

THE MARIANAS UNIVERSAL GARBAGE COLLECTION TASK FORCE

Chairperson: Gary Sword, UGC Task Force Chair

Submitted to Governor Ralph DLG. Torres pursuant to Executive Order 2021-21

December 27, 2021

ACKNOWLEDGEMENTS

The Universal Garbage Collection Task Force wishes to acknowledge and thank Governor Ralph DLG. Torres for his recognition that achieving a comprehensive approach to improving the Commonwealth's environment requires innovation, dialogue, and collaboration across sectors. Further gratitude is extended to the agencies and departments of the CNMI Government that have aided in the work of the Task Force. These include the Department of Public Works, the Bureau of Environmental and Coastal Quality, the Commonwealth Utilities Corporation, and the Office of Planning and Development, whose staff were instrumental in coordinating meetings and information requests. Special appreciation is given to the Governor's Council of Economic Advisers, under the co-chairmanship of Mr. Jerry Tan, for advancing the issue of Universal Garbage Collection in the CNMI and for the support provided by Council members in the Task Force.

CONTENTS

ACKNOWLEDGEMENTS	2
CONTENTS	3
INTRODUCTION	
TASK FORCE OBJECTIVES	
CURRENT CONTEXT	8
RECOMMENDATIONS	11
COMMUNICATIONS STRATEGY	32
NEXT STEPS	46
APPENDIX A	50
APPENDIX B	52
APPENDIX C	70

INTRODUCTION

In 2020, the Governor's Council of Economic Advisers ("GCEA"), provided Governor Ralph DLG. Torres a proposal to establish a Universal Garbage Collection ("UGC") system in the Commonwealth of the Northern Mariana Islands ("CNMI") as a government policy to alleviate the long-standing issues the Commonwealth has experienced with litter and solid waste management.

This proposal consists of the following elements:

1. Cost of garbage collection services be included into the billing for each residential customer of the Commonwealth Utilities Corporation

CUC's billing database represents the most consistent and wide-ranging avenue to create a single and simplified garbage collection system. This combination of utility provision and garbage disposal is prolific across communities in the United States. Cities like Orlando, Florida and Walla Walla have combined solid waste collection billings to the monthly utility bill and have successfully operated curb side residential pick up of household garbage.

2. Recognition of the limitations on resources of public agencies

The Council recognizes the impact the creation of this additional service will levy onto a public agency, especially during this period. For this reason, the Council believes that existing garbage collection services present in the CNMI can be leveraged through government contracting to support the operation of collection and disposal. Details of this element is discussed further below.

3. Establish garbage collection zones across Saipan

Saipan's roadways and geographic features make the even application of government services across villages challenging. The establishment of zones that are geographically and demographically collocated will aid in the logistical management of garbage collection. By way of recommendation, the creation of 5

zones that replicate the existing electoral precincts would offer a delineation of areas while maintaining an equal accounting for the population within each zone.

4. Permit a Request for Proposal process to operate garbage collection services for each household with current billing with CUC

The CNMI presently has 3 main garbage collection firms operating throughout the island. No one firm has the capabilities, assets, or personnel to provide coverage for the whole island. The criteria for selection of a firm to manage the collection service for a particular zone should include containing customer costs to the appropriate and equally applied level across all zones, the number of existing customers already contained within a particular zone, and a schedule for collection that will accomplish universal collection for all customers within a month's period.

Further, firms should be expected to propose communal garbage transfer stations within each zone that will serve as the respective zone's transfer station.

5. Collect charges for garbage collection through CUC billing processes as a means to fund island-wide garbage collection services procured

In adding garbage collection services to the standardized monthly billing from CUC, the total cost of the bill, should include the cost of procured private services, necessary administrative costs for the agency, and any additional costs required for the establishment of communal transfer stations in the particular zone.

6. Ensure standardized rates, charges and fees across customers and across zones

As the customer base for private garbage collection services increases, along with the respective reduction in administrative costs necessary to manage individual

¹ Subsequent research provides that there are 9 companies licensed to perform collection services. Licensing is provided by the CNMI Bureau of Environmental and Coastal Quality ("BECQ")

customers, the cost per customer should see noticeable savings that can allow for an affordable and equal cost to customers across zones.

This concept built upon the noted successful implementation of a similar system in American Samoa, and recommendations provided the CNMI Department of Public Works "Solid Waste Management Feasibility Study" published in December 2019.²

In providing alternative scenarios to how the CNMI could approach the regulation of the solid waste system and markets listed the following as an option for Government and Private collaboration:

"Contracting out one or more collection areas is a procurement process by which the government has control of waste collection in the area and requests bids or proposals to provide a particular set of services to those customers. Prices are restricted by granting exclusive, long-term customers to the winning bidder or proposer. The locality uses contract compliance to ensure the desired services."

