.
- A change of clothes must be brought during concrete placement IOT swap dirty uniforms after the placement.
- Dust masks, Gloves and Eye protections must be purchased stateside vice local purchase.

**Significant QC Issues:**

- Locally procured materials were of varying quality.
- Concrete delivered had very high water content, and required special attention to guarantee a proper finish and maximum strength.
- AFP Seabees were able to provide much required expertise, during a short timeline project, with block laying and stucco.
- Materials delivered in varying sizes. Fabrication and placement of formwork required special attention due to varied lumber dimensions. Crewmembers made several alterations to formwork to compensate for rough cut lumber.
- Placement of CMU required special attention due to rough dimensions and strength of block. Crew measured and hand selected each block prior to placement in order to produce a level, plumb and high strength CMU wall. Suggest adding additional man-days during planning and estimating process to compensate for extra labor.
- CMU blocks had some slight differences in sizes. Crewmembers had to apply a thicker layer of stucco.
- Crewleader must monitor AFP Seabee counterparts for QA IOT prevent rework and time lost due to lack of quality control experience.
- Concrete mix ratio had to be 2-2-3 IOT achieve 4000 PSI and closely monitor the amount of water in the mix to get the right consistency.
- Select Fill must not have clay in the mix.

**Significant Design Issues:**

- Final drawings for the projects were not received by the CCAD until after the Final Planning Workshop, where the final BOM had to be submitted. BOM was developed off heresay and use of multiple sets of drawings. Final drawings received were red-line schoolhouse drawings for the pavilion. In future projects, it is recommended that drawings specific to what is being constructed are utilized.

- Utilized approved FAR to place grade beam at surface of excavation to prevent delays due to the rainy season. Only excavation required was to grade the site and excavate 8" for footer placement. Additionally, designed fire alarm system is too advanced for the local area and will not be fully utilized. Submitted and received approval for a FAR to de-scope fire alarm panel.
- If project site is found to have no clay, existing FAR for building on grade can be utilized to eliminate excavation and back fill.
- Grade Beam and Columns must be done in a monolithic manner to eliminate cold joints to achieve structurally sound building.
- FAR was submitted and approved to de-scope the Fire Alarm Panel. It is an unnecessary panel for the size of the building. The Fire Alarm Call Box and Bell are the only required items.
- FAR was submitted and approved to re-wire the electrical circuits in each room. The prints call for a single switch that controls all room functions. The approved re-design had outside lights, inside lights, and ceiling fan all on a separate switch.

**Significant Material Issues:**

- Contracts to deliver certain items needed adjustments and schedule needed to remain flexible to account for conflicts with contractor deliveries. Funds for materials were paid out to contractor prior to start of construction. This made it difficult to make adjustments/exchanges for material requirements throughout the completion of the project. Utilizing POSC for life support enabled seamless operations for berthing and transportation to the site.
- An onsite DynCorp representative was crucial in the material and logistics acquisitions for the project. Material delivery and contract execution were expedited due to this factor, which greatly enhanced the crew's capability to complete the project ahead of schedule.
- Due to the remoteness of the project site, all material shipments had a higher delivery charge added to the cost of the project materials.
- Lumber quality is mediocre to poor quality. Good quality lumber must be purchased at a higher cost.
- Sand and select fill quality must be inspected prior to delivery. Vendor has the ability to drop off a sample.
- Transit mixer is available but cost of rental and delivery has a higher cost.

Lentil blocks available upon request.



**Before construction**



**Project completion**

Construct School House Tacras Elementary School  
27601

**Project Purpose:** Provide additional classroom facilities for an overburdened elementary school and conduct training with AFP to increase interoperability and develop construction skills.

**Project Data**

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**Project Scope:** Construct a 2000 square foot single story, two-classroom school house with water catchment tank. Replace 2HP shallow water well pump.

<b>Personnel:</b>	Average of 16 DL	
<b>Duration:</b>	Apr 16 – Jun 16	
<b>Man-days Expended:</b>	NMCB FOUR	523
	Prior NMCBs	0
<b>Tasking:</b>	WIP at Deployment Completion	100%
	Total Project MDs	441
<b>Material Cost:</b>	\$71,379.54	
<b>Cost Avoidance:</b>	\$43,620.46	

**Significant Safety Issues:**

- Prior experience gained during Exercise Balikatan 2016 helped significantly during the execution of Tacras Elementary School. Daily Safety lectures were again translated by BU1 Talavera, ensuring zero safety points missed due to language barriers.
- Scaffolding rentals do not come complete. Detail had to fabricate toe boards, mid rails and top rails out of 2” x 4” to prevent the chances of falling personnel, tools and debris. Mudsills are also placed under the legs for stabilization.
- Detail Safety Petty Officer must monitor military members and civilian contractor closely for proper use of PPE and equipment.
- Hydration, proper nutrition and adequate breaks are a must due to excessive heat and humidity.
- Members must utilize gloves, concrete boots and aprons during concrete placements to minimize the chance of lime burns.

- A change of clothes must be brought during concrete placement IOT swap dirty uniforms after the placement.
- Dust masks, Gloves and Eye protections must be purchased stateside vice local purchase.

**Significant QC Issues:**

- Materials delivered in varying sizes. Fabrication and placement of formwork required special attention due to varied lumber dimensions. Crewmembers made several alterations to formwork to compensate for rough cut lumber.
- Placement of CMU required special attention due to rough dimensions and strength of block. Crew measured and hand selected each block prior to placement in order to produce a level, plumb and high strength CMU wall. Suggest adding additional man-days during planning and estimating process to compensate for extra labor.
- CMU blocks had some slight differences in sizes. Crewmembers had to apply a thicker layer of stucco.
- Crewleader must monitor AFP Seabee counterparts for QA IOT prevent rework and time lost due to lack of quality control experience.
- Concrete mix ratio had to be 2-2-3 IOT achieve 4000 PSI and closely monitor the amount of water in the mix to get the right consistency.
- Select Fill must not have clay in the mix.
- Contracted gutter system must be inspected and tested for leaks prior to signing off.

**Significant Design Issues:**

- Utilized approved FAR to place grade beam at surface of excavation to prevent delays due to the rainy season. Only excavation required was to grade the site and excavate 8" for footer placement. Additionally, designed fire alarm system is too advanced for the local area and will not be fully utilized. Submitted and received approval for a FAR to de-scope fire alarm panel.
- If project site is found to have no clay, existing FAR for building on grade can be utilized to eliminate excavation and back fill.
- Grade Beam and Columns must be done in a monolithic manner to eliminate cold joints to achieve structurally sound building.
- FAR was submitted and approved to de-scope the Fire Alarm Panel. It is an unnecessary panel for the size of the building. The Fire Alarm Call Box and Bell are the only required items.
- FAR was submitted and approved to re-wire the electrical circuits in each room. The prints call for a single switch that controls all room functions. The approved re-design had outside lights, inside lights, and ceiling fan all on a separate switch.

**Significant Material Issues:**

- An onsite DynaCorp representative was crucial in the material and logistics acquisitions for the project. Material delivery and contract execution were expedited due to this factor, which greatly enhanced the crew's capability to complete the project ahead of schedule. All other material issues noted above.
- Due to the remoteness of the project site, all material shipments had a higher delivery charge added to the cost of the project materials.
- Lumber quality is mediocre to poor quality. Good quality lumber must be purchased at a higher cost.
- Sand and select fill quality must be inspected prior to delivery. Vendor has the ability to drop off a sample.
- Transit mixer is available but cost of rental and delivery has a higher cost.
- Lentil blocks available upon request.

Ensure that Roofing Contract is approved upon the beginning of project. Roofing contractors could delay overall completion of project. Ensure that bidding is pushed out early to the public.



**Before construction**



**Project completion**

**Construct Two Room School House Pancol Elementary School**  
**27600**

**Project Purpose:** Provide additional classroom facilities for an overburdened elementary school and conduct training with AFP to increase interoperability and develop construction skills.

**Project Data**

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**Project Scope:** Construct a 2000 square foot single story, two-classroom school house with water catchment tank.

**Personnel:** Average of 14 DL

**Duration:** Jul 16 – Sep 16

**Man-days Expended:** NMCB FOUR 257  
Prior NMCBs 0

**Tasking:** WIP at Deployment Completion 100%  
Total Project 468 MDs 86%

**Material Cost:** \$111,761.00

**Cost Avoidance:** \$32,000.00

**Significant Safety Issues:**

- Scaffolding rentals do not come complete. Detail had to fabricate toe boards, mid rails and top rails out of 2" x 4" to prevent the chances of falling personnel, tools and debris. Mudsills are also placed under the legs for stabilization.
- Detail Safety Petty Officer must monitor military members and civilian contractor closely for proper use of PPE and equipment.
- Hydration, proper nutrition and adequate breaks are a must due to excessive heat and humidity.
- Members must utilize gloves, concrete boots and aprons during concrete placements to minimize the chance of lime burns.
- A change of clothes must be brought during concrete placement IOT swap dirty uniforms after the placement.
- Dust masks, Gloves and Eye protections must be purchased stateside vice local purchase.

**Significant QC Issues:**

- Building location is located on clay, dirt which significantly increased the amount of time spent on back-fill and compaction of the site and required a replacement of select fill in order to achieve required 95% compaction as per specifications.
- CMU blocks had some slight differences in sizes. Crew members had to apply a thicker layer of stucco.
- Crewleader must monitor AFP Seabee counterparts for QA IOT prevent rework and time lost due to lack of quality control experience.
- Concrete mix ratio had to be 2-2-3 IOT achieve 4000 PSI and closely monitor the amount of water in the mix to get the right consistency.
- Select Fill must not have no clay in the mix.
- Contracted gutter system must be inspected and tested prior to signing off.

**Significant Design Issues:**

- Utilized approved FAR to eliminate the tie beam and replace it with two courses of lentil blocks to reduce the amount of time, manpower and materials consumed by the activity mentioned.
- If project site is found to have no clay, existing FAR for building on grade can be utilized to eliminate excavation and back fill.
- Grade Beam and Columns must be done in a monolithic manner to eliminate cold joints to achieve structurally sound building.
- FAR was submitted and approved to de-scope the Fire Alarm Panel. It is an unnecessary panel for the size of the building. The Fire Alarm Call Box and Bell are the only required items.
- FAR was submitted and approved to re-wire the electrical circuits in each room. The prints call for a single switch that controls all room functions. The approved re-design had outside lights, inside lights, and ceiling fan all on a separate switch.

**Significant Material Issues:**

- An on-site DynCorp representative was crucial in the material and logistics acquisitions for the project. Material delivery and contract execution were expedited due to this factor, which greatly enhanced the crew's capability to complete the project ahead of schedule.
- Due to the remoteness of the project site, all material shipments had a higher delivery charge added to the cost of the project materials.
- Lumber quality is mediocre to poor quality. Good quality lumber must be purchased at a higher cost.
- Sand and select fill quality must be inspected prior to delivery. Vendor has the ability to drop off a sample.
- Transit mixer is available but cost of rental and delivery has a higher cost.
- Lentil blocks available upon request.

Ensure that Roofing Contract is approved upon the beginning of project. Roofing contractors could delay overall completion of project. Ensure that bidding is pushed out early to the public.

## Labor Distribution Summary

### Detail Palawan

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total
<b>Direct Labor MDs<sup>1</sup></b>	282	162	262	107	122	216	78	1,229
<b>Indirect Labor MDs<sup>1,2</sup></b>	16	11	56	60	50	58	25	276
<b>Readiness/Training<sup>1</sup></b>	18	18	54	54	16	28	22	210
<b>Total MDs Exp</b>	316	191	372	221	138	302	125	1,665
<b># Total Personnel</b>	22	22	22	22	22	22	22	
<b># Direct Labor</b>	16	16	16	16	14	14	14	
<b># Workdays<sup>3</sup></b>	15	10	20	21	19	23	23	
<b>% Direct Labor<sup>4</sup></b>	73%	73%	73%	73%	73%	73%	73%	
<b>Ideal Capability<sup>5</sup></b>	270	180	360	378	342	414	414	
<b>Availability Factor<sup>6</sup></b>	.85	.85	.85	.85	.85	.85	.85	

Notes:

- (1) Direct and Readiness/ Training MDs are *expended* man-days, not earned.
- (2) Indirect Labor MDs are MDs spent (expended) on indirect activities by DL personnel. This reflects “X” coded time from timecards.
- (3) Number of Workdays = DL workdays + DL training days
- (4) Percentage of Direct Labor (%DL) = 100% \* (Direct Labor/Total Personnel)
- (5) MD Capability = (ME \* DL \* Workdays) = 1.125 x DL x (# Workdays)



## **DETAIL CAMP FUJI**

**DETAIL CAMP FUJI DEPLOYMENT SUMMARY**

NMCB FOUR deployed a 21 person detail to Fuji, Japan in March 2016 to conduct Construction Readiness Operations in support of Combined Arms Training Center (CATC) Fuji, Japan. The Detail constructed the Vehicle Staging Area (VSA) FJ15-800 taking the project from 24% at turnover to 100% complete totaling 549 man-days and \$389,870. Simultaneously, the Detail executed 300 man-days of Camp Maintenance and OIC-Discretionary Construction saving the Navy, Marines and CATC over \$349,151 in materials and contractor fees, and greatly enhancing both operational effectiveness and morale/quality of life for the 2,500 Marines United States.



**Project at turnover**



**Project completion**

**Vehicle Staging Area FJ15-800**

Three Battalions worked steadily on VSA in Fuji, Japan. A technically challenging project, the VSA provides increased storage for ammunition facilitating an increase in the number of marines able to train at one time.

**Project Data**

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**Project Scope:** Construct 45m x 35m concrete slab on grade with a 7' high security fence, lighting and a lightning arrest system. Work to include 21 placements of 17CZ (cubic meters) of reinforced concrete slabs on grade, a grade beam with 87 fence post to hold the 7' high fence as well as an extensive overhead lightning arrest system with 6 Utility poles, transformer and 6 lights.

<b>Personnel:</b>	8 – 11 personnel.	
<b>Duration:</b>	Jun 14 – Oct 16	
<b>Man-days Expended:</b>	NMCB FOUR	346
	Prior NMCBs	291
<b>Tasking:</b>	WIP at turnover:	97%
	WIP at deployment completion:	100%
	MD Tasked to NMCB:	452
	Total Project MD:	549

**Material Cost:** \$349,151

**Cost Savings:** \$230,829

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None

**Significant Material Issues:** BM for project had multiple delays in the procurement of materials; total delay time was roughly 10 months.

### Labor Distribution Summary

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total	% Total
Direct Labor MDs	64	441	462	483	441	483	273	2542	50%
Indirect Labor MDs	12	63	66	69	63	69	39	381	23%
Readiness/ Training	21	21	21	21	21	21	21	147	27%
Total MDs Exp	97	525	549	573	525	573	333	3175	100%
# Total Personnel	16	16	21	21	21	22	22		
# Direct Labor	10	10	15	15	15	16	16		
# Workdays	4	22	22	23	21	24	14	130	
% Direct Labor	62%	62%	62%	62%	62%	62%	62%	62%	
Ideal Capability	1233	1233	1233	1233	1233	1233	1233	1233	
Availability Factor	80%	80%	80%	80%	80%	80%	80%	80%	

# OIC Discretionary Projects

**Project Listing**

MAR	Galley Command Boards	6
APR	Basketball Backboards / Fix Score Boards	13
APR	Horseshoe Pits	14
APR	Sidewalk behind BLDG 260	16
APR	Command Board	17
AUG	Install Concrete and Bleachers	40
<b>Total Man Days Expended</b>		<b>106</b>



**Completed Sidewalk**



**Horseshoe Pits**



**Completed Bleachers**



**Basketball Back Boards**



## **DETAIL ATSUGI**

## DETAIL ATSUGI

NMCB FOUR deployed to Atsugi, Japan in March 2016 in order to provide Construction Readiness operations support for Naval Air Facility Atsugi. The Detail's scope of work included the set-up of Battalion work spaces, establishment of call for work projects for follow on battalions, as well as the completion of OIC discretionary projects.

The Detail traveled to Okinawa with the Battalion AP as one group with 7 personnel arriving on 12 March. The following day the detail, along with 4 other detachment sites, traveled to NAF Atsugi via military airlift. Upon arrival, NMCB FOUR moved into the designated spaces and began working. The detail completed 5 OICD projects along the perimeter fence line valued at \$105k. The Detail replaced 600 meters of deteriorated chain link mesh as well as repaired 13 damaged fence sections. Two 9 meter sections of fence required custom fabricated reinforcing steel grates to be installed in order to prevent entry to the base from underneath the fence. The perimeter of NAFA had two unused vehicle gates that were not up to code and needed to be removed. The detail erected 15 meters of temporary fencing in order to maintain the integrity of the base perimeter. After the gates were cut and removed new posts were installed and ne chain link fencing and barbed wire were attached. The crew overcame numerous material and supply issues and completed all fencing repairs on 13 August 2016. The repairs completed greatly improved the force protection posture of Naval Air Facility Atsugi.

