

CHAPTER 17 – MILITARY EXPANSIONS ON GUAM

The Military has indicated that closure of bases in Japan will result in new Marines and Air Force personnel being relocated to Guam. The plans for this relocation have not been finalized. However, indications are that there may be approximately 8,500 Marines and up to 3,000 Air Force personnel relocated to Guam. It is assumed that these relocations will be complete by 2014.

It is known that relocation of military staff to an area will be accompanied by dependents and support personnel. For purposes of estimating the impact of 11,500 military personnel, a factor of three support persons and dependants was used to yield a total population increase of 46,000.

Plans for housing of the relocation are not finalized. To assess the impact, it is assumed that the associated population increases will be distributed as shown in Table 17-1, Housing Assumptions for Military Relocation. It is assumed that 50% of the increase associated with the Marines will be located at Naval Communications Station (NCS), 25% will locate elsewhere in the North District STP service area (NDSTP), and the remaining 25% will locate in the Hagatna STP service area (Hagatna STP). It is assumed that 100% of the Air Force related increase will occur at Andersen Air Force Base (AAFB).

The potential increase in population is far above those developed in the population projection for the WRMP. The total increase in population on which the needs assessment is based for NCS and AAFB (residential and employed) is 2,863. The net increase in population associated with the relocation noted above could thus be approximately 46,000 people.

Table 17-1 – Housing Assumptions for Military Relocation

Assumed Housing Location	Percent of Total	Net Increase Over Current Projection
Marines		
NCS	50	17,000
Other NDSTP Area	25	8,500
Hagatna STP	25	8,500
Air Force		
AAFB	100	12,000
Hagatna STP	0	0
Total NDSTP	80	37,500
Total Hagatna STP	20	8,500

The projected total increase in population associated with the military relocations exceeds the currently projected increase in Guam population between 2005 and 2025. This can be viewed in two ways.

- Acceleration. On one hand, the current population projections may reflect the relocations, but the increase projected by 2025 should be expected by 2014 as the military relocation accelerates the population increase. The impacts in that case would be primarily the acceleration of expenses necessary to accommodate the increased population by 11 years, and thus a significant impact on rates necessary to support the

accelerated expenditures unless other projects are funded from military or other outside sources.

- Additive. On the other hand, the relocation could be considered as over and above the current population projections. A net increase in military population of the magnitude shown in Table 17-1 would have a significant impact on the water and sewer systems on Guam, as well as on the financial plan. Existing projects would have to be accelerated and new ones would have to be constructed by 2014. The potential impacts are compared here for both cases. Project acceleration or new projects necessary in each scenario are listed.

With the housing location assumptions shown in Table 17-1, there may be nearly a 40,000 increase in population in the NDSTP service area over and above that already projected, and an 8,500 increase in the Hagatna service area. The implications of these increases include increased loading on sewers and treatment plants, and additional demands on the water supply. These potential demands are listed in Table 17-2.

Table 17-2 – Water and Sewer Demands if Military Relocations are Additive to Current Population Projections

Projected Demand	Approximate Cost, \$M
The NDSTP would have to be enlarged by approximately 40 for an average capacity of 16 mgd and a peak capacity of 32 mgd. New clarifiers, biosolids facilities and support equipment will be required. An outfall enlargement may also be required.	\$31
Increased flows from AAFB may result in overflows along the sewer in Marine Drive leading to the NDSTP which is near capacity currently. AAFB expansion may require replacement or a parallel of this line. The peak wet weather flow in this line could increase about 70% requiring a new parallel 24-in line approximately 20,000-ft in length.	\$16
An increase of 17,000 in GWA served area could increase maximum day water demand in the North and Central systems by 4 million gallons per day.	\$45

If the increase in population is an acceleration of the existing projection by 11 years, existing projects in the CIP would also need to be accelerated to support the increase, and to provide adequate “quality of life” for the new residents. The projects that would be accelerated are listed in Table 17-3.

Table 17-3 – Existing CIP Projects Accelerated to Accommodate Accelerated Military Increase

Project Required	Acceleration Scenario
Northern and Central Water Distribution System 2005 Improvements	Funding accelerated two years
Northern and Central Water Distribution System 2025 Improvements	Funding accelerated five years
Northern System GWUDI Filtration Compliance	Accelerated one year, if required
Northern District and Hagatna Sewer Upgrades	Accelerated three years
Northern District STP Biosolids and Treatment Unit Expansion	Accelerated 4 to 5 years

The above presentation reflects possible outcomes when and if the projections for increases in military personnel occur. The intent is to provide a sense of the potential growth impact but is not included in cost estimates contained in the rest of the WRMP. Much of the plan had been

developed prior to gaining this knowledge, and lacking firm information, impossible to incorporate in the plan. A concerted effort by GWA should be made to first obtain specific details on potential impacts and also to work with military and government personnel to provide the funding for infrastructure needs caused by the relocation.