Advancing on this proposal, the CNMI government, through Executive Order 2021-21 established the Universal Garbage Collection Task Force (the "Task Force") on September 28, 2021 to produce a plan for the government that provides a pathway for the establishment of universal solid waste collection in homes and villages.

The Taskforce is comprised of the following organizations:

- Department of Public Works
- Bureau of Environmental and Coastal Quality
- Commonwealth Utilities Corporation
- Office of Planning and Development
- Governor's Council of Economic Advisors
- Saipan Chamber of Commerce

Marianas Universal Garbage Collection Program

UGC Report to the Governor | Page 6

² Digital copy of the report can be found at https://opd.gov.mp/library/reports/2019-dpw-solid-waste-management-feasibility-study/

Mariana Islands Nature Alliance

The Task Force convened on October 12, 2021 and in this initial meeting the Mr. Gary Sword was selected to be the Task Force Chair. Chairman Sword then established Committees on Logistics, Public Outreach, and Finances within the Task Force to undertake its work.

This report provides the findings of the Task Force and lists its recommendations and steps for implementation to the Governor as directed under Executive Order 2021-21.

TASK FORCE OBJECTIVES

The objectives of the Task Force have been outlined by the Executive Order providing for its creation. Namely, the stated goals were:

- Review existing plans, studies, and recommendations for the establishment of a Universal Garbage Collection system for the CNMI
- Reviewing best practices in the region and the United States for the implementation of Universal Garbage Collection
- Providing written plans and recommendations to the Office of the Governor regarding the establishment of a Universal Garbage Collection system to include any necessary changes to CNMI laws, regulations, or policies
- Plans produced by the Task Force shall consider the establishment of a functioning and beneficial public-private partnership in the collection of solid waste and methods for funding such a system
- Plans produced shall also contain the creation of community waste receptacles in the villages and on recreational sites as a component of the Universal Garbage Collection system

CURRENT CONTEXT

Solid Waste finds its way to the Commonwealth's Solid Waste Management Facilities in a number of different means. Waste hauling, or the transference of solid waste from one point to a designated management facility and the CNMI's Administrative Code defines these haulers into one of four broad categories:

Commercial Waste Haulers – Any person, business, or government agency or other entity who transports municipal solid waste generated by others;

Large Commercial and Self-haulers – Any hauler delivering 10 or more tons per day of waste to the facilities on a monthly average;

Small Commercial and Self-haulers – Any hauler delivering less than 10 tons per day of waste to the facilities on a monthly average; and

Self-haulers – Any person, business, or government agency or other entity that transports municipal solid waste generated exclusively by their own operation.

According to data provided by the CNMI Department of Public Works, between December 1, 2020 and November 30, 2021, 30,044 tons of waste was disposed at the Marpi Landfill. Of this amount, 19% was labeled as "Government" waste originating from government agencies, public schools, and related government operations, 9% was labeled as Residential Customers (Self Haulers), and 72% were Commercial Waste Haulers, both cash and non-cash haulers.

		Percentage of Total
Hauler Type	Waste Disposed (tons)	Waste
Commercial Waste Hauler		72%
	21,597	
Self-Haulers		9%
	2,669	
Government		19%
	5,778	
Total Waste Disposed		100%
	30,044	

This data does not account for improperly disposed of waste, which continues to be a human health and environmental concern with serious socio-economic implications. Given that this universal garbage and recycling collection program would provide an opportunity to capture information about waste that may have previously been burned or otherwise improperly disposed of ongoing data collection is recommended. Ensuring cost-efficient waste management practices that maximize dedicated resources (land, personnel, and funding) to achieve improved waste management is necessary to meet current and future resource management needs.

The present policy of the CNMI Government with regard to solid waste is stated in 2 CMC § 3515. This provision states:

"It is declared to be the public policy of the Commonwealth of the Northern Mariana Islands and the purpose of this chapter to provide for collection, disposal, and management systems for solid waste that will protect the health, safety, and welfare of the public and the environment of the Commonwealth."

In fulfillment of this policy, the CNMI placed the responsibilities over solid waste management to be shared between the Department of Public Works and the Bureau of Environmental and Coastal Quality. The Department of Public Works, through its Solid Waste Management Division, is responsible for the proper operation and management of

all municipal solid waste disposal in the Commonwealth, ensuring the protection of health, safety, and welfare of the general public as well as the preservation of the environment.

The Bureau of Environmental and Coastal Quality ("BECQ") Division of Environmental Quality ("DEQ") is the lead agency to regulate solid waste disposal through the powers to:

- (1) Issue nontransferable permits both for the collection and for the disposal of solid waste consistent with the protection of the environment and the public health;
- (2) Monitor performance and enforce the conditions of collection and disposal permits to ensure protection of public health and the environment and to prevent public nuisances;
- (3) Establish rules and regulations to enforce its powers; and
- (4) By regulation assess a fee for permits.