Following completion of the fence repairs the Detail began work on quality of life OIC discretionary projects around NAFA. The crew installed 3 concrete entrance ramps at the Ranger gym, providing much needed on-load and off-load capabilities for gym employees. At the Naval Gateway Inn and Suites the Detail repaired and repainted a 120 square foot gazebo providing a pleasant outdoor area for residents to relax. Finally the Detail repainted 60 meters of the concrete masonry unit exterior wall of the outdoor pool. Removing the old chipping paint and painting fresh coats helped to beautify the outdoor pool, making it more attractive for service members and their families to enjoy. The Detail completed 373 man-days of construction improving the quality of life for 8,000 active duty personnel, dependents and contractors living and working on NAF Atsugi.

The advanced party for NMCB 5 arrived on 22 September 2016 and began turnover operations. After a successful and thorough turnover NMCB 4 departed NAF Atsugi for redeployment to Port Hueneme, California.

### Labor Distribution Summary

#### Detail Atsugi

Month	Mar 16	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sep 16	Total	% Total
Direct Labor MDs	43	98	91	103	91	107	101	634	91%
Indirect Labor MDs	0	0	0	0	0	0	0	0	0%
Readiness/ Training	0	7	14	7	14	7	7	56	9%
Total MDs Exp	43	105	105	110	105	114	111	693	100%
# Total Personnel	7	7	7	7	7	6	6		
# Direct Labor	5	5	5	5	5	5	5		
# Workdays	9	22	22	23	22	24	23	122	
% Direct Labor	71%	71%	71%	71%	71%	83%	75%	73%	
Ideal Capability	43	105	105	110	105	114	111	583	
Availability Factor	85%	85%	85%	85%	85%	85%	85%	85%	

## OIC Discretionary Projects

### Project Listing

NAF Atsugi Fence Repair	64
NAF Atsugi Fence Mesh Replacement	153
NAF Atsugi Security Gate Fab/Install	10
NAF Atsugi South Gate Removal	51
NAF Atsugi North Gate Removal	30
Ranger Gym Access Ramps	32
Rehab NGIS Gazebo	0
Paint Outdoor Pool Wall	0

**Total Man-days expended** **340**



**Gym Ramp 1 Comp**



**Gym Ramp 1 Before**



**Gym Ramp 2 Comp**



## **NMCB FOUR EXERCISES 2016**

## NMCB FOUR EXERCISES DEPLOYMENT SUMMARY

NMCB FOUR's participation in 16 exercises at 20 locations (throughout 9 countries) contributed to over 4,000 man-days of construction greatly improving the lives of over 19,000 local residents. Exercises included Pacific Partnership in the Philippines, Timor-Leste, and Indonesia; Cooperation Afloat Readiness and Training (CARAT) in Malaysia, Thailand, Philippines, Timor-Leste, and Indonesia; Key Resolve/Foal Eagle and Tempest Wind in South Korea; Balikatan in the Philippines, and Komodo in Indonesia. Additionally, NMCB FOUR participated in the USMC 9<sup>th</sup> Engineering Support Battalion's led exercises, Khaan Quest in Mongolia and Koa Moana in Fiji. These engineering capstone projects (ENCAP) significantly improved road infrastructure, elementary schools, and medical facilities, while providing an opportunity to partner with host nation allies such as the Armed Forces Philippines (AFP), Royal Cambodian Engineers (RCAF), Australian Engineers, Indonesian Engineers (TNI) and Timor-Leste Armed Forces (F-FDTL).

Various task-tailored detachments were deployed from NMCB FOUR to both lead and support exercise-related construction for seven major PACOM exercises. Echo Co deployed seven NMCB 4 Seabees from 8 March - 29 April 2016 to construct a 356m x 5m concrete road in support of a ROK munitions storage area on Yokjido Island, South Korea along with 16 ROK Seabees as part of exercise FOAL EAGLE, an annual field training exercise (FTX) between the Republic of Korea (ROK) Armed Forces and the United States Armed. For exercise BALIKATAN, Echo Co deployed two detachments of five personnel each to support projects at San Nicholas, Capiz (3-room classroom renovation) and Matangharon, Iloilo (7-room classroom renovation) along with USMC, USAF, US Army, Australian Army and Philippine Army engineers. Additionally, as part of BALIKATAN, Echo Co. deployed nine Seabees and several pieces of CESE aboard the USNS Millinocket in order to provide life support and camp maintenance for the USMC Combined Logistics Points (CLPs) as part of an Adaptive Force Package (AFP) proof-of-concept from March-April 2016.

NMCB FOUR supported KOMODO 2016 in Indonesia as the first US forces to participate in the exercise by deploying 12 personnel from March to April 2016 to construct a 500m concrete road along with Indonesia, Vietnamese, Chinese, and Sri Lankan engineers supporting over 1,000 local families on Sipura Island, Indonesia. Additionally, Echo deployed a six-man detachment in support of engineers from 9th ESB and the Fijian military, from June-August 2016, to complete construction of a new 1-room classroom and execute a renovation of a 9-room classroom in support of exercise KOA MOANA, a multinational exercise focused on disaster recovery operations following Cyclone Winston in Ovalau, Fiji. Furthermore, Echo again supported 9<sup>th</sup> ESB by deploying four personnel in completing construction on a 30-room dormitory from May to June 2016 as part of exercise KHANN QUEST in Zuumond, Mongolia.

Seabees from NMCB FOUR served as the lead element construction element for both PACIFIC PARTNERSHIP 2016 and CARAT 2016. Echo Co. deployed two 25-man detachments to lead ENCAP efforts for PP16-Philippines and PP16-Indonesia from May through August 2016 in Legazpi, Philippines and Padang, Indonesia respectively. Projects in the Philippines included the construction of a 6m-tall water tower, renovations to a 3-room classroom, construction of a 2-stall restroom, construction of a new 2-room classroom, and renovation of a 1-room classroom. Projects in Indonesia included the construction of a 35-m concrete road, a community center, and a 4-stall restroom facility. For CARAT, Echo Co. deployed 18 pax in support of CARAT Malaysia, Philippines and Thailand from May to July 2016 in Felda Sahabat, Malaysia, San Narciso, Philippines, and Chonburi, Thailand. Construction activities included construction of a new patient waiting area and clinic renovations (Malaysia), construction of a 2-stall restroom as well as a 2-room classroom renovation (Philippines), and construction of a 1-room classroom (Thailand). Additionally, Echo Co deployed 16 pax in support of CARAT Indonesia from August till September. Construction activities included the construction of a new 2-room classroom.

NMCB FOUR personnel also observed multiple airfield damage repair (ADR) training exercises during the 2016 PACOM deployment. These observations included a joint training table top exercise between the Japan Air Self-Defense Force (JASDF) and the 18<sup>th</sup> Civil Engineer Squadron (18CES) located on Kadena Air Base, JASDF's annual runway damage recovery exercise at the Yausubetsu Training range in Hokkaido, Japan, and operation Resilient Shogun hosted by 18CES on Kadena. Each of these exercises afforded NMCB FOUR personnel the opportunity to build relationships and solidify an enduring series of bilateral civil engineering engagements and to bolster combined capabilities and interoperability between the units.

For Ulchi Freedom Guardian 2016, NMCB FOUR participated in the bi-lateral joint military exercise between the Republic of Korea (ROK) military and the US military. It is mainly a command and control exercise to ensure proper

interoperability between the US military and ROK naval forces. NMCB FOUR provided 4 khaki LNO's and 8 E6 and below "gamers" (4 of which operated from Chinhae in Korea) to the Naval Expeditionary Force (NEF) in support of III MEF during the exercise.

Under the tactical direction of Naval Mobile Construction Battalion FOUR (NMCB FOUR), a detail of 36 personnel provided subject matter expert (SME) training to 52 F-FDTL Sailors and Marines across four distinct lines of effort and an all-encompassing Final Exercise (FINEX) demonstrating skills the F-FDTL acquired. Participating U.S. Forces included, NMCB FOUR, THIRTIETH Naval Construction Regiment (30NCR), Coastal Riverine Group ONE (CRG1), Explosive Ordnance Disposal Mobile Unit FIVE (EODMU5), and Fleet Anti-Terrorism Security Team Pacific (FASTPAC) Marines.

In support of the last exercise of the deployment, NMCB FOUR participated in Valiant Shield which demonstrated secure communications capability with CTF 75 via HF voice and data IVO of PHL, and with 30NCR and NMCB 11 via RDSAT SIPR from Okinawa, Japan. Additionally, NMCB FOUR provided CESE from Okinawa for TOA for NMCB 11 Det Tinian. NMCB FOUR demonstrated the full spectrum of NCF communication capabilities through deployment of UCT, NMCB and CBMU forces as well as Provided the combatant and service component commanders with communication operations to engineering units that support response to MCO, HA/DR, TSC, and CRO.



**Road prior to work commencing**



**Road after work was completed**

## Joint Operations Foal Eagle Exercise 2016

**Project Purpose:** Demolish and repave a three part road totaling 356m on Yokjido Island, South Korea. This project provided intermediate access for heavy military equipment between two satellite installations stationed on Yokjido island. The successful completion of this project also provided a direct alternative route for the Republic of Korea (ROK) Seabees to traverse between two remote installations and offered a means of decongested traffic for locals traveling to and from work and school.

### Exercise Data

**Project Scope:** Constructed a 356m x 5m x 200mm thick concrete road. Work included: Demolition, earthwork, assembly of formwork, concrete placement, formwork removal, and backfill and compaction of gravel alongside shoulder of road.

**Personnel:** 7 NMCB FOUR Seabees and 16 ROK Seabees

**Duration:** Mar 16 – Apr 16

**Man-days Expended:** NMCB FOUR 150  
Prior NMCBs 0

**Tasking:** MD Tasked to NMCB: 150

**Material Cost:** ROK Seabees procured funds 58,479.53

**Travel Cost:** None

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** Roads are damaged during rains partially flooded due to erosion, poor construction quality and heavy vehicle traffic. ROK Seabees provided all material formwork to complete the construction.

**Significant Material Issues:** None



**Building prior commencing**



**Building after work was completed**

## Multinational Exercise Khaan Quest 2016

**Project Purpose:** Work in partnership with, 9<sup>th</sup> Engineer support Battalion, Hawaii Army Reserve and Mongolian Armed forces to finish Construction of a 30 room dormitory for the province of Zuunmod, providing children from the province with housing and access to educational services.

### Exercise Data

**Project Scope:** Installation of interior and exterior finishes which included, 300 SF of tile, plastering, sanding and painting 4000 SF of wall, Placement of 100 CDS of concrete, and installation of 30 doors. Rough and finish plumbing which included installation of, 30 radiators, 5 water closets, 10 sinks, 4 showers, 2 geothermal water heaters, and testing of all installations. Rough and finish electrical which included installation of, 70 light fixtures, 60 receptacles, 2 ranges, 3 distribution panels, and testing of all installations.

<b>Personnel:</b>	41 Personnel	
<b>Duration:</b>	May 16 – Jun 16	
<b>Man-days Expended:</b>	NMCB FOUR	85
	Prior NMCBs	0
<b>Tasking:</b>	MD Tasked to NMCB:	85
<b>Material Cost:</b>	\$215,000 total cost	
<b>Travel Cost:</b>	None	

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** None

**Significant Material Issues:** None



**Road prior to work commencing**



**Road after work was completed**

## Multinational Naval Exercise Komodo 2016

**Project Purpose:** Repair a 500m section of road in Tua Pejat. This project improved the only access road that connects the Sipura local community with schools and other community services. This road will directly improve social and economic growth, providing over 1,000 local families with a safer and all-weather means of travel.

### **Exercise Data**

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**Project Scope:** Clearing, grubbing, building forms and placing 240 meters of concrete on existing foundation 3 meters wide by 150mm thick, according to island OIC priorities. We will support Indonesia TNI-AL Marines in this project till designated completion date.

<b>Personnel:</b>	12 Personnel	
<b>Duration:</b>	Mar 16 – Apr 16	
<b>Man-days Expended:</b>	NMCB FOUR	153
	Prior NMCBs	0
<b>Tasking:</b>	MD Tasked to NMCB:	153
<b>Material Cost:</b>	TNI-AL procured funds	
<b>Travel Cost:</b>	<b>\$103,000</b>	

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** Roads are damaged during rains due to erosion, poor construction quality and heavy vehicle traffic. Environmental policies are enforced and are approved prior to starting tasks.

**Significant Material Issues:** None



**Exercise crew prior to embarkation on USNS Millinocket**



**Support provided during the exercise**

## Balikata 2016: Combined Logistics Point

### Exercise Data

**Exercise Scope:** Embarked 8 units of CESE and 9 NMCB FOUR personnel on USNS Millinocket en route to Palawan, PI. NMCB Personnel provided general camp support to MWSS 172 and 22 Marine Division. Provided general supported JSOTF, and direct supported MWSS 172 CLP.

**Personnel:** 9 personnel from NMCB FOUR Echo Co.

**Duration:** Apr 16– Apr 16 (total of 19 Days)

**Man-days Expended:** Cumulative: 171 (9 Personnel X 19 Days)

**Tasking:**

Convoy to/from site:	100%
Camp set up:	100%
General Camp Support:	100%
Direct support CLP:	100%
General Support JTSOTF:	100%

**Material Cost:** None

**Cost Savings:** None

**Significant Safety Issues:** Low hanging electrical wires crossing the roadways in Palawan. Had to create a way to move wires over the top of MTRV Cargo with TRICONS to continue to site location and back to USNS Millinocket.

**Significant QC Issues:** None

**Significant Design Issues:** None

**Significant Material Issues:** Entire LOGREQ was cancelled without notice and had to establish a way to receive fuel/water/food/portajons for duration of exercise.



**Interior of classrooms prior**



**Exterior of building completed**

### Exercise Balikatan NCA San Nicolas 2016

**Project Purpose:** Rehabilitation of a 1 building 3 classroom building that has been damaged from time and severe weather. The school serves 300 students and will grant more room for educational facilities.

**Exercise Data**

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**Project Scope:** Total rebuild of roof on 1 building that will house 3 classrooms. To include masonry, Window install, door install and minor electrical and plumbing repairs.

**Personnel:** USMC 9<sup>th</sup> Engineer Support Battalion (10)  
 USN Naval Mobile Construction Battalion FOUR (5)  
 USA 130<sup>th</sup> Engineer Brigade (5)  
 USAF 673<sup>rd</sup> Civil Engineer Group (4)  
 Australian Army 21<sup>st</sup> Construction Squadron (2)  
 AFP 552nd Engineers (20)

**Duration:** Mar 16 – Apr 16

**Man-days Expended:** NMCB FOUR 105  
 Prior NMCBs 0

**Tasking:** MD Tasked to NMCB: 105

**Material Cost:** 9<sup>th</sup> ESB procured funds 38,698.64

**Travel Cost:** N/A

**Significant Safety Issues:** None  
**Significant QC Issues:** None  
**Significant Design Issues:** None  
**Significant Material Issues:** None



**Completion of roof demolition**



**One of three completed buildings**

### Exercise Balikatan HCA Matangharon 2016

**Project Purpose:** Rehabilitation of three buildings that will be used to house 7 classrooms that has been damaged from severe weather damages. The school serves 400 students and will grant more room for educational facilities.

#### **Exercise Data**

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**Project Scope:** Complete the construction of a roof on 3 buildings that will house 7 classrooms. To include Window install, masonry, doors install and minor electrical and plumbing repairs.

**Personnel:** Naval Mobile Construction Battalion Four USN (05)  
 9th Engineer Support Battalion (09) USMC (01) USN  
 673 Civil Engineer Group (04) USAF  
 21st Construction Squadron (02) Australian Army  
 130th Engineer Brigade (05) US Army  
 552 Engineer Construction Battalion (20) AFP

**Duration:** Mar 16 – Apr 16

**Man-days Expended:** NMCB FOUR 105  
 Prior NMCBs 0

**Tasking:** MD Tasked to NMCB: 105

**Material Cost:** 9<sup>th</sup> ESB procured funds \$76,046.82

**Travel Cost:** N/A

**Significant Safety Issues:** None  
**Significant QC Issues:** None  
**Significant Design Issues:** None  
**Significant Material Issues:** None



**Rehabilitation of 9 room classroom**



**Photo of the new Infirmary Built**

## Exercise Koa Moana 2016

**Project Purpose:** Personnel from Naval Mobile Construction Battalion FOUR, 9th Engineer Support Battalion and Republic of Fiji Military Forces conducted construction operations in Ovalau, Fiji in support of Koa Moana 2016.

### **Exercise Data**

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**Project Scope:** Construction consisted of constructing a 9m X 7m CMU building with a steel truss roof and corrugated metal panel roofing. Building consists of one Classroom, with five overhead lights, one ceiling fan, and two duplex receptacles. The classroom has two exterior doors and two windows on the front side and two windows on the back side. Additionally, the rehabilitation of a nine classroom building to include new doors, windows, interior/exterior paint, steel trusses and corrugated metal panel roofing.