BECQ through these powers manages the registration and regulation of Commercial Waste Haulers in the Commonwealth. Commercial Waste Haulers. To date, there are 9 registered Commercial Waste Haulers performing waste collection services.

Additionally, the Office of Planning and Development ("OPD"), established by Public Law 20-20, is mandated to "harmonize, improve, and assist in implementing comprehensive planning activities at all levels of government" (§ 20173(b)). CNMI's Comprehensive Sustainable Development Plan identifies the long-term goal that, "by 2030, 50% of the recyclable waste stream will be diverted from CNMI's landfill or RCRA-compliant waste management facilities on Saipan, Tinian, Rota, and the Northern Islands with diverted waste composted, reused, or sold to support sustainable waste management systems". Critical mid-term goals to support this effort include that:

- By 2025, OPD and DEQ will support DPW in the development and incorporation
 of the integrated waste management plan with recycling stream tracking and
 reporting protocols in place to support future updates and the PDAC, Legislature,
 and CNMI Governor adopt the plan update; and
- By 2025, OPD, the CEDS Committee, and the Socio-Economic Planning Taskforce will include data collection and consideration of programs to support

exportation of local produce in economic planning and development to enhance economic growth and sustainability

To further support this sustainability objective, DPW and BECQ, as well as representatives from the Offices of the Mayors of Tinian and Rota, and from the U.S. Environmental Protection Agency have been working together as an "Inter-island Solid Waste Management Taskforce" as directed by the Governor, since 2020. Despite challenges and delays due to COVID-19, the Inter-island Solid Waste Management

Taskforce is continuing to address critical long-term planning and capacity needs. Planning efforts highlight "Zero Waste" principles that will be incorporated into the Comprehensive Integrated Solid Waste Management Plan. To further maximize land use at the Marpi Landfill and other waste management facilities, education, outreach, and incentives should be developed to support waste reduction and maximize resource recovery through waste segregation at the source, while also supporting operationalization of markets to promote the circular economy.

Overall, waste collection, littering, and maintaining a clean and healthy environment for residents is associated with a cost. The negative impacts of littering are felt by all residents but the cost for littering is not directly paid for by the producers of this product. Presently, while litter is a product without a price, there is no means to control the amount being produced. In economic terms, this is a prime example of a "negative externality". Common practice in reducing negative externalities is to recognize that the impacts are "paid for" by all residents, and in curing this overproduction, placing costs associated with its production are essential. That is a major component of these recommendations.

Additional recommendations for short-, mid-, and long-term sustainable solid waste management policies and implementation actions will be developed further in the forthcoming Comprehensive Integrated Solid Waste Management Plan.

RECOMMENDATIONS

In reviewing the current structure of solid waste management in the CNMI, the Task Force believes that the present system, and its various and occasionally disparate components, are currently suited for the establishment of such a system. Required to connect the

Marianas Universal
Garbage Collection Program
UGC Report to the Governor | Page 11

elements necessary to gain efficiency and universal accessibility among waste producers is the connection of these components under a unified framework. In developing recommendations for the Office of the Governor, the Task Force assessed the components of the current structure, which include DPW, Commercial Waste Haulers, BECQ, and users of the present waste management system, to determine a structure that would connect them together.

From this review, the Task Force sees a critical linkage that is possible through the utilization and collaboration with the Commonwealth Utilities Corporation ("CUC"). As a preface for the recommendations below, the Task Force wishes to highlight the role of CUC in serving as the mechanism for collecting payments, or fees that would support greater accessibility for solid waste collection services.

CONNECTING CUC WITH UNIVERSAL GARBAGE COLLECTION

As a basis for this approach, charges and services will be guided by active CUC electricity meters for the island of Saipan. The following is the framework for the selection of this approach for implementing this system:

BILLING

In a review of present billing means within private waste hauler services, the means available for the CNMI to provide a monthly charge to customers, and the practices used in other jurisdictions around the United States, the use of the monthly utility billing mechanism provides simplicity, and the opportunity to build upon an existing billing system in directing charges. Each electrical meter is provided with a monthly itemized bill that distinguishes charges for power, water, and wastewater services provided for that month. While legislation would be needed to create mandatory garbage service fees within CUC's billing program, as noted by the 2020 GCEA Recommendations Report, this combination of utility provision and garbage disposal is common and has been successfully implemented in the United States as well as other jurisdictions. Incorporation of household sorting of garbage and recycling can further support goals to develop a cost-efficient program, as some costs could be recovered from recyclable materials, and support the CNMI-wide goal to divert waste from our environmentally compliant and sustainably funded collection facilities. If legislation were passed to support this shift, next

Marianas Universal Garbage Collection Program

UGC Report to the Governor | Page 12

steps to build community buy-in will be supported by a willingness to pay survey and robust outreach and awareness campaign. This would allow for sorting of garbage and recycling at the source, and may provide opportunities to inventive waste reduction, for example, by charging overage fees if the standard pick-up amount is exceeded or fee reductions if it is not.

Example of such a billing can be seen in the following Figures:

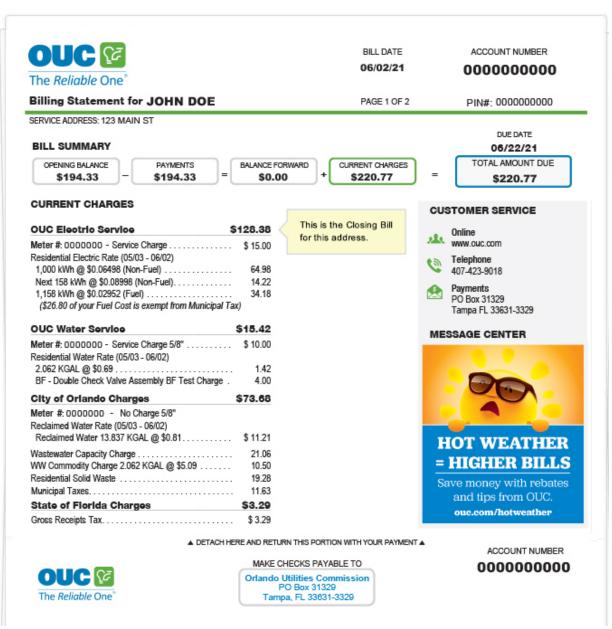
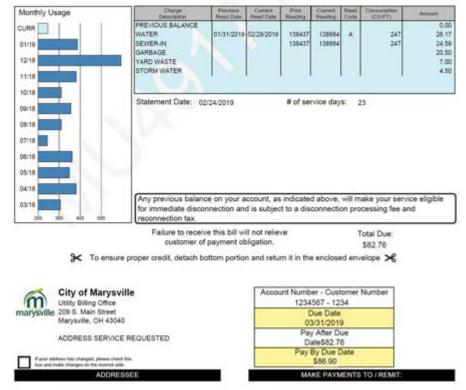


Figure 1: Utility Statement from Orlando Utilities Commission – Waste Collection Services charged under "City of Orlando Charges"







00006042019800023453400000184994

CITY OF MARYSVILLE

209 S. MAIN STREET MARYSVILLE, OHIO 43040-1601

UTILITY BILLING OFFICE

Figure 2: Utility Billing for Marysville Ohio – Waste Collection Services charged under "Garbage" and a separate charge for "Yard Waste"

Marianas Universal Garbage Collection Program

DOE, JOHN & JANE

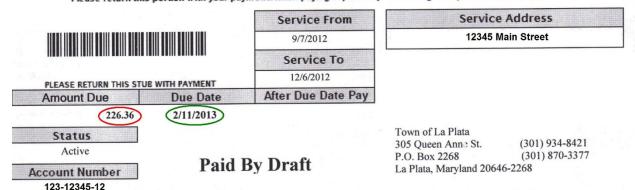
MARYSVILLE, OH 43040-1047

123 ANYWHERE

2/11/2013

10% LATE CHARGE IF PAYMENT IS RECEIVED AFTER 4 P.M. ON

Please return this portion with your payment. When paying in person please bring both portions of this bill.



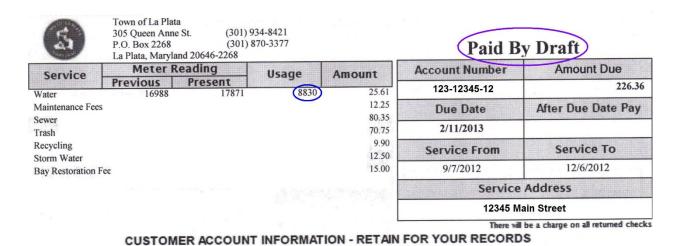


Figure 3: Utility Bill for La Plata, Maryland - Waste Collection Services charged under "Trash"

MEANS FOR COLLECTION

Key within the billing structure of the CUC system is the requirement for full payment of the monthly charges. Should a resident not pay for one component of the bill, while utilizing the service, the entirety of services is suspended.

Marianas Universal Garbage Collection Program

UGC Report to the Governor | Page 16

MEANS FOR ASSESSING HOUSEHOLD SIZE AND CONSUMPTION

The size of the CUC monthly bill corresponds with consumption, either of water, power, or wastewater. Consumption of these services, and the consumption of consumer items is seen by the Task Force to be indicative of household size, budgets, and disposable income levels. Research suggests that this relationship exists to a notable degree.

In a 2020 article in the peer-reviewed journal "Sustainability", researchers found that "The quantities of refuse and recyclable waste generation, as well as residential electricity consumption, business electricity consumption, and water consumption, are correlated." The article further found that "the trend of predicted utility consumption within administrative boundaries could be effectively employed to predict the trends of [Municipal Solid Waste] generation within administrative boundaries, optimize the priority of upgrading current MSW facilities and construct new facilities."