<b>Personnel:</b>	27 Personnel	
<b>Duration:</b>	Jun 16 – Aug 16	
<b>Man-days Expended:</b>	NMCB FOUR	286
<b>Tasking:</b>	MD Tasked to NMCB:	286
<b>Material Cost:</b>	<b>\$166,000 total cost</b>	
<b>Travel Cost:</b>	<b>\$40,000</b>	

**Significant Safety Issues:** During the exercise, there were times that the 9<sup>th</sup> ESB chain of command disregarded safety for production. NMCB FOUR’s chain of command advised that safety was our number one priority and it was noted by 9<sup>th</sup> ESB, but they went ahead with doing activities that were not safe. All NMCB FOUR personnel were pulled from that activity that was deemed unsafe.

**Significant QC Issues:** Although NMCB FOUR personnel were stressing the importance of quality control, 9<sup>th</sup> ESB were more concerned about production compared to quality. Many times during the exercise NMCB FOUR personnel were questioned about why certain activities were taking so long and had to explain that it had to be done right rather than just doing it fast and wrong.

**Significant Design Issues:** TF Koa Moana staff was requesting steel truss designs (changing from current wooden truss design) from NMCB FOUR despite being informed that we do not have the ability to sign off on a structural design within the Battalion and must reach out to NAVFAC. The design was requested and stated as having an urgent turn-around of 24-hours to be able to continue operations. NMCB FOUR Operations Department reached out to NAVFAC and asked for an urgent design which was returned but ended up not being used by 9<sup>th</sup> ESB. Due to the design not being used, it created extra work than originally scoped.

**Significant Material Issues:** Due to 9<sup>th</sup> ESB key engineering personnel/leads, not being in Fiji at the time of procurement, communications were very limited. NMCB FOUR ADVON pushed to Ovalau to begin construction which left no personnel with an engineering background to explain to KO and local vendors what exact materials were needed to start/finish the project. Also the start of material procurement did not happen until a week before project began. This caused material to be delivered one week before the end of the exercise and almost caused a delay to both projects.



**Before construction**

**Project completion**

Pacific Partnership Philippines  
Comun Elementary Head Facility (3-stall) and Classroom Renovation (3-room)

**Project Purpose:** Provide a new comfort room for this ~300 student school as well as renovate an existing 3-room classroom structure for both educational purposes and to serve as a shelter during natural disasters.

**Exercise Data**

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**Project Scope:** Construct a 4m x 3.6m 3-stall comfort room with hand wash station complete with utilities and septic tank. Complete the renovation of a 7m X 18m, 3-room classroom.

**Personnel:** Average of 8 NMCB-4 Direct Labor, 4 AFP-Engineers, 8 Hawaii Army National Guard

**Duration:** May 16 – Jul 16 (38 days)

**Mandays Expended:** 272

**Tasking:** 272 MD

**Project Cost:** \$ 73,460

**Significant Safety Issues:** None.

**Significant QC Issues:** Maintaining quality construction was difficult in regards to drop ceiling and wall framing as well as door and window installation as a result of the existing structure not having plumb or square walls/openings.

**Significant Design Issues:** Due to the nature of the renovation, there were substantial discoveries of previously-unseen damage and poor workmanship that required numerous changes to the method of construction and increased scope in order to complete an effective renovation.

**Significant Material issues:** The site had an unusually high water table due to the rainy season that was not previously noted in the PDSS. As a result, the installation of a hollow, plastic septic tank was exceedingly difficult.



**Before construction**

**Project completion**

Pacific Partnership Philippines  
Kinawitan Elementary School Classroom (2-room) and Classroom Renovation (1-room)

**Project Purpose:** Provide a new 2-room classroom for this ~200-student school and renovate an existing 1-room classroom for both educational purposes and to serve as a shelter during natural disasters.

**Exercise Data**

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**Project Scope:** Construct an 18m x 7m 2-classroom building complete with a 2-stall comfort room. Renovate an existing 1-room classroom 9m x 7m.

**Personnel:** Average of 10 NMCB-4 Direct Labor, 7 AFP-Engineers, 8 Guam Army National Guard, 25 ACB-1, 5 USMC Engineers

**Duration:** May 16 – Jul 16 (40 days)

**Mandays Expended:** 452

**Tasking:** 452 MD

**Project Cost:** \$ 114,039

**Significant Safety Issues:** None.

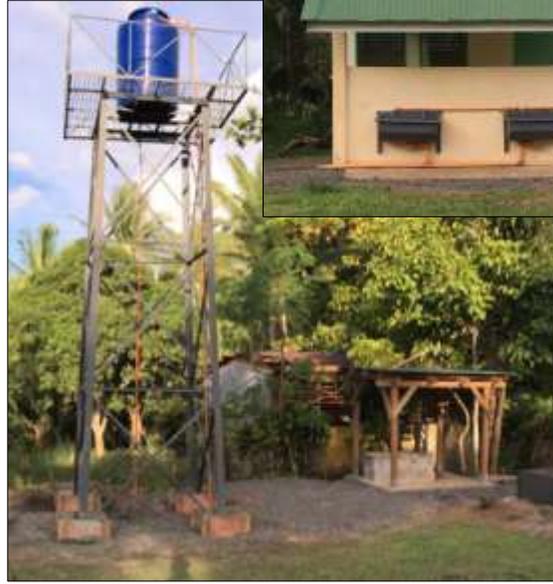
**Significant QC Issues:** The Philippine methods of construction were vastly different, which was an initial challenge that was rapidly overcome. No major impacts to the project.

**Significant Design Issues:** The AFP has three designs for the same school structure, and the US-planned version was not the same as the Philippine-planned project which caused confusion among the crew and planners. Recommend clarifying at conferences the exact variant of the 2-room classroom to be constructed.

**Significant Material issues:** The lengths of the roof panels available were longer than the requirement. Crew needed to cut them to length to be able to install them. Additionally, lack of clarity on the BOM resulted in many materials begin delivered to the site which were inadequate for the job and had to be replaced.



**Before construction**



**Project completion**

Pacific Partnership Philippines  
Mabini Water Tower and Sinks

**Project Purpose:** To provide elevated water storage, an electric well pump, pump shelter and running water/sinks to an existing 3-stall restroom.

**Exercise Data**

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**Project Scope:** Construct a 6m high water tower with pump and connect existing water well to provide running water for a 3 stall comfort room. Construction included the installation of a new hand-pump and electric well as well as the reconstruction of a concrete pad around the well head and a new overhead timber structure to protect the well.

**Personnel:** Average of 3 NMCB-4 Direct Labor, 3 AFP-Engineers

**Duration:** May 16 – Jun 16 (31 days)

**Mandays Expended:** 180

**Tasking:** 180 MD

**Project Cost:** \$ 13,580

**Significant Safety Issues:** None.

**Significant QC Issues:** During the PDSS, the NMCB-4 team was told by the school staff that the well was sufficiently deep for continuous and regular use. After a prolonged period without rain, the well often ran dry.

**Significant Design Issues:** The nature of the scope meant there were no prints to P&E from, and the complexity of the site was difficult to communicate to the planning team, making the adequacy of the design incomplete.

**Significant Material issues:** None.



**Before construction**



**Project completion**

Pacific Partnership Indonesia  
Padang Sarai Community Hall Project

**Project Purpose:** Provide a structure that will be used as a shelter for residents in the event of a natural disaster and doubles as a community hall.

**Exercise Data**

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**Project Scope:** Construct a 7m x 18m CMU block community hall building with steel trusses, lights and ceiling fans for over 500 residents of Padang Sarai village.

**Personnel:** Average of 7 NMCB-4 Direct Labor

**Duration:** Jul 16 – Aug 16 (Completed 23 Aug 16 by ACB-1 and TNI-AD)

**Mandays Expended:** 189

**Tasking:** 189 MD

**Project Cost:** \$ 118,014.36

**Significant Safety Issues:** None.

**Significant QC Issues:** High water table caused poor drainage of water accumulated in footer trenches after rainfall. Compaction of footer base and placement of high chairs needed to be redone and footer rebars needed to be repositioned because of the water issue.

**Significant Design Issues:** The design for the community hall was derived from a classroom design for a project executed in the Philippines. To compensate for the removal of a load-bearing partition wall, truss design was modified. Extra truss members were added to ensure roof loads will be properly transmitted to the columns.

**Significant Material issues:** The length of the roof panels available were longer than the requirement. Crew needed to cut them to length to be able to install them.



**Before construction**



**Project completion**

Pacific Partnership Indonesia  
Pasir Jambak Evacuation Road

**Project Purpose:** Evacuation route which will improve the all-hazard responsiveness of over 10,000 residents of Pasir Jambak and surrounding villages.

**Exercise Data**

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**Project Scope:** Construct 355m x 3m wide concrete roadway with fabricated steel cages for reinforcement.

**Personnel:** Average of 7 NMCB-4 Direct Labor

**Duration:** Jul 16 – Aug 16 (Completed 20 Aug by TNI-AD)

**Mandays Expended:** 121

**Tasking:** 121 MD

**Project Cost:** \$133,089.24

**Significant Safety Issues:** None.

**Significant QC Issues:** The timeliness of the arrival of fresh concrete mix affected the placements of pads. Delivery of concrete for pad 12 was rescheduled due to the need for removal of a section of concrete from pad 11. The concrete transit mixer arrived 45 minutes after the last truck, which caused concrete to set.

**Significant Design Issues:** None.

**Significant Material issues:** Delivery of concrete and availability during Fridays. First concrete supplier was on time on delivery but had issues during Fridays. Changed to a supplier who was available on Fridays, but had issues on timing of the arrival of the transit mixer on site and the quantity of concrete delivered. Crew did a rework on a section of pad 12 and supplier added two deliveries of concrete to compensate for the discrepancies in quantities delivered.



**Before construction**



**Project completion**

Pacific Partnership Indonesia  
Sungai Pinang Public Restroom

**Project Purpose:** Construct a CMU block four-stall public restroom that will greatly improve the sanitary conditions for the Sungai Pinang village.

**Exercise Data**

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**Project Scope:** Project scope includes the new construction of a four stall public restroom for the village. Installation will include local style toilets and a septic tank and leach field to mitigate waste accumulation.

**Personnel:** 6 NMCB FOUR-Direct Labor

**Duration:** Jul 16 – Aug 16 (Completed 24 Aug by ACB-1, HI ARNG, and TNI-AL)

**Mandays Expended:** 110

**Tasking:** 110 MD

**Project Cost:** \$55,757.58

**Significant Safety Issues:** None

**Significant QC Issues:** None

**Significant Design Issues:** The design calls for 15 columns and footings, which will leave only a meter spacing between columns. Nine columns and footings were redundant to the overall structural design and were taken out. Sizes of columns were too small, 150cm x 150cm, for the number and size of reinforcements (6 #4) specified, which will not leave enough spacing and concrete coverage. Modified number of columns to six 250cm x 250cm, span of roof beams are still less than 3m which meets the code for span of unsupported structural beams.

**Significant Material issues:** None.



**Before construction**



**Project completion**

**CARAT Malaysia 2016 TE16-605**  
**Klinik Kesehatan Felda Sahabat**

**Project Purpose:** Focus of exercise: 1) Increase interoperability with MAF 2) Conduct SME exchange between participants 3) Focus of construction was humanitarian civic assistance (HCA) and providing the clinic with a patient waiting area and upgrades to the main building.

**Exercise Data**

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**Project Scope:** Demolition of an 8' by 8' structure deemed to be unsafe due to the decaying wood structure. New construction of a 12' by 20' structure to be used as a patient waiting area. Painting of the main clinic building, 247' by 26' and 80' long fenced entrance. Work includes: earthwork, placement of concrete footers, carpentry, roof installation, and painting. SME exchange with particular focus in carpentry and project management.

**Personnel:** Average of 14 Personnel DL + 10 5RER Personnel + 6 ESSCOM

**Duration:** May 16 – May 16

**Mandays Expended:** NMCB FOUR 85  
 Prior NMCBs 142

**Tasking:** WIP at completion 100%

**Material Cost:** \$17,038

**Cost Savings:** N/A

**Significant Safety Issues:** NEPMU-6 attended the FPC in order to test for lead and asbestos at the project site. Results came back positive for both. The recommendation was to paint in the as in condition, not to disrupt the existing paint. The scope of work was changed to exclude any renovations to the main building with exception of paint. The crew was instructed to don proper PPE to protect from any lead exposure. For future exercises, it is recommended to test for asbestos and lead based paint prior to planning for renovation work.

**Significant QC Issues:** None.

**Significant Design Issues:** Some of the hardware and fasteners required per the Bill of Materials was not recognized by the contractors and/or not available within the AO. This was not communicated to the Detail until after the contract was awarded. It would be beneficial to review the Bill of Materials with the host nation at the FPC in order to clarify nomenclature. It is also advantageous to visit local hardware stores during the FPC to determine what is available within the AO.

**Significant Material issues:** Material contractors were not prepared to deliver all project materials at the required delivery date on the contract. There were also difference between US and Malaysian standards which required the use of different materials. This issues delayed progress for the first two days but was made up throughout the remainder of the execution.



**Before construction**



**Project completion**

CARAT Philippines 2016 TE16-607  
Beddeng-Mabangcal Elementary school

**Project Purpose:** Focus of exercise: 1) Increase interoperability with the PN 2) Conduct SME exchange between participants 3) Focus of construction was humanitarian civic assistance (HCA) and providing the school with a much needed restroom facility.

**Exercise Data**

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**Project Scope:** Demolition of a 2-stall comfort room that is not fit for use, new construction of a 2-stall comfort room and painting of two classrooms at a local elementary school in San Narciso. Work includes: demo of existing concrete structure, excavation, placement of concrete footer, pad, and columns, CMU for building and septic, roof installation, plumbing, tiling, and painting. Conduct SME exchange with NCEB with focus on block laying, stucco, and quality control.

**Personnel:** Average of 14 Personnel DL + 14 NCEB Personnel

**Duration:** Jun 16 – Jun 16

**Mandays Expended:** NMCB FOUR 126  
Prior NMCBs N/A

**Tasking:** WIP at completion 100%

**Material Cost:** \$34,443

**Cost Savings:** N/A

**Significant Safety Issues:** Due to the limited space surrounding the septic tank footprint in addition to an unknown adjacent buried septic tank, the detail was not able to carry out the benching method for the 6’ septic tank hole. As a result, all excavation was conducted by the Filipino Seabees, including block work within the excavated pit.

**Significant QC Issues:** The locally procured PVC glue was a lower quality that that procured in the US, and did not bond well. It resulted in leaks in the initial plumbing, causing rework.

**Significant Design Issues:** None

**Significant Material issues:** None



**Before construction**



**Project completion**

CARAT Thailand 2016 TE16-604  
Khao Chi Chan Elementary School

**Project Purpose:** Focus of exercise: 1) Increase interoperability with the RTN 2) Conduct SME exchange between participants 3) Focus of construction was humanitarian civic assistance (HCA) and providing the school with a much needed building to be used as a library.

**Exercise Data**

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**Project Scope:** New construction of a one-room classroom at Khao Chi Chan, to be used as a library, to replace old and damaged structures on the school compound. Upon completion, the facility supported primary education for 200 students in Sattahip. Work included: excavation, placement of concrete footer and pad, erect walls, bracing, roof installation, tile, and electrical. New technology includes CONFORM, a polymer based stay-in-place formwork for concrete walls, replacing the need for CMU. This maintenance free pre-finished wall design increases efficiency and decreases project duration. This is the first West Coast Seabee Battalion to take part in this forward method of construction.

**Personnel:** Average of 14 Personnel DL + 10 RTN Personnel

**Duration:** Jun 16 – Jul 16

**Mandays Expended:** NMCB FOUR 201  
Prior NMCBs 43

**Tasking:** WIP at completion 100%

**Material Cost:** \$76,608

**Cost Savings:** N/A

**Significant Safety Issues:** None

**Significant QC Issues:** The windows provided were designed with narrow gap of 1/4" for shimming the window and wall. This specific frame is intended for brick mold attachment, which overhangs on the outside of the wall. Framework around the window to incase the overhang was not intended nor planned for this building; the result was a window that did not properly seat within the sill due to 1/4" interference. Since the windows were provided by NUFORM, and a replacement was not possible with the shipment coming from Canada, the concrete around the window sill was chiseled until 1/8" was removed at each end. Material from the trim pieces that are secured to the walls around the window sill was also removed to allow for the window to seat properly. For future window designs utilizing NUFORM, there are two options. The first would be to increase the gap to 1/2" or 3/4". The second, and preferred, alternative is to order a frame type that is flat without the offset for brick mold overhang.