This assumption can be further investigated to determine whether a relationship exists between energy consumption and solid waste production as a means for determining scaled and correlated pricing dependent upon utility consumption. Further, the incorporation of both utility use and solid waste data sets can aid in highlighting critical information on the predicted use and required upgrades to the CNMI's Solid Waste Management Facilities.

CUSTOMER SEGMENTATION

As utility meters are georeferenced by location of the meter on the island, this structure provides a means for the government to segment and zone the island for the purposes of competitively bidding collection zones for private operators to perform collection services. Disaggregation of meters by commercial, residential, and size of consumption may further aid in adjusting zones to ensure equal customer bases per collection zone or waste catchment area. As emphasized by the Consumer Policy Institute and Organization of Waterfront Neighborhoods in the 2000 report, "Taking Out the Trash", in order to maximize environmental, economic, and social sustainability of our waste systems, it is important to ensure equitable and accessible management approaches that maximize waste prevention and recycling which are cheaper, more environmentally sound, and can

³ Sung, H.-C., Sheu, Y.-S., Yang, B.-Y., & Ko, C.-H. (2020). Municipal solid waste and utility consumption in Taiwan. Sustainability, 12(8), 3425. https://doi.org/10.3390/su12083425

result in social benefits for low- and middle-income households. Long-term management approaches should be evaluated in terms of whether they are economically viable, environmentally sound, and socially just. Impacts should be avoided across these pillars of sustainable growth and any unavoidable burdens of waste management must be equitably allocated among all communities and income groups.⁴

RECOMMENDED APPROACHES

The Task Force in its deliberations and research wish to provide two possibilities for achieving a successful implementation of a Universal Garbage Collection System. These approaches are similar with key differences in implementation that have separate requirements to achieve. Listed below are the recommended approaches and details for consideration.

RECOMMENDATION 1. ZONED IMPLEMENTATION APPROACH

This approach closely mirrors the recommendation provided by the Governor's Council of Economic Advisers, with adjustments. This approach places the Solid Waste Collection responsibilities either within the Commonwealth Utilities Corporation ("CUC") or CUC in combination with the Department of Public Works ("DPW"). In this CUC, assumes the responsibility of including solid waste collection charges onto the monthly utility billing of customers and collecting such payments as a course of monthly billing. These charges will provide a share to CUC for the purposes of including and maintaining the billing system, and the remainder will be used as payment for services to selected contractors performing the collection services.

This approach requires a number of adjustments to the current mode of operation for CUC, DPW, and commercial waste haulers. These elements are discussed below.

COLLECTION ZONES

As reported by CUC there are 12,000 active meters throughout Saipan. Divided If these divided evenly among five collection zones, there are approximately 2,400 meters per zone that would be eligible for collection services. Alternatively, waste catchment areas

Marianas Universal Garbage Collection Program

⁴ Warren, B. (2000). Taking out the trash, a new direction for New York City's Waste, Organization of Waterfront Neighborhoods and Consumer Policy Institute / Consumers Union.

could be identified through ongoing comprehensive solid waste management planning efforts that could support further assessment of housing or population densities and waste generation characteristics. CUC, DPW, and Solid Waste Taskforce members could continue to assess available data to make additional recommendations here, or one approach could be selected and tested with a robust data collection component to support recalibration of collection zone areas and approaches as needed as the program and community continue to grow.

ALTERNATIVE CONSIDERATIONS

In implementing this approach, the Task Force envisions it can be accomplished in one of two ways. The first Alternative ("Alternative 1") places the contractual responsibilities within DPW, utilizing CUC billing platforms for customer charges. The second alternative ("Alternative 2") seeks the re-inclusion of Solid Waste Collection into the umbrella of utilities services under the CUC. These alternatives are discussed further below.

ALTERNATIVE 1 (DPW FOCUS) – IMPLEMENTATION

Alternative 1 of this approach envisions a billing and waste management agreement between DPW and CUC supported by a public-private partnership arrangement. The Task Force believes Universal Garbage Collection can be achieved through the following the proposed action items:

1. Establish formal contract between the Commonwealth Utilities Corporation and Department of Public Works

The Task Force proposes that a contractual relationship be developed between the Commonwealth Utilities Corporation and the Department of Public Works for the purpose of establishing a linkage between the two entities for the purposes of information sharing and the incorporation of charges into monthly utility billings. In this, DPW would contract CUC to perform the service of including charges into the monthly utility bill, and payment would be made in administrative costs derived from monthly payments.

2. Establish Regulations within the Department of Public Works to assess fees for the collection and disposal of solid wastes in the CNMI

Marianas Universal Garbage Collection Program Under 2 CMC § 3514, the Department of Public Works is granted the authority to "Assess fees by regulations for the collection and disposal of solid wastes." And that the Department is authorized to contract with any person for performance of solid waste collection or disposal duties of the Department of Public Works.

Through these authorities, the Task Force proposes that DPW assess a municipal solid waste collection fee that is applied to all residential, commercial, and government units as determined by customer information presented by the CUC.

3. Designate Official Collection Zones

In reviewing the customer meter information provided by CUC, DPW would be tasked with the establishment and publication of at least 5catchment areas or Collection Zones across Saipan, and separate Collection Zones for the islands of Tinian and Rota. Zones may be equally populated or be adjusted dependent upon location and/or proximity to a Solid Waste Management Facility. Unless special pick-up days are established for household hazardous waste, this program should be paired with education and outreach on at the

source sorting to avoid waste stream contamination and properly manage collected garbage and recycling materials.

4. Assess Costs, Obtain Funding, and Initiatelssue a Request for Proposal ("RFP") for Operation of One or More Collection Zones

Because neither DPW or CUC currently have a waste management fleet, to support this approach, a public-private partnership arrangement may be crafted where responsibilities are shared, and performance is measured for each party. Once costs have been assessed and appropriate funding has been allocated, utilizing the procurement regulations of the Commonwealth government, DPW would collect information related to each zone, describing the number of residential, commercial, and government units in each zone, along with maps and geographic delineations of the zones and publish a formal Request for Proposals (RFP) for solid waste collection services for a specific zone. The RFP should request for weekly collection services in the zone for each customer, a proposal for collection schedules, means for providing collection services to residences

or businesses on secondary roads, and collection schedules for community receptacles or the inclusion of community receptacles where there are none, with a robust data collection and information sharing component to support further growth of the program.

Obtaining dedicated and sustainable funding is critical to support this program. Based on the number of current households it is possible to estimate how many households would be covered by this proposed program. Including commercial entities at a slightly higher collection rate may further help build economies of scale to support a sustainably funded program. After conducting a willingness to pay survey it would be possible to assess what costs the community believes is reasonable or is able to pay for this service that is critical for public health and welfare. The CNMI could seek grant funding or request local funding allocations to cover the difference between the cost customers are willing to pay and the estimated program costs to create an account that would facilitate a pilot project to initiate this UGC program. Ideally, funding would also be allocated for a feasibility analysis that could assess data from the pilot project and suggest modifications as needed with the goal to achieve an economically sustainable UGC program.

5. Mobilization Period

Following the selection of a contractor to perform services for a given Collection Zone, the contractor will be given a time period to assess the zone, determine bin locations and sizes per household or business, and be given a timeframe to mobilize its internal resources to perform weekly collection services. Firms should be expected to provide collection data and work with CNMI's Inter-island Solid Waste Management Taskforce to assess the viability and costs of communal garbage transfer stations within each zone or waste catchment area that will serve as cost effective transfer stations for materials such as e-waste or household hazardous waste that are not covered by the universal collection program. Given that there are currently no commercial collection providers on Tinian or Rota, it is suggested that universal collection options be phased or assessed further and island-specific approaches detailed more in the forthcoming Comprehensive Integrated Solid Waste Management Plan being supported by the Inter-island Solid Waste Management Taskforce.

During mobilization, restricting inappropriate disposal of recyclables and littering is also necessary to achieve this goal. Therefore, ongoing investment in the Litter Control

Marianas Universal
Garbage Collection Program
UGC Report to the Governor | Page 21

Program led by BECQ and supporting legislation such as cardboard disposal bans, restrictions on single use plastic, and import fees for goods to offset disposal costs, and incentives to reuse materials including construction materials where viable should be considered to support the goal of achieving sustainable, economically efficient, and environmentally compliant waste management systems.

6. Incorporate Charges into CUC Billing

Simultaneously with Step 5, DPW and CUC will coordinate for the inclusion of Solid Waste Collection charges to be included in customer's monthly utility bill. Billing can be uniform across all ratepayers regardless of the number of bins provided to the customer. Should the billing be a uniform charge, it would provide for stability in payment to the contractor and provide a larger funding basis to offset differing usage rates.

7. Monitor Contract Performance and Payment

Once services have initiated, DPW would be tasked with monitoring contract performance and payment to the contractor. It is critical that services provided to customers remains stable, and it is equally critical that payments to contractors are made in a timely manner to avoid negative impacts to the operations of the business. DPW should establish a mechanism for obtaining feedback from customers and a means to relay issues, concerns, or additional needs to the contractor. Contract renewal should be predicated on performance and continued ability to perform the services for a particular zone.