**Significant Design Issues:** The wall lengths provided by NUFORM did not align with the roof trusses supplied. The peak of the wall gable line was not centered and was also not consistent with the opposite wall. The angle of the gable line for each opposing wall also varied. The issue due to a mistake with the NUFORM design file. The quality control process NUFORM follows is they assigning a designer to review designs prior to release. NUFORM has responded by saying it is a very unusual mistake, but was due to the short time they had to provide a design, which was based off an existing CMU classroom design in 30NCR drawing files. It appears that the NUFORM designer attempted to match the exact dimensions of the CMU classroom design, which resulted in various widths of NUFORM wall panels (14.0cm, 14.5cm, 19.5cm). Typically, a building is designed with uniform panels. The designer should have requested to increase (or decrease) the length of the building to allow for consistency of panels. The designer also failed to make the gable-cut on center. Consequently, the factory cut the walls at angles that were incorrect. These errors were missed by both NUFORM designer and USN engineer. To resolve the issue, the angle of the gable on both ends of the side walls were cut to align with the trusses. In addition, the walls were modified by cutting notches along the long side to allow for the trusses to seat properly.

**Significant Material issues:** Although we did receive all required NUFORM material in time to support construction activities, it would be better suited for homeport projects due to the difficulty associated with accepting commercial material through foreign customs, and the short timelines associated with Exercises. There hasn't been a customs shipment for CARAT Thailand in several years because of the complicated process and procedures. This information was not known until the FPC, after the NUFORM material had been purchased. JUSMAGTHAI's recommendation was to have the material brought in either by military aircraft or ship. This was not an option for CARAT 16 due to the timeline.



**Before construction**



**Project completion**

CARAT Indonesia 2016 TE16-606  
SDN Cemandi 406

**Project Purpose:** Focus of exercise: 1) Increase interoperability with the TNI-AL ZENI 2) Conduct SME exchange between participants 3) Focus of construction was humanitarian civic assistance (HCA) and providing the school with much needed classrooms.

**Exercise Data**

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**Project Scope:** New construction of a two-classroom schoolhouse at Cemandi Elementary to replace use of old and damaged structures on the school compound. Upon completion, the facility supported primary education for 450 students in Cemandi. Work includes: excavation, placement of concrete footer, pad, and columns, CMU placement, stucco, roof installation, tile, electrical, paint, and school beautification. Conduct SME exchange with ZENI with focus on all areas of construction.

**Personnel:** 12 Personnel DL + 15 ZENI Personnel

**Duration:** Jul 16 – Aug 16

**Mandays Expended:** NMCB FOUR 268  
Prior NMCBs 93

**Tasking:** WIP at completion 100%

**Material Cost:** \$91,406

**Cost Savings:** \$8,600

**Significant Safety Issues:** The scaffolding contracted in Surabaya was not to US standards. As a result, the USN were not able to fully utilize scaffolding, and relied on our counterparts for stucco and painting in some areas as well as the majority of roofing activities. Scaffolding in accordance with our standards was not found anywhere within the surrounding area.

**Significant QC Issues:** Upon ADVON arrival, the TNI had already started laying out the footprint of the building. The USN Engineering Aid attempted to use existing points to ensure the building was square. This effort was time consuming, and in the end it was determined that the building was not square. The issue was resolved, but added a day of work that could have been avoided.

**Significant Design Issues:** The TNI requested to change the roof design upon ADVON arrival. The plan agreed upon during the final planning conference was to install roof sheeting; however, the school wanted to use tiles to match surrounding building. The design change also resulted in adding additional trusses to support the increased weight of the tile. The USN accommodated this change, which was expedited including engineering review by 30NCR. The material contractor was able to accommodate with short notice.

**Significant Material issues:** None



**FFM walkdown of large crater repair.**



**Damage assessment of small crater**

### JASDF Annual ADR Exercise

NMCB FOUR personnel observed an annual Japanese Air Self-Defense Force (JASDF) Airfield Damage Repair (ADR) training exercise in Hokkaido, Japan on August 30, 2016. The exercise was a two day evolution that demonstrated JASDF's ability to perform ADR using legacy folded fiberglass matting (FFM) techniques for large crater repair and new concrete and asphalt repair methods for small crater damage. The exercise afforded NMCB FOUR personnel the opportunity to gain knowledge and understanding of ADR operations, improve relations with adjacent JASDF and USAF units, and to improve on existing and future ADR technologies and methods for upcoming homeport training in response to MCO mission requirements.

#### Exercise Data

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**Exercise Scope:** JASDF personnel completed bomb explosions, damage assessment, crater clearing and placement of matting, concrete, or asphalt for four craters over the course of two days in support of their annual ADR training/demonstration. JASDF utilized the following CESE for repairs of a 50 foot crater with FFM on Day 1 and (3) 3'x 3' craters with concrete and cold asphalt on Day 2: (2) dozers, (1) grader, (1) roller, (2) excavators with bull pric, claw, and bucket attachments, (3) wheeled loaders, (2) wheeled forklifts, (4) dumps, and low boy trailers for movement of heavy construction equipment. JASDF used a platoon sized team for both days and required more than 20 dump trucks worth of fill and two sections of approximately 100 feet in length of FFM to complete repairs of the 50 foot crater. Two dump trucks filled with concrete bags and two man crews were used for two small crater repairs and one and half bags of cold asphalt were used for the other small crater repair. Additional tools and equipment were also required (e.g., (3) walk behind saws, compactor, brooms and brushes, and measuring sticks for damage assessment of crater debris).

**Personnel:** 3 PAX NMCB FOUR, 3 PAX PWD Misawa, ~8 PAX USAF (18CES and 5AF)

**Duration:** 2 days



**Repair utilizing flowable fill w/ rapid set cap.**



**Saw cutting operations.**

## Operation Resilient Shogun

NMCB FOUR personnel observed the final day of a four day training exercise on Kadena Air Base performed by USAF personnel and hosted by the 18<sup>th</sup> Civil Engineer Group (18CEG) on September 15, 2016. The exercise demonstrated new airfield damage repair (ADR) technologies and repair methods being developed and implemented for USAF units. The exercise afforded NMCB FOUR personnel the opportunity to gain knowledge and understanding of USAF capabilities and requirements in meeting mission threats. These lessons learned are being implemented into NMCB FOUR's homeport training plans in support of MCO response and readiness.

### Exercise Data

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**Exercise Scope:** USAF personnel completed a partial damage assessment, crater plotting, crater clearing, concrete saw cutting, crater excavation, flowable fill, and concrete cap repair methods for 18 craters in support of an ADR training exercise and testing of new equipment, material, and techniques for ADR. The following equipment and materials were required to support the exercise between 2 crater repair teams: (8) skid steers with saw attachments, (2) skid steers with bucket attachments, (2) front end loaders with buckets, (2) front end loaders with fork attachments, (2) wheeled excavators with bull pric attachments, (2) wheeled excavators with bucket attachments, (2) volumetric mixers, (2) graders, (2) sweepers, (4) forklifts, (2) highboy trailers, (3) tractors, (2) water trucks, ~72 bags of flowable fill (4 per crater), 72 bags of rapid set concrete (4 per crater), and 18,000 gallons of water.

**Personnel:** 3 PAX from NMCB FOUR observing, ~60 PAX USAF participating in exercise

**Duration:** 1 day



**Camp Shields RDSAT**



**Set up of TR-72 antenna in Panay**

## Valiant Shield

From September 5 to September 29, 2016 NMCB FOUR demonstrated secure communications capability with CTF 75. NMCB 4 served in the role as an AFP lead IVO of PHL and provide required reporting directly to CTF 75 via HF voice and data. From Okinawa, demonstrate secure communications with 30NCR and NMCB 11 via RDSAT SIPR. Provide CESE and embarkation support from Okinawa for NMCB 11 Det Tinian.

### Exercise Data

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**Exercise Scope:** Under the tactical direction of THIRTIETH Naval Construction Regiment (30NCR), a detail of 10 personnel provided secure communication capabilities with CTF 74 via HF voice and data. NMCB 4 also provided RDSAT SIPR and NIPR communication to 30NCR from Okinawa. Participating U.S. Forces included, CTF 75, THIRTIETH Naval Construction Regiment (30NCR), Naval Mobile Construction FOUR(NMCB 4), Naval Mobile Construction ELEVEN (NMCB 11), Naval Mobile Construction 133 (NMCB 133), and Underwater Construction Team TWO(UCT 2).

**Personnel:** 10 – 2 personnel in Pany, 1 to in Guam

**Duration:** 24 days

**Tasking:**

1. HF voice and data from Panay to CTF 75 in Guam
2. Provide RDSAT NIPR and SIPR communication from Okinawa with 30NCR and CTF 75



**Combat Operations Center Watchstanding**



**Mission Analysis for Final Exercise Scenario**

## CARAT Timor-Leste

CARAT Timor-Leste training execution was conducted from 1-4 Aug, with the closing ceremony held on 5 Aug. The exercise was broken into four lines of effort, with each participating unit focusing on a specific curriculum in the form of block training. Each unit led their effort independently from 1-3 Aug, with 4 Aug being the culminating FINEX.

### **Exercise Data**

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**Exercise Scope:** Under the tactical direction of Naval Mobile Construction Battalion FOUR (NMCB 4), a detail of 36 personnel provided subject matter expert (SME) training to 52 F-FDTL Sailors and Marines across four distinct lines of effort and an all-encompassing Final Exercise (FINEX) demonstrating skills the F-FDTL acquired. Participating U.S. Forces included, NMCB 4, THIRTIETH Naval Construction Regiment (30NCR), Coastal Riverine Group ONE (CRG1), Explosive Ordnance Disposal Mobile Unit FIVE (EODMU5), and Fleet Anti-Terrorism Security Team Pacific (FASTPAC) Marines.

**Personnel:** Six personnel from NMCB 4; Two personnel from CRG1; Two personnel from EODMU5, 25 personnel from FASTPAC, and one individual from 30NCR.

**Duration:** 4 days

### **Tasking:**

NMCB 4 conducted training in staff planning and command and control for 25 F-FDTL Sailors and Marines. Topics included overview of the Marine Corps Planning Process (MCP) and utilization of an Operational Planning Team (OPT) process. F-FDTL students were provided scenarios and divided into groups in order to perform Course of Action (COA) development. NMCB 4 instructors led the discussion for both groups in the COA war gaming process, IOT facilitate a broader understanding of the factors to be considered. Students then provided a prepared scenario to conduct Mission – Enemy – Terrain & Weather - Troop & Fire Support - Time Available (METT-T) analysis. The remainder of the week was used to develop the Operation Order and practice comms etiquette for FINEX. The final exercise featured aspects from each line of effort's training. F-FDTL, with the assistance of NMCB4, developed an Operation Order based on a scenario requiring F-FDTL Sailors and Marines to secure a civilian port (Port Hera) and collect evidence from a vessel on the pier. Marines dismounted their vehicle at the entrance of the port and proceeded to tactically clear the buildings located along the West side of Port Hera. F-FDTL "Zodiacs" were operational and providing harbor security, while the Combat Operations Center was receiving checkpoint updates from the Marine squad leader. Once the building was secured and all aggressors (FASTPAC Marines) were eliminated, the trained F-FDTL evidence collection team inspected the pier-side vessel for contraband (M16 and blank rounds) and proceeded to turn over the evidence to Timor-Leste Police (CRG Role Playing). The exercise performed once prior to VIP arrival, and then additional for the VIPs from F-FDTL and NMCB 4. The rehearsal was critical for the success of the F-FDTL Sailors and Marines, and their confidence in the training.



## **CHAPTER III**

### **ADMINISTRATION**

## ADMINISTRATION

The Administration Department supported a 580 person battalion with administrative, personnel, and legal support to dispersed personnel across 14 detail sites throughout the PACOM and NORTHCOM AORs. To ensure complete battalion readiness the admin team streamlined the update of 20 command policies and executed 100% verification of Emergency Data Records and NFAAS accountability. Headquartered at Camp Shields Okinawa, Japan, the S1 staff processed 85 awards, 288 evaluations/fitness reports, \$71,000 in deployment pay entitlements, executed 523 Navy-wide advancement exams. While providing daily customer service to all deployed personnel and supporting the battalion mission the administrative staff efficiently processed over 300 pieces of correspondence to ensure unit readiness at all times.

The Career Counselor team was heavily invested in the professional development of all Sailors, putting the unit well on the way to its third consecutive Retention Excellence award by soundly managing the processing of 36 reenlistments, 48 pre-separation counseling sessions, and 133 C-Way applications ensuring Brilliant on the basics for every Sailor was fulfilled.

Award ceremonies, advancement frockings, and warfare qualification pinning ceremonies were held at the main body and detail sites. During the course of the deployment, 78 personnel were selected to advance to the next pay grade, 95 members qualified as Seabee Combat Warfare (SCW) Specialists and 105 qualified Expeditionary Warfare (EXW) Specialists.

### Awards:

- Meritorious Service Medal – 1
- Navy Commendation Medal - 11 (Pending approval from NCG ONE) - 5
- Navy Achievement Medal – 66
- Seabee Combat Warfare Specialists - 95
- Seabee Combat Warfare Requalification – 16
- Expeditionary Warfare Specialists - 105
- Military Outstanding Volunteer Service Medal - 4
- Meritorious Mast - 0
- Sailor of the Quarter - 6
- Sailor of the Year – 1



**ADMINISTRATION**

<b>ADDITIONAL</b>	<b>GAIN/LOSSES</b>	<b>TEMPORARY ORDERS</b>	<b>NON-JUDICIAL PUNISHMENTS</b>	<b>ADMINISTRATIVE SEPARATIONS</b>	<b>EVALUATIONS/ FITNESS REPORTS</b>
<b>E1-E6</b>	53/38	0	0	1	217
<b>E7-E9</b>	1/3	0	0	0	42
<b>O1-O5</b>	8/6	1	0	0	29

**ADVANCEMENTS**

	<b>E2</b>	<b>E3</b>	<b>E4</b>	<b>E5</b>	<b>E6</b>	<b>E7</b>	<b>E8</b>	<b>E9</b>
<b>Time-in-rate Eligible</b>			109	93	41			
<b>Participated</b>			109	93	41			
<b>Selected</b>			42	21	2			
<b>Percent Selected</b>			38.5%	22.58%	4.9%			
<b>Navy Wide Percent Selected</b>	---	---	28.4%	15.8%	10.8%	---	---	---

**RETENTION**

	<b>ELIGIBLE</b>	<b>NOT ELIGIBLE</b>	<b>REENLIST</b>	<b>GRS (%)</b>		<b>NAVY GOAL (%)</b>
<b>ZONE A</b>	35	0	19	54.2%	<b>ZONE A</b>	40%
<b>ZONE B</b>	6	0	4	66.7%	<b>ZONE B</b>	50%
<b>ZONE C</b>	9	0	8	88.9%	<b>ZONE C</b>	63%

## **PUBLIC AFFAIRS**

The Public Affairs (PA) staff worked diligently to document the history NMCB FOUR made in the PACOM AOR. In Okinawa and across every detail site and exercise, significant events were captured to include community relations, project completions, awards and advancements.

The impact NMCB FOUR Seabees made across the AOR were recorded with photos, captions and news articles that were published on Facebook, Twitter, Navy.mil, DVIDS, Seabee Online and local base newspapers/websites.

PAO Totals	Captured/Created	Published
Articles	24	10
Photographs	1728	193

The PA team continues to bring Seabees into the spotlight of the Navy, our family members and the general public by capturing all the outstanding work Seabees perform and the communities they strengthen around the world.

## **DENTAL**

NMCB FOUR Dental Department maintained Operational Dental Readiness (ODR) at 100%. The Dental Officer remained at Camp Shields and facilitated care as required for Seabees at all sites. Based on anticipated mission timelines, Seabees identified for isolated detail duty were prioritized for treatment needs review prior to departure, effectively maintaining ODR during remote activity.

Coordination was made to utilize multiple Naval Hospitals and Navy Branch Health/Dental Clinics. Likewise, Tri-Service assets were utilized for other Construction Readiness Operations Details with the exception of Chinhae throughout deployment. Remote Detail sites in Philippines, Chinhae, Cambodia and Timor-Leste had access to Tricare International SOS (ISOS) assets for unscheduled or emergency treatment; however, no such Dental contingency asset was activated or required. U.S. Naval Hospital Okinawa and 3rd Dental Battalion, located on Camp Foster, provided NMCB FOUR with specialty dental treatment including Endodontic and complex Oral Surgery.

NMCB FOUR Dental Department at Camp Shields overcame facility and equipment challenges to execute their daily operations. They worked closely with local counterparts to establish an Memorandum of Agreement (MOA) between Naval Hospital Okinawa and 30<sup>th</sup> Naval Construction Regiment (NCR) to support required equipment maintenance and repair, including radiological equipment hardware and software, air compressor and dental vacuum required to have full dental operations capability. Additionally, NMCB FOUR Dental set the groundwork to support the deployment of Tri-Service electronic data management Corporate Dental Systems (CDS) and digital radiograph DCV X-ray Vision programs, ultimately to achieve Navy Dental Corps software standardization on the OCONUS-Navy Enterprise Network (ONE-NET) at Camp Shields.

Dental procedures performed during deployment onboard Camp Shields included oral diagnosis and treatment planning, hygiene and routine operative care.

An additional mobile dental unit ADAL was acquired and inventoried, increasing dental mission readiness in Okinawa and in support of Major Combat Operations response in an expeditionary environment.

## **MEDICAL**

The Medical Department supported Battalion operations at various sites throughout the PACOM and NORTHCOM AORs. During deployment, the Medical Department in Okinawa coordinated to provide medical oversight of NMCB FOUR medical assets deployed throughout PACOM as well as to provide logistical medical support for the NORTHCOM Detail.

### MEDICAL SUPPORT FOR DETAILS

#### Personnel

Timor-Leste was supported by an HM1 IDC, responsible for providing primary care, preventive health measures, and force health protection implementation for 26 sailors, as well as identifying higher levels of care required in case of an emergency. Upon selection to CPO, he was returned to Main Body and an HMC IDC, the Medical Department Leading Chief Petty Officer, was stationed there for IDC coverage for the remaining two months of deployment.

Cambodia I was supported by an HM2 (8404) responsible for the medical care of 20 Sailors as well as occupational, preventive, and force health protection medical issues.

Panay was assigned an HM1 IDC, responsible for providing primary care, preventive health measures, and force health protection implementation for 23 sailors, as well as identifying higher levels of care required in case of an emergency.

Palawan support was assumed by an HM1 IDC from Cambodia II following their retrograde. He was responsible for providing primary care, preventive health measures, and force health protection implementation for 22 sailors, as well as identifying higher levels of care required in case of an emergency.

#### Supplies

The Medical Department worked tirelessly to overcome logistical issues associated with shipping medical supplies to remote detail sites via commercial shipping companies and ensured that all sites had the required supplies to care for deployed Seabees. An SOP for shipment of medical supplies was created internally for medical to assist with future shipments to remote sites.

#### Det Swing/Review of Future Operations

Battalion Surgeon performed a Det swing to Detail Cambodia to assess the medical care at the local hospitals and review the current medevac plan. This visit was in support of future pre-deployment planning.

### MEDICAL SUPPORT FOR EXERCISE

CARAT was supported with an HM2 (8404) responsible for the medical care of 17 Sailors as well as preventive and force health protection medical issues.

Pacific Partnership 2016 was supported with an HM1 IDC, responsible for providing primary care, preventive health measures, and force health protection implementation for 25 sailors, as well as identifying higher levels of care required in case of an emergency.



## MEDICAL READINESS

The Medical Department maintained and improved Battalion medical readiness at Main Body and all Details and provided coordination with Main Body and CROs to continue to maintain optimal medical readiness. This included immunizations, Periodic Health Assessments (PHAs), laboratory tests, and periodic physical exams. Through these actions the Battalion maintained its personnel at a 90.7% Fully Medical Ready status. Smallpox and anthrax vaccination shortfalls were addressed through a smallpox SHOTEX that was performed towards the end of deployment to capture those who missed the initial pre-deployment SHOTEX and anthrax vaccinations were performed as part of our routine vaccination program.

## BATTLE AID STATION OPERATIONS

The Medical Department was also responsible for the operation and maintenance of a robust Battalion Aid Station (BAS) at Camp Shields. The BAS allowed providers to give Seabees basic primary and preventive care and stock a sufficient supply of non-controlled medications in the pharmacy. Upon arrival, sick-call hours were established, and alternate sick call hours set to accommodate project personnel. The duty HM was provided with duty phone and was available 24/7 for emergencies, along with a duty provider phone, carried by the Medical Officer. The Medical Officer reported medical CCIRs to CO/XO/CMDCM as they arose, and gave weekly medical briefs on high visibility medical situations of injuries and illnesses. CCAD Disease and Non-Battle Injury (DNBI) report was sent to the NMCB FOUR Surgeon to inform her of the health status of Seabees at HM-supported Details. Malaria Chemoprophylaxis was confirmed weekly through Direct Observed Therapy (DOT) reports from the Det OICs, which were forwarded to NMCB FOUR Surgeon to ensure compliance with the Battalion's malaria prevention SOP.

## COMMAND RELIGIOUS MINISTRIES

The Command Religious Ministry Team (RMT) consisted of the Command Chaplain, Chaplain Rentz, and RP2 Wingfield. The Command Chaplain and RP2 deployed with the Main Body to Okinawa, Japan for the entirety of the deployment and traveled throughout PACOM visiting Seabees at various locations.



The Battalion Chaplain conducted Thursday night Bible Study along with Sunday morning worship in Okinawa at the Camp Chapel. A consistent and faithful crowd of worshipers and those interested in the Gospel message attended. The consistent group of worshipers established their own Bible Study in the enlisted barracks and found the weekly Bible Study and Worship services edifying and restful in addition to building their knowledge of scripture.

The Battalion Chaplain ensured that all hands had information on religious services available locally and on Kadena Air Base and coordinated with Alfa Company to provide transportation to these services. The RMT managed the library and provided a steady in flow of new reading materials. The Library was available to troops as a quiet place to read, study and also to prepare for SCW boards.

The majority of religious ministry was accomplished through pastoral care, counseling, and deck plate ministry, which

included making visits to all Construction Civic Action Detail (CCAD) sites and the CRO sites in Yokosuka, Japan and Chinhae, South Korea. The Chaplain visits with Sailors in Okinawa and across the geographically dispersed Detail sites provided open channels for communication and provided insight into Sailors lives and their challenges, increasing opportunities to provide counseling, care, and access to resources to mitigate the occurrence of destructive behaviors.

The Chaplain gave the religious ministries, suicide awareness and prevention briefs as well as general coping and expectations to life on Camp Shields at every Battalion indoctrination program. He also coordinated the implementation of the return and reunion program across all Detail sites by through a team effort with the Psychological Health Team Provider, Training Department, and other command resources.

The RMT spearheaded the Battalion's community relation efforts during the deployment accumulating over 1,000 hours of volunteer effort. Many Seabees were able to participate in helping the local community through beach clean-up, English through play at local orphanages and schools and volunteering at local festivals and base activities.



## **CHAPTER IV**

### **TRAINING/ARMORY/COMMUNICATIONS/SAFETY**

## TRAINING / READINESS

During the PACOM/NORTHCOM deployment, NMCB FOUR leveraged small unit leadership to accomplish Unit Driven Training (UDT). The focus was not only to maintain high proficiency on individual skills, but also to cultivate small unit leadership through engagement in the planning and execution of training events. These events included attending Basic Jungle Skills Course (BJSC) at Jungle Warfare Training Center (JWTC). Every third Saturday was designated as a training day and each was planned to maximize the use of time and resources. The focus of these “Training Saturdays” included rifle and pistol ranges, General Military Training requirements, in-rating skills, embarkation, communication, medical, 3M, and military/tactical skills. In addition to these individual skills topics, NMCB FOUR executed three internal exercises, a 48-Hour Mount-Out Exercise, a Command Post Exercise, and a Communications Training Exercise. The Battalion also had the opportunity to attend BJSC. These events sharpened skills, and offered an opportunity for professional development of small unit leaders. Also, the Commander’s Assessment of Readiness and Training (CART) was executed in preparation for the Readiness and Training Conference (RTC), shaping and setting the stage for a successful homeport.



**BJSC Obstacle Crossing**



**Wash Rack Operations**

(AMS) to shadow actual real world Joint Inspections (JI) being conducted with local units to help our embark personnel understand standard operating procedures within the AO. This evolution enhanced relationships with local supporting units to better respond when the need arises.

NMCB FOUR planned and executed a Command Post Exercise (CPX) in August 2016 to ensure the Battalion’s Company and Headquarters organizations maintained proficiency in executing command and control functions in an expeditionary environment. This evolution enhanced the command’s ability to execute a scenario-based training exercise and self-assess internal capabilities within communications and command post TOA. A Combat Operations Center (COC) and a Company Command Post (CP) were established and 3 hours of scenario based command and control between and within the COC and CP were executed. Each outlet conducted staff planning, held training on and rehearsed watch standing procedures, and trained on communications equipment and operator procedures. In addition, preformed block training for standard operating procedures and scenario driven injects. The CPX greatly increased COC and CP watch-standing experience levels, built familiarity amongst watch-standing teams, and identified strengths and weakness to be addressed in future training.



**COC Watch Standing**

NMCB FOUR completed its Readiness and Training Conference with NCG ONE from 9-13 May 2016. The purpose of the conference was to present to NCG ONE the results of the Commander’s Assessment of Readiness and Training (CART) and identify requirements to successfully plan and execute the Optimized Fleet Response Training Plan (OF RTP). Topics of discussion focused on the areas of CSE/FTX/ADR concept of operations, Seabee

Technical Trainer utilization, TOA acceptance/turnover, 3M, medical, safety, and a multitude of other topics. The conference assisted the Training Department in shaping the Battalion's homeport training plan IOT meet the Commanding Officer's homeport priorities.



**Weapons Training**

In May, July, and August; NMCB FOUR's USMC Military Advisor conducted military tactical skills classes with an end-state on weapons employment, fire-team, squad, and platoon tactics. The curriculum was built around patrol planning, weapons employment, offensive and defensive, range cards, and fire plan sketches. Additionally, courses were developed to expand the student's base knowledge increasing in difficulty throughout the lessons overall increasing their leadership, confidence, and abilities within their companies.

In August, 65 personnel were convoyed to the Jungle Warfare Training Center (JWTC) at Camp Gonzales for a five days of Basic Jungle Skills Course (BJSC). Training encompassed many basic combat skills and specific combat skills for operations in a jungle environment. The course is designed to enhance the unit's small unit leadership, tactical mindset, and unit cohesion. During this portion of the exercise the team and squad leaders were giving challenges and task to complete. The purpose of the course was to prepare our Sailors to fight and win in a jungle environment.

In May NMCB FOUR lead the coordination efforts in the installation of the first Conflict Kinetics (CK) synthetic small arms weapons trainer on Camp Shields valued at \$1.2M. The Training Department implemented a robust training program with a curriculum that included three different courses; CAT III qualification standards, CK physical training, and tactical employment for SCW. The CK classes were held throughout the duration of the deployment and revised curriculum was developed, with the feedback provided by personnel, to improve delivery of material. This enhanced weapon fundamentals and marksmanship skills for over 200 personnel.



**Land Navigation Planning**

### EMBARKATION TRAINING



**TCAMS Operators**

During the course of the deployment, the Embark Staff trained the 70-person Embark Organization, plus assisted in training the Air Detachment on cargo preparation, weighing & marking equipment, load planning, and Hazardous Material Declaration Forms preparation. The focus of the training was to maintain a high state of readiness and to prepare the Embark organization for the 48-Hour Mount-out Exercise in April. Furthermore, the training provided NMCB FOUR's Air Detachment with the capability to successfully re-deploy themselves from potential deployments.

In addition to the hands-on training, Embark held a classroom lecture on embarkation fundamentals during a Training Saturday in April. The primary focus was to cover the questions on the Personal Qualification Standard (PQS) books and to have personnel leave the training with a greater understanding of embark fundamentals and with specific information that would be valuable during preparation for the Seabee Combat Warfare (SCW) test and qualification board.

### COMMUNICATIONS TRAINING

In addition to supporting two CTF exercises (CTF 75 CPX and Valiant Shield) and three Battalion exercises (MOX/COMMEX/CPX), NMCB FOUR Communications Department diligently provided individual skills training, both internally and to the Battalion. The staff consistently met the monthly required Electronic Key Management

System (EKMS) training set forth by 30NCR/NCG ONE. Additional training classes were conducted for newly reporting Sailors through the Command Indoctrination Program. The training topics included Secure Room Open Storage Secret, SKL procedures, Two Person Integrity, requirements for traveling with CCI gear and procedures for destruction, Emergency Action and Destruction Plan, Electronic Data Interchange Personal Identifier (EDI-PI) and Personal Identifiable Information (PII). Internal departmental training included Information Assurance, ID card integrity, EKMS 1B procedure reviews, operational capabilities of various COMMs equipment in the TOA (AN/PRC-150, AN/PRC-117G, AN/PRC-157 and AN/PRC-152), network principles, radio frequency, Tactical Data Network (TDN) operation and administration, switch configuration, and message formats.



**Communications Operator Training**

NMCB FOUR Communications Department regularly led SCW communications training sessions for all communications assets. Training included hands-on communications gear familiarity, radio and antenna operation, COMSEC procedures, and RDSAT demonstrations. Additionally, training was conducted on radio etiquette, proper radio procedures, and proper set-up and teardown of the OE-254 antenna.

### WEAPONS TRAINING



**Weapons Qualification Course**

NMCB FOUR Armory staff conducted weapons training classes on average of 4 times per week and SCW hands on training bi-weekly afterhours, enabling Sailors the opportunity to receive first hand weapons training to further their development in military tactics and Seabee Combat/Expeditionary Warfare. The Armory staff worked with the Companies for more tailored instruction during six Training Saturdays. With the addition of the Conflict Kinetics (CK) synthetic small arms weapons trainer, the Training and Armory staff trained 200 Sailors in CAT III/IV weapons qualifications and close-quarters combat shooting. These efforts raised weapons proficiency and knowledge throughout the command. In May one M9 and in August one M4 live fire qualification range was conducted. Both ranges combined, eight units of CESE, 95 personnel, and 53 weapons were successfully transported to Marine Corps Base Camp Hansen, ranges

174 and 1. These evolutions were led by NMCB FOUR's Small Arms Marksmanship Instructor, Range Safety Officer; and 8 Line Coaches. In total 76 personnel were trained in weapons safety, handling, and marksmanship fundamentals. Although challenged by large class sizes and a new range staff, 80% M9 and 49% M4 qualification rates were attained, expending 5,520 rounds of ammunition, with zero mishaps.

### MEDICAL TRAINING

In preparation for deployment, the medical officer for all Detail OICs/AOICs conducted medical training, and each was provided with a detailed medical checklist by which to prepare their troops for deployment. The checklist encompassed all PACOM Force Health Protection requirements. Additional guidance was provided to ensure each OIC understood the process for medical evacuation using International SOS, the overseas TriCare affiliate. Each Det HM provided a preventative medicine brief to their Detail prior to departure.

During deployment, Main Body HMs provided Basic Life Support (BLS) training for the Battalion during every INDOC week increasing the total BLS percentage by 18%. Prior to the Jungle Warfare Training Course, the Battalion's Preventative Med Tech (PMT) provided a lecture on leptospirosis and discussed appropriate prophylaxis. At the CCAD sites, HMs provided briefs to their Detail on operational stress and keys to management.

The Medical Officer taught the Wardroom about Malaria, Dengue and Zika discussing symptomatology, and treatment, overall increasing the leadership's awareness of diseases in the AOR.

## SAFETY TRAINING

NMCB FOUR's Safety staff ensured safety was never compromised in the execution of battalion operations. The primary goal of NMCB FOUR's safety program was to provide a safe and healthy environment for every Seabee. Utilizing the Command and Navy Safety Policies as guiding principles, the Battalion pursued an aggressive and comprehensive Navy Occupational Safety and Health (NAVOSH) program ensuring the safest possible work practices and conditions. The safety training focused on the Enterprise Safety Applications Management System (ESAMS), as well as training conducted by the Company, Detail, and Department Safety Representatives every training day, along with monthly safety topic training through ESAMS.

A safety training brief for all new members reporting to the Command was given during Command Indoctrination. A clear message was set on the importance of safety. This indoctrination training included Operational Risk Management (ORM), hearing and sight conservation, traffic safety, lock out/tag out procedures, and additional training and discussions involving the Command's philosophy on the importance of safety for all personnel on and off duty. Globally Harmonized System (GHS) into the Navy Hazard Communication Program was also implemented into the Command Indoctrination. The safety department conducted a safety stand down for 101 days of summer, specifically targeting slips, trips, and falls, which is the leading cause of death in construction. Conducted a fall protection end user course, for 18 Seabees.

## PHYSICAL TRAINING (PT)

While deployed to PACOM, NMCB FOUR carried out a PT regiment of Battalion wide, company led PT three days per week. On Training, and working Saturdays, all-hands command PT was conducted. The Command Fitness Leader (CFL) and Assistant Command Fitness Leaders (ACFL) led all PT sessions. Main Body Okinawa also had gymnasium facilities on Camp Shields allowing Sailors easy access to muscle and functional fitness training, while still incorporating proper stretching and workouts through the use of dynamic exercises and weight training. The Fitness Enhancement Program (FEP) was incorporated in the battle rhythm on Tuesday and Thursday, placing emphasis on nutrition and physical conditioning in preparation for upcoming Physical Fitness Assessments (PFA) cycles.