ALTERNATIVE 2 (CUC FOCUS) – IMPLEMENTATION

In Alternative 2 of this approach, CUC would lead UGC implementation. The Task Force believes Universal Garbage Collection can be achieved through the following the proposed action items:

1. Amend Chapter 1, Division 8, Title 4 of the Commonwealth Code to Include Solid Waste Collection

In the initial creation of the Commonwealth Utilities Corporation through CNMI Public Law 04-47, the newly created Corporation was given the mandate of Refuse Collection within its structure. Specifically, the Corporation was tasked with the following:

"The Commonwealth Utilities Corporation shall supervise the construction, maintenance operations, and regulation of all utility services, including power, sewage, refuse collection, telephone, cable television, and water; Provided, that whenever feasible the Corporation shall contract for private businesses to assume its duties with respect to one or more of its divisions."

As originally conceived, refuse collection was determined to be a public utility, and while this requirement and the structure of the Corporation has changed significantly through the years, the concept of solid waste collection as a component of public utility services should be revisited. As such, the Task Force proposes in this alternative to include once more the collection of solid waste into the mandate of the Commonwealth Utilities Corporation, through Legislative amendment of Chapter 1, Division 8, Title 4 of the Commonwealth Code.

Through the inclusion of Solid Waste Collection and the establishment of the Division of Solid Waste Collection in the code, CUC would be the lead agency to coordinate the performance of Universal Garbage Collection across the islands. In this structure, DPW may maintain its responsibility of managing the Commonwealth's Solid Waste Management Facilities (Landfills, transfer stations, etc.), but the collection of solid waste, and subsequent contracting with private businesses, be given a public sponsor.

The Task Force believes this concept aligns with the present structure of the Corporation in those inclusions of solid waste collection into the corporate structure provides for existing allowances to contract for performance of services, the means by which to charge monthly rates to customers, and the existing relationships with customers for this service.

The Task Force has drafted a sample of such an amendment to this report, included in under Appendix A.

2. Designate Official Collection Zones

Marianas Universal
Garbage Collection Program
UGC Report to the Governor | Page 23

Utilizing existing customer information withing CUC, the corporation would be tasked with the establishment and publication of at least 5 Collection Zones or waste catchment areas across Saipan, and separate Collection Zones for the islands of Tinian and Rota. Zones may be equally populated or be adjusted dependent upon location and proximity to a Solid Waste Management Facility.

Alternatively, waste catchment areas could be identified through ongoing comprehensive solid waste management planning efforts that could support further assessment of housing or population densities and waste generation characteristics. CUC, DPW, and Solid Waste Taskforce members could continue to assess available data to make additional recommendations here, or one approach could be selected and tested with a robust data collection component to support recalibration of collection zone areas and approaches as needed as the program and community continue to grow.

This can be done in coordination with DPW.

3. Assess Costs, Obtain Funding, and Initiatelssue a Request for Proposal ("RFP") for Operation of One or More Collection Zones

Utilizing the allowance for CUC to contract with the private sector to assume its duties with respect to the newly established Solid Waste Collection division, CUC would collect information related to each zone, describing the number of residential, commercial, and government units in each zone, along with maps and geographic delineations of the zones and publish a formal Request for Proposals for solid waste collection services for a specific zone. The RFP should request for weekly collection services in the zone for each customer, a proposal for collection schedules, means for providing collection services to residences or businesses on secondary roads, and collection schedules for community receptacles or the inclusion of community receptacles where there are none.

4. Mobilization Period

Following the selection of a contractor to perform services for a given Collection Zone, the contractor will be given a time period to assess the zone, determine bin locations and sizes per household or business, and be given a timeframe to mobilize its internal resources to perform weekly collection services. As with Alternative 1, firms should be expected to provide collection data and work with CNMI's Integrated Solid Waste Management Taskforce to assess the viability and costs of communal garbage transfer

Marianas Universal Garbage Collection Program stations within each zone or waste catchment area that will serve as cost effective transfer stations for materials such as e-waste or household hazardous waste that are not covered by the universal collection program. Given that there are currently no commercial collection providers on Tinian or Rota, it is suggested that universal collection options be phased or assessed further, and island-specific approaches detailed more in the forthcoming Comprehensive Integrated Solid Waste Management Plan being supported by the Inter-island Solid Waste Management Taskforce.

During mobilization, restricting inappropriate disposal of recyclables and littering is also necessary to achieve this goal. Therefore, ongoing investment in the Litter Control Program led by BECQ and supporting legislation such as cardboard disposal bans, restrictions on single use plastic, and import fees for goods to offset disposal costs, and incentives to reuse materials including construction materials where viable should be considered to support the goal of achieving sustainable, economically efficient, and environmentally compliant waste management systems.

5. Incorporate Charges into CUC Billing

Simultaneously with Step 5, CUC will include Solid Waste Collection charges in each customer's monthly utility bill. Billing can be uniform across all ratepayers regardless of the number of bins provided to the customer. Should the billing be a uniform charge, it would provide for stability in payment to the contractor and provide a larger funding basis to offset differing usage rates.