NMCB FOUR conducted Spring 16-01 PFA in May 2016. The cycle was administered at nine locations, consisting of the Body Composition Analysis (BCA) and the standard Upper Body (push-ups), Core (sit-ups) and Cardio (run) events. Due to mission constraints, five locations received DEP/OP waiver for the Upper Body, Core and Cardio events and were only required to perform BCA. Due to an aggressive Command Physical Training Program, overall personnel on FEP for BCA decreased significantly from 42 in Cycle 15-02 to 12 in Cycle 16-2, a 75% decrease. While there have been great results in the BCA portion, there was also a 6% increase of overall outstanding scores of from Cycle 15-2 to Cycle 16-1. NMCB FOUR overall physical fitness scored is excellent.

## COMMAND INDOCTRINATION TRAINING

NMCB FOUR held four command indoctrinations for newly reporting personnel throughout the PACOM deployment. The main purpose was to provide new personnel with the appropriate tools necessary for a successful deployment and ultimately successful tour with NMCB FOUR. Various topics including Training, Admin, Supply, SCW, Embark, Safety, Alfa Company, career development utilizing the First Term Success Workshop, Right Start Brief, Navy Pride & Professionalism, Suicide Awareness and Prevention, Stress Management, Sexual Assault Prevention and Response, Alcohol Abuse Prevention and Control, Equal Opportunity/Sexual Harassment/Grievance Procedures, Hazing Policy and Prevention, Personal Financial Management, Chart the Course, and 3M training were covered during a four day evolution. Most importantly, this was the opportunity for the new personnel to meet the Commanding Officer, Executive Officer, and Command Master Chief.

## SEABEE COMBAT WARFARE (SCW) TRAINING

NMCB FOUR training department, with a combined effort from the Detail site leadership, lead an aggressive Seabee Combat Warfare Specialist program throughout the Battalion. SCW classes were held tri-weekly after hours with tests and boards held on a regular basis. All SCW qualified personnel took part in training and volunteered

hundreds of hours to instruct and guide those seeking qualification. As a result of this effort the Battalion increased the SCW qualification to 60%. The following is a breakdown of the Battalion's SCWS attainment:

<b>SCWS QUALIFICATION REPORT</b>				
	<b>Number Pers Assigned</b>	<b>Previously SCW Qualified</b>	<b>Qualified SCW on Deployment</b>	<b>Number SCW Qualified on Board at Deployment Completion</b>
<b>E1 – E6</b>	469	195	84	279
<b>E7 – E9</b>	50	27	3	30
<b>O1–O5</b>	28	10	8	18
<b>Total</b>	547	234	95	329

EXPEDITIONARY WARFARE (EXW) TRAINING

NMCB FOUR EXW program was implemented just prior to deployment in Jan, 2016. Although a new and secondary qualification program to the command, leadership made significant efforts to engage NMCB FOUR Sailors in obtaining their qualifications. A total of 105 personnel qualified as EXW during the course of the deployment. As a result of these efforts the Battalion increased the EXW qualifications to 20%. The current EXW qualification breakdown is as follows:

<b>EXWS QUALIFICATION REPORT</b>				
	<b>Number Pers Assigned</b>	<b>Previously EXW Qualified</b>	<b>Qualified EXW on Deployment</b>	<b>Number EXW Qualified on Board at Deployment Completion</b>
<b>E1 – E6</b>	469	0	82	82
<b>E7 – E9</b>	50	0	23	23
<b>Total</b>	519	0	105	105

GENERAL MILITARY TRAINING (GMT)

NMCB FOUR main body and Detail sites optimized the use of allotted training days to conduct Navy wide GMTs via NKO and instructor led training. Fiscal Year 16 GMT Standard Core Topics (SCT Command Delivered) included Equal Opportunity / Sexual Harassment / Grievance Procedures, Sexual Assault Prevention and Response Awareness, and Suicide Awareness and Prevention. SCT Web-based (Via NKO) topics included Antiterrorism Level I Awareness, Combating Trafficking in Persons (CTIP) General Awareness, Counterintelligence Awareness and Reporting, Cyber Security Awareness, Domestic Violence Prevention and Reporting, Operational Risk Management, Operational Security (Uncle Sam's OPSEC), Privacy and Personally Identifiable Information, and Records Management. Additionally Face-to-Face Navy Command-Assigned Readiness-Engaged (Navy CARE) topics included Chart the Course (Alcohol, Drugs, and Tobacco Awareness, Hazing Policy and Prevention, and Operational Risk Management), and Stress Management (covered under Operational Stress Control). Web-based CARE topics included Domestic Violence Prevention and Reporting and Personal Financial Management.

## MAINTENANCE MATERIAL MANAGEMENT (3M) SYSTEMS TRAINING

In order to maintain proficiency and meet training requirements, the 3M office provided training on all 3M qualifications throughout the deployment. The 301 Maintenance Person course conducted during indoctrination provides the basic knowledge for maintenance personnel to perform standard maintenance on TOA assets, including CESE, weapons, and communication equipment. Formal classroom training on 302, 303, 304 and 306 was conducted in order for leadership to maintain a high level of 3M readiness and versatility within the organization. The following qualifications were achieved:

<b>3M SYSTEM TRAINING QUALIFICATION REPORT</b>			
<b>Qualification</b>	<b>Qualified in Homeport</b>	<b>Qualified on Deployment</b>	<b>Total Personnel Qualified</b>
<b>3M 301</b>	127	57	184
<b>3M 302</b>	26	7	33
<b>3M 303</b>	36	7	43
<b>3M 304</b>	18	6	24
<b>3M 305</b>	4	1	5
<b>3M 306</b>	13	3	16

## **ARMORY**

The Battalion was responsible to maintain one complete Amory TOA in Okinawa. The keen attention to detail by the site GMs was directly responsible for the successful refresh of 40 new Mossberg 500 shotguns received from NWS Crane, IN. These new shotguns are “drilled and tapped”, allowing for the enhancement kits, collapsible buttstock, tactical rails, forward grip assist, and lights, to be installed.

NMCB FOUR executed proper 3M maintenance of assigned TOA, ensuring the Battalion was prepared for any required MCO response. In order to ensure maintenance was in compliance with applicable operating instructions, 1,639 maintenance actions were completed and the PMS periodicities for 907 TOA weapons were updated.

The Armory successfully passed the Operational Readiness Inspection (ORI) and Total Camp Readiness Assessment (TCRA) conducted in May by 30 NCR, demonstrating proficiency in training and organizational skills. The Armory also played a major role in the successful completion of the Immediate Superior In Command (ISIC) 3M inspection by providing technical proficiency and accurate records keeping.

The Armory proved to be a critical component of NMCB FOUR’s mission ready posture in PACOM. The staff worked tirelessly to maintain 100% operational readiness of the weapons systems and provided readiness enhancing training opportunities to Okinawa main body personnel with SCW/EXW sessions, Conflict Kinetics simulator and two live fire ranges.

<b>AMMUNITION UTILIZATION REPORT</b>		
<b>NACL</b>	<b>Type</b>	<b>Amount</b>
<b>AA68</b>	<b>5.56mm SR</b>	<b>2,520</b>
<b>A363</b>	<b>9mm M882 Ball</b>	<b>3,000</b>
	<b>Total</b>	<b>5,520</b>

## COMMUNICATIONS DEPARTMENT

The NMCB FOUR Communications Department (S6 shop) overcame several challenges, including a non-operational satellite communications system critical for Command and Control (C2) in the event of a 48 hour MCO or HA/DR response, with deficiencies identified for both the Ruggedized Deployable SATCOM (RDSAT) and Tactical Data Network (TDN). However, through proactive efforts and technical know-how the issues were resolved to restore full mission capability for communications equipment. Additionally, SIPR services through the TDN were established to enable the use of classified email services in the field and additional assets were made available for use within the command.

The initial battalion RDSAT/TDN operational test was incomplete due to faulty components and issues with the distant end provider; therefore, a CASREP was submitted. Operational tests revealed RDSAT hardware issues and a locked port on the distant end provider. The RDSAT satellite dish had faulty bolts on the feed cone which degraded the signal by allowing too much movement when tracking the satellite. Replacement parts were identified and installed with the assistance of NCG ONE/30NCR N6 personnel and Harris contractor technical support. Parts replaced were three friction bolts that held the feed cone tight to the receiver frame. By the third day into the COMDEX in May 2016, the RDSAT was fully operational and tracking the satellite. With the RDSAT operational, the satellite communications system was working in conjunction with the TDN. The TDN was operational but required SIPR ADMIN token accessibility to remain compliant with network requirements. CLO exemption was submitted to ESSC prior to deployment to ensure the TDN was in compliance with network requirements without SIPR ADMIN token access.



**COC Watch Standing training**

Once the RDSAT air-time window closed, the SIPR TDN was connected back into a T1 line for updates and to trouble shoot the CLO ADMIN accessibility. Following two months of dedicated trouble shooting with the SIPR TDN, ESSC was able to find the problem with the CLO ADMIN and fixed the issue in July 2016. This enabled classified email services in the field through the TDN and RDSAT.

In addition to the aforementioned success in NMCB FOUR C2 with the repair of the RDSAT and TDN, NMCB FOUR Communications Department supported the Battalion's day-to-day IT operations. The S6 shop created and processed 413 SAAR-N NIPR ONE-NET accounts and 12 SIPR accounts. All Information Assurance (IA) certificates were completed for ONE NET users. Upon arrival, the Communications Department inventoried 988 line items in the TOA worth approximately \$6.9 million, 174 CCI items, and 142 ONE-NET assets. The NMCB FOUR S6 shop created a service ticket database and processed 171 service tickets, as well as managed cell phone assets to ensure seamless C2 among leadership, qualified two personnel in SCW, conducted 654 hours of maintenance checks, 100 hours of spot-checks on 78 pieces of green gear, and six flawless Controlled Cryptographic Information (CCI) spot-checks. S6 shop supported 22 VTC/SVTC and eight phone conferences. The S6 shop assisted with communication plans for Air Detachment, Embark, Alfa yard, and MOCC during the 48 hour Mount-Out Exercise May 2016. UHF voice communications and RDSAT/TDN data and voice communications were established with Guam and 30NCR/NGC ONE during a COMDEX held in May 2016.



**Camp Shields RDSAT**

## SAFETY

NMCB FOUR created a very robust Safety Organization by training-in-depth and assigning the right personnel to the Safety Organization. As a part of the deployment organization, the Battalion took great care in selecting the Safety Organization to include Detail/Company Safety Representatives, Temporary Power Certifiers, Lock-out/Tag-out Custodians, Fire Wardens, HAZMAT/HAZWASTE Coordinators, Competent Persons and jobsite Safety Petty Officers. The Safety Organization consisted of 87 personnel, almost 15% of the Battalion, acting in various safety related capacities.

In order to accomplish the PACOM mission, the focus of the Safety Program was back to the basics in order to be flexible enough to be safe in modern or austere conditions. All Construction Activity Summary Sheets (CASS) were reviewed by safety before the Activity Hazard Analysis was developed to ensure it matched the CASS. Construction is inherently dangerous and construction in a third-world country can be even more dangerous. The development of a formal Operation Risk Management Program which allowed risk management to become engrained into the mission planning phase was a key to success. Operation risk assessments were developed for areas of operation which are not covered by construction safety manuals. This tool was invaluable during our Field Training Exercise and throughout the PACOM deployment.

The Battalion consistently followed the policies to report all mishaps and near misses and created an environment that encouraged reporting. While this initially increased the number of reports, it provided the ability to get to the root causes of our mishaps and provided insight to the Battalion leadership on where to focus our efforts. The implementation of a Mishap Review Board resulted in a keener awareness of hazards facing the Battalion. This approach reduced Class "C" mishaps by 80%.

	Safety Summary Deployment 16									2014-2015 Deployment
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total	Total
Class A	0	0	0	0	0	0	0	0	0	0
Class B	0	0	0	0	0	0	0	0	0	0
Class C	0	0	1	0	0	0	0	0	1	4
Class D	7	7	11	9	4	7	5	0	50	47
First Aid	0	2	2	1	0	0	1	0	6	1
LLD	46	46	64	71	57	77	42	0	403	515
LTA	0	0	3	0	0	0	0	0	3	9
	<b>TOTAL MISHAPS</b>								<b>57</b>	52

	On Duty Safety Summary Deployment 16									2014-2015 Deployment
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total	Total
Class A	0	0	0	0	0	0	0	0	0	0
Class B	0	0	0	0	0	0	0	0	0	0
Class C	0	0	0	0	0	0	0	0	0	4
Class D	2	5	5	6	2	5	4	0	29	17
First Aid	0	2	2	0	0	0	1	0	5	1
LLD	13	32	50	54	12	28	28	0	217	235
LTA	0	0	0	0	0	0	0	0	0	9
	<b>TOTAL MISHAPS</b>								<b>34</b>	22

	Off Duty Safety Summary Deployment 16									2014-2015 Deployment	
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Total	Total	
Class A	0	0	0	0	0	0	0	0	0	0	
Class B	0	0	0	0	0	0	0	0	0	0	
Class C	0	0	1	0	0	0	0	0	1	0	
Class D	5	2	6	3	2	2	1	0	21	30	
First Aid	0	0	0	1	0	0	0	0	1	0	
LLD	33	14	14	17	45	49	14	0	186	280	
LTA	0	0	3	0	0	0	0	0	3	0	
							<b>TOTAL MISHAPS</b>			23	30



# **CHAPTER V**

## **INTELLIGENCE**

## INTELLIGENCE OVERVIEW

The Intelligence Department (S2) produced over 100 intelligence, geo-political, protest and weather products in support of various exercises, projects, CCAD sites, Det sites, staff and command leadership, while directly supporting 579 NMCB FOUR personnel deployed throughout the Pacific Command (PACOM) Area of Responsibility (AOR). Additionally, S2 Department supported AOR FORMICA capabilities/requirements during five detachment swings to CCAD deployed sites, greatly enhancing situational awareness within the Battalion and the Intelligence Community (IC). Lastly, S2 Department collaborated with III MEF, 3d MLG G-2, 1st MAW G2, 3D Intel Battalion, NGA, NCIS, CTF 76/75 and 18 OSS/IN in order to leverage capabilities, facilitate greater intelligence sharing within the IC in Okinawa and provide key situational awareness through the use of multiple sources.

## PRODUCTS/PRODUCTION

The S2 Department produced 26 weekly Battalion Update Brief's (BUBs), 26 weekly Intelligence Summaries (INTSUMs), 30 protest updates and over 40 typhoon updates, enabling the Battalion to be mission ready for Major Combat Operations (MCO) by providing possible weather impacts to operations, force protection concerns and key situational awareness of potential threats to 579 Battalion personnel. S2 Department produced several intelligence products in support of two Operational Planning (OPLAN) briefs, to include possible MSRs/ASRs, airfield BDA, threats to NCF and enemy capabilities/limitations, providing command staff the ability to effectively plan for Major Combat Operations (MCO) in theater. These efforts led to the S2 Department receiving numerous Bravo Zulus from our counterparts and higher headquarters. Additionally, S2 Department provided 14 country briefs from the Center for Language, Regional Expertise and Culture (CLREC) to the Det OICs/AIOCs, increasing the Battalions overall knowledge of cultural differences, while establishing relationships with the host nations in an effort to win the hearts and minds of the local populace.



**In addition to his duties and responsibilities as the S2 LPO, IS2 Brown also obtained his Seabee Combat Warfare and Expeditionary Warfare qualifications during deployment, and was recognized as Junior Sailor of the Year for the Battalion.**

S2 Department processed 50 Personnel Recovery Isolated Personnel Report (ISOPREP) during deployment, enabling the Battalion to maintain 100% competition of this mandated requirement. S2 Department reviewed and/or recommended 54 Travel Tracker/IATPs for Pre-Deployment Site Surveys, Command triad detachment swings, 11 exercise movements for over 100 personnel, and various other staff code movements throughout the PACOM AOR, directly contributing to the successful completion of 11 exercises during deployment. Additionally, S2 Department reviewed over 100 OCONUS leave/travel requests for the Battalion, ensuring that all USPACOM requirements were met for official and non-official OCONUS Travel within the PACOM AOR without degradation to mission success. Lastly, updated Annex B of the homeport Operation Order (OPORD), establishing clear guidance/expectations of the S2 Department during homeport.

## EXERCISE SUPPORT

During Exercise Komodo 16 (MNEK), S2 Department provided intelligence support, threat briefs and cultural awareness training to 12 Detachment personnel, facilitating NMCB FOURs participation in this joint exercise with Association of Southeast Asian Nations (ASEAN) countries, aimed at building relationships while developing interoperability between countries involved. Additionally, S2 Department collaborated with CTF 75 in order to support/facilitate FORMICA reporting requirements in theater. While participating in Exercise Cooperation Afloat Readiness and Training (CARAT) 16, S2 Department provided intelligence support and cultural awareness training to 67 Detachment personnel, facilitating the successful completion of this bilateral naval exercises between the U.S. Navy, U.S. Marine Corps, and the armed forces of Bangladesh, Brunei, Cambodia, Indonesia, Malaysia, the

Philippines, Singapore, Thailand and Timor-Leste. Lastly, S2 Department collaborated with III MEF and 3D Intelligence Battalion for various intelligence support and country products during the exercise.

During Exercise Balikatan 16, S2 Department provided intelligence support, threat briefs, FP products and cultural awareness training to 48 Detachment personnel, enabling the Battalion to be effective during this annual Philippine-U.S. military bilateral training exercise. Additionally, S2 Department collaborated with III MEF and 3D Intelligence Battalion for various intelligence support, force protection, geo-political and country products during the exercise. While supporting Exercise Pacific Partnership 16, S2 Department provide intelligence support and cultural awareness training to 60 Detachment personnel, keeping Battalion personnel abreast of possible threats/FP concerns during this humanitarian and civic assistance mission that is conducted with and through partner nations, non-governmental organizations and international government agencies, which is geared towards executing a variety of humanitarian civic action missions in the Pacific Fleet AOR. S2 Department also provided threat briefs and cultural awareness training to 29 Detachment personnel during Exercise Key Resolve/Foal Eagle 16. Lastly, during the Battalions Movement Exercise (MOX), S2 Department developed/produced map products, threat briefs, cultural awareness briefs and realistic COA scenarios in support of Air Detachment, directly contributing to a successful 48 hour MOX and the Battalions overall certification.

### **TRAINING**

The S2 Department participated/attended weekly intelligence training with the 18th OSS/INA on Kadena AFB, establishing a rapport with our IC counterparts while maintaining our in-rate knowledge and proficiency. During the Battalions CPX exercise conducted S2 watch standing, facilitating the qualification/training of eight Sailors. Lastly, S2 Department provided training on Personnel and Information Security, Counter Intelligence and Operational Security (OPSEC) to over 100 personnel, directly contributing to the commands overall mission reediness.

### **CHALLENGES**

The availability of map data/commercial imagery was an initial challenge however, linking up with our IC counterparts on the island we were able to get the support, training and products that we needed in order to effectively execute the mission. Additionally, the availability of SIPR assets poses an additional challenge, but again we were able to offset this deficiency by leverage our IC counterparts in addition to bringing up the TDN network. Lastly, transportation between the various sites on the island was a challenge that was easily overcome through effective planning/coordination to ensure availability of transportation resources.

### **COORDINATION**

During deployment the S2 Department collaborated with III MEF, 3d MLG G-2, 1st MAW G2, 3D Intel BN, NGA, NCIS, NEIC, CTF 76, CTF 75 and 18 OSS/IN. The 3D Intel BN was able to assist with various intelligence products for IPOE. S2 Department was able to provide I&W, FP concerns and classified briefings of potential threats to remote CCAD/Det sites by leveraging NCIS assists in the AO. NGA was able to provide map data, imagery products and training to support Battalion operations. Additionally, S2 Department was able to utilized NEIC and local marines to support FORMICA reporting requirements in theater. Lastly, S2 Department coordinated with the CCAD/Det Site OICs throughout the PACOM deployment, ensuring the OICs were abreast of the latest threats/FP concerns that could impact their personnel and overall mission success.



# **CHAPTER VI**

## **LOGISTICS**

## SUPPLY

The battalion Supply Department, consisting of 35 personnel, was accountable for the proper management of all logistics during the dynamic PACOM deployment, ensuring full logistics support for operations in Okinawa, Japan and across 14 geographically dispersed Detail sites. Responsibilities included Table of Allowance (TOA) management, Defense Travel System, Automotive Repair Parts, Budget, Food Service, Consumable Store Room, Central Tool Room, and Material Liaison Office. During the deployment, the Supply Department was responsible for an OPTAR/Travel budget in excess of \$6M. The Department took several initiatives during the deployment to identify areas for improvement regarding supply effectiveness and areas of improvement in parts processing between Supply Department and Alfa Company. The development and execution of RPPO and Supply Expeditors training for both Supply and Alfa Company personnel yielded an increase in efficiencies in Automotive Repair Parts ordering and processing. The teamwork between Alfa Company and Supply greatly impacted command efficiency, leading to a decrease in open requisitions at Camp Shields from 857 down to 447 open requisitions in a three month period. The Supply Department successfully directed and supervised 100% battalion non-CESE TOA inventory in just less than two months, ensuring mission readiness for construction operations and Major Combat Operations. At the end of deployment, the Department conducted a successful RIP TOA which included the containerized NMCB Table of Allowance consisting of 179 Tricons worth in excess of \$67M, two warehouses, three barracks facilities, and galley operations at Camp Shields.

The Government Commercial Purchase Card (GCPC) team worked to revitalize the deployed credit card program, reducing the amount of unnecessary purchases by 50% in the first month of deployment. Open Purchase Requests (OPRs) were thoroughly screened and guidance and training were provided to Repair Parts Petty Officers (RPPOs) to maximize the appropriate use of main supply channels. These efforts received a BZ from 30 NCR Total Camp Readiness Assessment staff.



**Consumable Storeroom**

The Consumable Storeroom (CSR) warehouse was made more efficient through improved organization, including the storage of like items together and discarding of unusable items. The CSR LS reorganized the storeroom, allowing for more accurate inventories, increased efficiency, and better ease of movement. The team managed a stock of items worth \$100,000 and procured \$99,216.14 worth of high-demand consumables for Battalion use. This included \$32,000 in lumber for approach shoring, directly contributing to the MCO readiness of the Battalion.



**Automotive Repair Parts**

The Supply Department Automotive Repair Parts (ARP) team worked tirelessly to improve inventory, receipt, storage, and issuing of parts. Eleven pallets of excess ARP parts pulled from shelves The ARP team began the process of inventorying and sending to DRMO the excess parts.

NMCB FOUR Supply Department completed the installation of the Integrated Barcode System (IBS) at Camp Shields and conducted all necessary training. This is the first integration of the receipt processing scanning system on camp.

In total, 1,850 line items were inventoried with 99% validity. 990 parts were issued from stock to Alfa Company in support of CESE readiness.



**Small Arms Protective Insert (SAPI) Plates**

4,713 SAPI plates were turned over to Supply. 442 were scanned immediately to ensure Air Det mount-out readiness. 906 plates were delivered to the facility for UID labels. 1,112 plates previously scanned in 2011-14 were analyzed for re-inspection. The remaining plates were inventoried and organized for scanning pending the requisition of UID labels by the scanning facility.

**Financials**

The financial team processed 1,906 overall requisitions in the R-Supply system with a net effectiveness (total issues / total requests – not carried items) of 90.41% and a gross effectiveness (total issues / total requests) of 51.94%. The lower gross effectiveness is due to not carried items for corrective maintenance requests.

Total Demands Not Carried	811	Gross Effectiveness	51.94%
Total Demands Issued	990	Net Effectiveness	90.41%
Total Demands NIS	105		
Total Demands	1,906		

Requisitions	Estimated Value
ARP (Tires, filters, etc.)	\$757,095.33
Consumables	\$1,106,133.81

### **Defense Travel System**

The DTS team managed a deployment budget of \$3.9M in support of all 580 members of the Battalion through scheduled partial payments and detailed GTCC debt management. This included the processing of 2,124 deployment travel orders, detail swings, exercises, and emergency travel orders while providing outstanding customer service.

### **Defense Reutilization Material Office (DRMO)**

The Supply team worked diligently to prepare the expenditure of 1,250 line items through DRMO, clearing unneeded parts, tools, equipment, and materials from battalion spaces and recouping \$1,125,679 for the U.S. government.

### **Detail Support**

The department supported detail sites across the AOR with shipments of tools, consumables, and repair parts totaling \$504,642.93.



### **Non-CESE Table of Allowance**



**Before**



**After**

NMCB FOUR took custody of 196 tri-cons of non-CESE TOA. A 100% inventory was conducted of 44 tri-cons identified as necessary for an Air Det mount-out. These tri-cons were segregated in the Air Det warehouse for ease of use in a contingency situation.

A reorganization of building 8222 was undertaken in order to optimize access to the TOA. Miscellaneous items were consolidated and relocated from the Air Det warehouse. This greatly enhanced maneuverability and efficiency in the space. TOA from years of accumulation was identified, sorted, and disposed of or distributed to the proper location. The TOA modules were reorganized into a logical and efficient layout, maximizing the use of space and minimizing the effort required to inventory materials. The department also worked with 30 NCR to standardize the layout and space utilization for all future battalions.

By the end of deployment, all 196 tri-cons were inventoried with updated paperwork, seals, and seal logs.

### **Postal**

The Supply department greatly boosted Battalion morale throughout deployment, distributing 1,865 packages and 405 letters to Seabees. The postal team also managed 155 items of official mail and correspondence.

## Barracks

Food service personnel managed living accommodations for 250 Sailors in six buildings, including the turnover of personnel, monitoring trouble call response, and TCCOR readiness in spaces. Supply coordinated the berthing for 432 personnel on camp during turnover between battalions.

## Food Service

130,000 well-balanced meals were served to the Battalion at Camp Shields Galley. The food service team managed an average of \$200,000 in stores with average inventory validity of 99%.

The staff coordinated with other camps across the island to provide the best service possible to Seabees working off site. To boost morale, the food service team hosted monthly birthday meals, including New Orleans and Asian themes.

NMCB FOUR worked closely with NECC to ensure that the MRE inventory on the books was correct. A complete inventory of MREs at Camp Shields and detail sites was conducted during the initial phase of deployment.

It was concluded that the CCAD sites have more MREs than needed. With the exception of Timor Leste, the sites have insufficient storage means and zero usage which was causing stock piles of MREs to deteriorate over time with the potential to expire before being used. NMCB FOUR began the process of returning MREs to Camp Shields to be inspected and re-entered into rotation. Cambodia will retain 48 cases, Panay will retain 63 cases, and Palawan will retain 66 cases.

### Timor Leste MREs

Lot #	Test Date	Cases
3311-001	11-16	478

### Panay MREs

Lot #	Date	Alt Lot	Date	Total
3311-001	11-16	84983	10-21-13	145
3311-001	11-16	84542	9-25-13	48

### Palawan MREs

Lot #	Date	Alt Lot	Date	Total
3311-001	11-16	84983	10-21-13	126
3311-001	11-16	84542	9-25-13	72
3325	11-16	N/A	N/A	22
3324	11-16	N/A	N/A	8

### Cambodia MREs

Lot #	Date	Alt Lot	Alt Date	Cases	Indiv
4240-001	08-17	88560	08-20-14	768	9,216

MREs were maintained on camp for TCCOR preparedness and contingency response readiness. During the summer exercise season in PACOM, many Seabees use the MREs, allowing for good rotation of stock. For exercises, the full stock of MREs on camp, with the exception of TCCOR MREs that were set aside, were used. 2,474 MREs were issued from Camp Shields stock in support of exercises.

## Material Liaison Office / Class IV

MLO was responsible for the procurement of construction materials in support of operations in Okinawa, Japan, 16 exercises at 20 locations, and 14 geographically dispersed Detail sites throughout PACOM and NORTHCOM. Each location and exercise site had its unique challenges from contracting method, availability and quality of local materials, shipping time for material delivery, and material storage and security. MLO overcame these challenges with their thorough understanding of each supported detail site and exercise location and proper advanced planning to meet required delivery dates. Through their meticulous management of Class IV materials, the battalion was provided adequate materials to complete an impressive 24,000 man-days of quality construction valued at \$7.1M during the six month deployment.

During turnover with NMCB THREE, MLO staff successfully accounted for over 2,345 Class IV project line items valued at \$1.6M, \$100K worth of excess material, and achieved a 96.88% validity of all material for which they were accountable. NMCB FOUR MLO came prepared and well-staffed for the turnover process and the deployment tasking execution. In preparation for the turnover and project start up, the MLO Officer, Chief and Leading Petty Officer were sent as part of the Pre-Advance Party, in order to establish a strong



understanding of the Prime Vendor (Supply Core), Fleet Logistic Center (FLC) and Defense Logistics Agency (DLA) best business practices and way forward. The Advance Party completed a 100% inventory based upon records of all Class IV material on hand for eight active projects in Okinawa, as well as collecting inventory of the unit Excess and Camp Maintenance materials.

Material accountability was maintained via both the Project Material Status Report (PMSR) and using 1114 Stock Record Cards (SRC), as per the 4400.3A Seabee Supply Manual. Per a Statement of Agreement established pre-deployment, material issued to project sites was not to be returned to the MLO for turnover. These items were not required to be accounted for during the turnover, due to those items having a status of "ISSUED". The PMSR and 1114 SRCs were both accounted for in turnover.

30 NCR MLO Technician, Jacob Porter was onsite for two weeks during turnover who provided recommendations for more efficient storage of project materials. NMCB FOUR worked during deployment to implement recommendations and optimize storage throughout the entire warehouse, placing current active projects in the front, future projects in the middle and excess and MCD materials in the back so materials were placed in order, according to the BOM serial number and line item number, in order to more quickly facilitate weekly inventory with the intent on speeding the process of turnover with the next relieving battalion. Mr. Porter's after action report and out brief with NMCB FOUR Commanding Officer noted the professionalism and attention to detail of NMCB FOUR MLO staff.

MLO engaged with Supply Core to identify and answer outstanding Material Request For Information (MRFI) in Supply Core's Inventory in Motion (IIM) in an effort to decrease timelines to order and deliver materials. As mandated by 30 NCR, NMCB MLO was to have a goal of an average timeframe of response of 10 days. Overall during the deployment, NMCB FOUR answered 97 MRFI's with an average response timeframe of 7 days. Communication with Prime Vendors and their inability to provide material data sheets in English became an MLO concern, as they would send a sheet to see if a locally found substitute was acceptable, however the data sheet provided was in Japanese Kanji. When this issue was addressed, the prime vendor started to provide translated sheets to NMCB instead of waiting for the NMCB to ask for translation.

Due to the stagnation in a single source logistics method, MLO identified the need to establish an alternative means of material procurement. We investigated two sources utilizing a Buyer's Purchase Agreement (BPA), one thru Fleet Logistic Center and the other thru Defense Logistics Agency. During the first month, it was established that FLC could not support a BPA due to the fact they had previously established one that was not utilized in the past. There was also concern about conflicted interest of a Prime Vendor in place previously. In mid-May, DLA was able to establish a BPA, however they required that the Prime Vendor communicate that it would not be able to meet either required delivery date (RDD) and pricing timelines in order for DLA to utilize the BPA. Once the DLA-BPA was established, it was determined that a BOM needed to be procured thru this process in order to validate the process and establish a reliable baseline for time. When one of the projects had an unplanned BOM due to a waterline break, NMCB FOUR was able to submit for execution a 5 line item BOM for repair materials. Overall thru the process, the BPA was able to deliver all 5 line items within 48 days at the cost of \$1,538.23. However, all

items were very easily procurable found on the local market and were simple items (construction fill, sand, asphalt and two copper fittings). In the opinion of the NMCB FOUR MLO, it is felt that a more comprehensive and complicated BOM be processed thru the DLA-BPA prior to this being considered a primary source of procurement.

During the first two months of deployment, MLO also communicated the need for DLA to clarify two areas in the Supply Core Contract SPM8EG-14-D-0001, MRO Japan Region in regards to Delivery/Distribution. NMCB FOUR requested the DLA Troop Support Forward Logistic Specialist clarify with the prime vendor in regards to the ability to support routine delivery, as well as emergency delivery. The first item was a definition of the term “Common Off The Shelf Material” (COTS), which the prime vendor would not provide written clarification of the term in the contract. NMCB defines “off the shelf” as material that neither requires design nor fabrication, but can be found on the shelf at any commercial material supply store. The second area of contest was in concern of the delivery timeframe. Per the contract, “Off the Shelf Material not available in Japan/Okinawa in a routine status is expected to be delivered in 60 calendar days after as sales order acknowledgement (SOA) was sent to the NMCB. At the time, Supply Core provided quotes and delivery timeframes for JK10-826 Sevedore Warehouse. Of the 180 line items, only three met the 60 day delivery timeframe. The average delivery of all items was 86 days, with the largest being quoted at 186 days for delivery. To date, neither Supply Core nor DLA has been able to provide a written response to this issue.

During turnover at the completion of deployment, NMCB FOUR MLO staff successfully accounted for 2,292 Class IV project line items valued at \$783,571.53 and achieved a 100% validity of all material for which they were accountable. NMCB FIVE MLO came prepared and well-staffed for the turnover process and the deployment tasking execution. In preparation for the turnover and project start up, the MLO Chief, Leading Petty Officer and Record-keeper were sent Pre-Advance Party. This allowed NMCB FOUR to pass on an established strong understanding of the Prime Vendor (Supply Core), Fleet Logistic Center (FLC) and Defense Logistics Agency (DLA) best business practices and way forward. The advance party completed a 100% inventory based upon NMCB FOUR records of all Class IV material on hand for six active projects in Okinawa, as well as collecting inventory of the unit Excess and Camp Maintenance MCD materials. At the end of NMCB FOUR’s deployment, three projects were completed and delivered to the customer JK09-813, JK06-838 and JK09-815.

During the course of the deployment, from March 2016 until October 2016, NMCB FOUR procured 31 BOMs, for a total of 469 line items valued at \$602,187.43, in support of Six Construction Projects. Overall, NMCB FOUR MLO managed over 2,800 construction line items valued at \$2.1M.

### **Central Tool Room (CTR)**

MLO completed a joint 100% inspection of the inventory at turnover. The CTR is an unsupported Augment TOA asset, completely independent of the TOA. 30 NCR TOA Manger, Mr. Dave Crowell and Mr. Manuel Martinez, the 30 NCR Non-CESE TOA Custodian, were present during the turnover and noted corrections to be made during NMCB FOUR’s deployment cycle, including a refresh of the Master Tool Kit Inventories or 1114 Stock Record Cards.



During the deployment, NMCB FOUR placed six tool orders, ordering 1,663 line items, valued at \$706,462.17. A majority of the orders were to replace existing worn tools, replenish consumables in kits or replenish shortages. CTR personnel worked diligently on deployment to identify and correct 602 discrepancies found in the Augment Non-CESE TOA tool kits with a shortage valued at \$45,523.11. NMCB FOUR ordered and replenished these shorts to ensure complete and fully functional tool kits were maintained ready for MCO and HA/DR response. NMCB FOUR reinstated the usage of the Master Tool Kit Inventory folders with each kit, documenting all shortages and all inventories completed by tool custodians during the deployment. Additionally, Sets, Kits and Outfits (SKO) were added to each inventory folder, along with any applicable user manuals.

As a 3M work center, CTR continued to make improvements throughout the deployment, mostly due to a Force Revision in April 2016. This increased/decreased the amount of tools in maintenance from 82 to 56. Additionally, during the deployment NMCB FOUR received 52 tools which were required to be put into maintenance status. During the deployment the CTR placed 14 gas powered tools into layup status. NMCB FOUR documented, itemized and sent electrical, gas powered and hand tools which were deemed unserviceable to DRMO for disposition. CTR was able to repair 6 gas-powered tools that were marked for DRMO and return them to useable circulation. Any tools that we deemed unsalvageable were stripped of useable parts for future repairs then sent to DRMO.

In order to reduce the inventory of damaged/broken equipment, NMCB FOUR established an aggressive DRMO program during the deployment. During the deployment, CTR personnel sent 51 items valued at \$729,082.28 via DLA Disposition Services eDOCS to the Defense Reutilization Management Office.

In addition to the Augment TOA, the Exercise TOA consisting of 16 containers of tools was maintained onsite. This set contains 781 tool line items and kits and is valued at \$1.2M. Upon the completion of the FY 16 Exercises, NMCB FOUR consolidated the sets of exercise tools and began the process of replenishment. For FY17 and forward, all tools for exercises will be supported from Okinawa from this TOA. The Exercise TOA is stored separate from the Okinawa Non-CESE TOA and Augment Non-CESE TOA.

## **EQUIPMENT MANAGEMENT**

Alfa Company was manned with 45 personnel at Camp Shields attaining a 10:1 CESE to mechanic ratio, which sustained 90% equipment availability for 337 units of CESE valued at \$42M located in Okinawa, and on overall 90% equipment availability for 429 units CESE sourced from the Okinawa TOA across the AOR. To achieve the highest level of readiness for CESE multiple actions were taken. First, NMCB FOUR was able to send and receive 22 units of CESE through the Corrosion Repair Facility at Camp Kinser. The facility continues to produce exceptional results providing the Okinawa TOA with renewed units of CESE ready for tasking. NMCB FOUR also drove to cycle many under-utilized units of CESE at earth-moving construction projects across Okinawa.

The NMCB FOUR projects at White Beach and Camp Hansen required a large number of CESE to be employed on major earth moving projects. The high number of hours utilizing the equipment revealed many material deficiencies, including a number of hydraulic hose line issues. These issues allowed Alfa company to procure a much needed hydraulic hose repair kit which will be heavily used by all battalions utilizing the Okinawa TOA for years to come in addition to self-identifying a local vendor to supply hose lines and fittings, greatly improving shipment times and readiness. Alfa Company also was able to work with the 1-1 Air Defense Artillery Regiment located on Kadena Air Base in Okinawa to obtain additional hydraulic hose repairs and support their unit with weight and material handling movements.



**NMCB FOUR personnel perform complex lift supporting 18CES.**

Other major evolutions conducted by Alfa Company included supporting training exercises with the Jungle Warfare Training Center and operation Valiant Shield. Alfa Company expertly responded to dynamic tasking throughout Okinawa in support of ongoing operations with NMCB FOUR and adjacent units including the Navy Fleet Survey Team and CNFJ Range Operations and Airspace. The crane team conducted a multitude of lifts that directly supported Public Works – Okinawa and 18th Civil Engineer Squadron (CES), through installation and removal of heating and air conditioning units as well as a complex lift of a tail rudder, requiring joint training and planning ultimately saving the 18<sup>th</sup> CES \$200,000 in crane costs. In total, 84 separate crane lifts, including 7 complex lifts, were executed for 350,000 lbs. of equipment and material worth \$47.5M, achieving 252 man days of safe crane operations.

**EQUIPMENT MAINTENANCE REPORT**

**CESE-OKINAWA**

	MAR BEEP	MAR 16	APR 16	MAY 16	JUN 16	JUL 16	AUG 16	SEP BEEP
Active	129	120	165	130	126	129	122	136
IEM	212	212	172	207	211	208	215	201
Total CESE	341	332	337	337	337	337	337	337

**DEADLINE CESE-OKINAWA**

ON DEADLINE	MAR BEEP	MAR 16	APR 16	MAY 16	JUN 16	JUL 16	AUG 16	SEP BEEP
Total	18	13	16	16	21	17	15	14
Percent Availability	91%	92%	91%	89%	88%	89%	89%	94%

**CESE POPULATION – Detail San Clemente Island  
EQUIPMENT AVAILABILITY STATUS – Detail San Clemente Island**

On Deadline	BEEP	MAR	APR	MAY	JUN	JUL	AUG	SEP BEEP
Auto	1	1	1	1	1	0	1	0
Construction	5	7	5	6	4	0	1	0
MHE	1	1	0	0	0	1	1	1
Total	7	9	6	7	5	0	3	1
Total EQ in Service	59	59	60	55	60	62	61	60
% Availability	83%	81%	83%	90%	87%	92%	97%	98%

**PMS TOTALS – Okinawa and supported Details**

Okinawa and DETs	MAR		APR		MAY		JUN	
	RAR	PMS COMP						
TOTALS	99%	1327	98%	1224	98%	1952	99%	1798
JUL		AUG		SEP		TOTALS		
RAR	PMS COMP	RAR	PMS COMP	RAR	PMS COMP	RAR	PMS COMP	
99%	1602	98%	1861	99%	433	99%	10197	

**2K TOTALS – Okinawa and supported Details**

	MAR		APR		MAY		JUN	
Okinawa and DETs	2 K'S OPENED	2 K'S CLOSED						
<b>TOTALS</b>	243	68	162	81	153	238	203	176

	JUL		AUG		SEP BEEP		TOTALS	
Okinawa and DETs	2 K'S OPENED	2 K'S CLOSED	2 K'S OPENED	2 K'S CLOSED	2 K'S OPENED	2 K'S CLOSED	2K'S OPENED	2K'S CLOSED
<b>TOTALS</b>	158	139	226	354	42	115	1315	1043

**MAINTENANCE AND MATERIAL MANAGEMENT**

NMCB FOUR provided quality Maintenance, Material, Management through the 3M system. The Okinawa Workcenters included all TOA sourced out of Okinawa, including equipment in Fuji, Japan, and Palawan, Philippines. Equipment sourced out of the Guam TOA and supporting CCAD sites in Timor-Leste, and the Philippines had their maintenance accounted for in the Guam 3M workcenters. The 3M team accomplished 12,896 preventative maintenance actions resulting in 11,840 man hours of maintenance and an overall 97.07% PMS Performance Rate. All work centers were brought into compliance with COMNECCINST 4790.3B with the realignment of seven work centers codes. The 3M team also passed the ISIC inspection with an above average score.

**Battalion RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED		PREVENTATIVE MAINTENANCE HOURS
<b>MAR-SEP</b>	<b>15929</b>	<b>15892</b>	<b>99.77%</b>	<b>2633</b>	<b>1862</b>		<b>17310.6</b>

**OKINAWA**

**AC01**

**Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	9	9	100.00%	1	0	1	18
Apr-16	20	18	90.00%	2	4	0	47
May-16	27	25	92.59%	5	1	0	20
Jun-16	25	25	100.00%	2	1	4	55
Jul-16	19	19	100.00%	9	7	2	48
Aug-16	18	18	100.00%	2	2	4	45
Sep-16	2	2	100.00%	0	1	5	4

**AM01****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	534	534	100.00%	77	4	66	851
Apr-16	1096	1085	99.00%	50	189	0	1177
May-16	1486	1417	95.36%	52	2	0	1303
Jun-16	1095	1095	100.00%	110	61	22	1202
Jul-16	1024	1023	99.90%	42	54	57	1055
Aug-16	878	864	98.41%	100	30	63	927
Sep-16	26	26	100.00%	20	50	40	102

**AM11****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	46	46	100.00%	3	1	6	27
Apr-16	139	139	100.00%	0	9	0	74
May-16	157	153	97.45%	26	0	0	83
Jun-16	88	88	100.00%	6	18	8	60
Jul-16	86	85	98.84%	13	7	4	58
Aug-16	39	39	100.00%	1	5	13	25
Sep-16	6	6	100.00%	2	5	9	9

**AM21****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	195	195	100.00%	12	2	32	247
Apr-16	401	381	95.01%	17	61	0	520
May-16	671	599	89.27%	57	2	0	545
Jun-16	479	475	99.16%	29	37	18	511
Jul-16	162	160	98.77%	5	22	15	229
Aug-16	135	132	97.78%	41	14	5	192
Sep-16	47	44	93.62%	15	30	14	87

**AM31****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	68	64	94.12%	2	0	12	105
Apr-16	130	124	95.38%	0	14	0	163
May-16	189	185	97.88%	27	0	0	227
Jun-16	114	107	93.86%	0	1	26	132
Jul-16	29	29	100.00%	0	26	0	49
Aug-16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sep-16	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**BE01****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	78	78	100.00%	0	0	0	12
Apr-16	156	156	100.00%	0	0	0	24
May-16	195	195	100.00%	0	0	0	30
Jun-16	156	156	100.00%	0	0	0	24
Jul-16	156	156	100.00%	0	0	0	24
Aug-16	195	195	100.00%	0	0	0	30
Sep-16	78	78	100.00%	0	0	0	12

**CS01****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	98	98	100.00%	2	0	1	74
Apr-16	204	204	100.00%	0	3	0	153
May-16	99	90	90.91%	4	0	0	68
Jun-16	172	167	97.09%	1	0	4	125
Jul-16	190	190	100.00%	1	2	3	143
Aug-16	353	288	81.59%	1	3	1	216
Sep-16	0	0	100.00%	0	0	1	0

**MM01****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	2	2	100.00%	0	0	0	1
Apr-16	4	4	100.00%	0	0	0	2
May-16	11	11	100.00%	0	0	0	5
Jun-16	9	7	77.78%	0	0	0	4
Jul-16	18	18	100.00%	0	0	0	9
Aug-16	0	0	100.00%	0	0	0	0
Sep-16	0	0	100.00%	0	0	0	0

**SC01****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	3	3	100.00%	0	0	0	2
Apr-16	52	47	90.38%	0	0	0	35
May-16	57	45	78.95%	0	0	0	34
Jun-16	22	22	100.00%	0	0	0	17
Jul-16	4	4	100.00%	0	0	0	3
Aug-16	18	18	100.00%	0	0	0	14
Sep-16	0	0	100.00%	0	0	0	0

**WG01****Work Center RAR / Work Candidate**

MONTH	REQUIRED CHECKS	CHECKS PERFORMED	RAR	OPENED WC	CLOSED	WC >30 DAYS	PREVENTATIVE MAINTENANCE HOURS
Mar-16	65	65	100.00%	0	0	0	26
Apr-16	382	382	100.00%	0	0	0	153
May-16	208	208	100.00%	0	0	0	83
Jun-16	248	248	100.00%	0	0	0	99
Jul-16	14	14	100.00%	0	0	0	6
Aug-16	487	487	100.00%	0	0	0	195
Sep-16	49	49	100.00%	0	0	0	20

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## EMBARKATION

In preparation for the PACOM deployment, Embark collaborated with the Supply Department and Personal Property, to collect and track Seabees' unaccompanied baggage (cruise boxes) that were shipped in two 20' ISO Container for MB, one 20' ISO container for Yokosuka and Atsugi, one 20' ISO container for Sasebo, and one ISO container for Chinhae, additionally two triwalls were shipped from MB to Diego Garcia utilizing DLA.

During deployment, the Embark staff managed the movements of arriving/departing Battalion personnel to and from Camp Shields. Embark successfully coordinated the transportation for 304 flights, both commercial and MILAIR, to account for over 2,300 passengers. Embark also tracked and managed 52 ground movements consisting of 249 pieces of Civil Engineer Support Equipment (CESE) in support of projects and exercises located on the Island of Okinawa. The Battalion hosted multiple VIPs during the deployment. Special guests on Camp Shields included Commodore Saum and CMDCM Sharpe (NCG ONE). In addition, a total of 195 IATP/APACS requests for both personnel going on leave or on official business travel outside the AOR were submitted. The staff continually coordinated the transportation of Prospective Gains (PG) and Prospective Losses (PL) to the Battalion, in addition to assisting with VIP guest visits to Camp Shields. Main Body Okinawa received 53 PGs via commercial flights into Naha International Airport and via Air Mobility Command (AMC) flights into Kadena Air Base.

Embark expertly supported NMCB THREE's Delayed Party redeployment movement of 173 personnel back to Port Hueneme, CA. A 30-man working party was employed to transfer baggage from Camp Shields to Kadena Air Base and stow the gear in the cargo hold of the aircraft.



In December, NMCB FOUR conducted a 48-Hour Mount-Out Exercise (MOX) to ensure the Battalion's Embark and Air Detachment organizations maintain operational readiness for any mission tasking throughout the deployment. Prior to the exercise, Embark went through organizational changes due to the homeport org members assigned to details, separating, or transferring. With the majority of the Embark organization fairly new, the staff had to train the new members in Pallet Construction, Weighing and Marking, Arrival/Departure Airfield Control Group (A/DACG), and HAZMAT declaration in order to meet operational requirements and complete the exercise. Even with a new organization, Embark successfully managed the preparation, documentation, and staging of 30 units of CESE and 14 pallets. The exercise was a success, solidifying the Battalion's capability of mounting out the Air Detachment.

In the second half of deployment, the start of the redeployment planning began. NMCB FIVE's Pre-Deployment Site Survey (PDSS) group came to Camp Shields to learn about daily operations on Camp Shields. The visit proved to be of great value to both Battalions, increasing the overall effectiveness of the upcoming BEEP, and RIP/TOA. Embark collected AP and DP numbers from all companies and detail sites prior to the 45-day message submission date. Once the numbers were submitted, they were heavily monitored by Operations Department. Any changes made were based on a one-for-one swap to reflect the numbers sent to Movement Control Center (MCC) West.

In February, the redeployment Cruise Box LOI was issued to ensure Battalion personnel were well prepared for the collection of cruise boxes on 14 March. DLA provided two 20' ISO containers that were used to store and ship the cruise boxes.

For redeployment, the embarkation plan was for 1 LNO and 20 Pacific Partnership personnel to fly commercial to LAX, and Detail San Clemente fly out via NALO to NBVC Point Mugu. Details Diego Garcia, Yokosuka, Sasebo, Chinhae, Palwan, Panay, Timor Leste, and Guam redeployed to Okinawa via NALO flight and then transited with

Okinawa's AP/MB/DP to NBVC Point Mugu via contracted airline. With that plan set, 40 NALO airlift requests to support detail's redeployment to Okinawa and NMCB FIVE Detail's deployment to their respective sites were submitted through JOPES via the 30 day message to support the Unit Movement Plan. The NALO flights were scheduled via mode source AD so they allotted for 48 hours for the execution of the NALO before the contract flight at MB. This also gave the Dets higher priority when flying via NALO.

Embark coordinating the movement of the AP personnel to the airfield through the use of three 44 PAX and one 36 PAX Alfa Company buses and two contracted 44 PAX buses via Public Works Department. NMCB FIVE's AP movement arrived on XX April and on the same day NMCB FOUR's AP movement of 155 personnel departed Okinawa. NMCB FIVE's MB movement arrived on XX April and on the same day NMCB FOUR's MB movement of 152 personnel departed Okinawa. A 35-man working party was employed to transfer baggage from Camp Shields to Kadena Air Base and vice versa. NMCB FIVES's Embark staff provided transportation in support of NMCB FOUR's Main Body DP re-deployment back to Port Hueneme. NMCB FIVE's DP movement arrived on XX April and on the same day NMCB FOUR's DP movement of 185 personnel departed Okinawa.