As described in Alternative 1, because neither DPW or CUC currently have a waste management fleet, to support this approach, a public-private partnership arrangement may be crafted where responsibilities are shared, and performance is measured for each party. Once costs have been assessed and appropriate funding has been allocated, utilizing the procurement regulations of the Commonwealth government, CUC would collect information related to each zone, describing the number of residential, commercial, and government units in each zone, along with maps and geographic delineations of the zones and publish a formal Request for Proposals (RFP) for solid waste collection services for a specific zone. The RFP should request for weekly collection services in the zone for each customer, a proposal for collection schedules, means for providing

Marianas Universal Garbage Collection Program collection services to residences or businesses on secondary roads, and collection schedules for community receptacles or the inclusion of community receptacles where there are none, with a robust data collection and information sharing component to support further growth of the program.

Obtaining dedicated and sustainable funding is critical to support this program. Based on the number of current households it is possible to estimate how many households would be covered by this proposed program. Including commercial entities at a slightly higher collection rate may further help build economies of scale to support a sustainably funded program. After conducting a willingness to pay survey it would be possible to assess what costs the community believes is reasonable or is able to pay for this service that is critical for public health and welfare. The CNMI could seek grant funding or request local funding allocations to cover the difference between the cost customers are willing to pay and the estimated program costs to create an account that would facilitate a pilot project to initiate this UGC program. Ideally, funding would also be allocated for a feasibility analysis that could assess data from the pilot project and suggest modifications as needed with the goal to achieve an economically sustainable UGC program.

6. Monitor Contract Performance and Payment

Once services have initiated, CUC would be tasked with monitoring contract performance and payment to the contractor, as well as supporting implementation of the education and outreach strategy in coordination with DPW. It is critical that services provided to customers remains stable, and it is equally critical that payments to contractors are made in a timely manner to avoid negative impacts to the operations of the business. CUC should utilize its existing customer service system for obtaining feedback from customers and a means to relay issues, concerns, or additional needs to the contractor. Contract renewal should be predicated on performance and continued ability to perform the services for a particular zone. Opportunities for grants and other creative funding initiatives should be further assessed and pursued as necessary as sustainable funding models are further developed.

RECOMMENDATION 2. ENHANCED COLLECTION SYSTEM APPROACH

This approach differs in structure from the Zoned Implemented approach but seeks to establish universality of collection through enhancements to existing collection means with incentives to encourage adoption of curbside residential collections in households.

UTILIZING CUC BILLING FOR SOLID WASTE MANAGEMENT FEES

Building off of the concept of utilizing the CUC billing platform to assess customer charges for solid waste collection, this approach proposes an alternative that would place a standard fee for Waste Management onto the monthly billing for CUC customers. This fee would be placed into the Solid Waste Management Revolving Fund operated by DPW.

This fee would incorporate fees associated with the maintenance of the existing Solid Waste Management Facilities in the Commonwealth, but also provide a mechanism for customers to gain access to solid waste collection services and support community outreach and education initiatives described further in the communications strategy recommendations here.

MARKET-BASED SELECTION OF SERVICE PROVIDER

In this approach, collection services are not directly determined by an agency of government. Instead, as a component of the fee, customers will gain access to request waste collection services from any permitted commercial waste hauler without charge. Commercial haulers through agreement with DPW, will provide invoices and customer information to DPW for services performed and receive payment from DPW.

This approach modifies the existing structure of payment for collection services. Where present collections require direct payment to the commercial hauler, payment will instead be provided by DPW through the fees assessed in the monthly utility billing. In this, the market for potential customers is made open for competition among commercial haulers, and existing customers of commercial haulers will remain the recipient of the present company's services.

Marianas Universal
Garbage Collection Program
UGC Report to the Governor | Page 27

For example, should Company A have 2,000 customers prior to the implementation of this approach, they would retain those customers, but instead of each customer making a payment to Company A, the company would provide the listing of customer meter numbers to DPW and request payment. Should a customer no longer wish to continue services with Company A, they can switch to Company B. Company B would in turn add this new customer to their request for payment from DPW.

Should a customer not choose to obtain collection services, they will continue to be charged a fee, which would go into supporting the improvement and sustainability of the present Solid Waste Management Facilities or support greater outreach or mitigation of solid waste issues in the Commonwealth. However, the payment of the fee incentivizes the customer to obtain their collection service, as it has already been paid.

IMPLEMENTATION

1. Establish formal contract between the Commonwealth Utilities Corporation and Department of Public Works

The Task Force proposes that a contractual relationship be developed between the Commonwealth Utilities Corporation and the Department of Public Works for the purpose of establishing a linkage between the two entities for the purposes of information sharing and the incorporation of charges into monthly utility billings. In this, DPW would contract CUC to perform the service of including charges into the monthly utility bill, and payment would be made in administrative costs derived from monthly payments.

2. Establish Regulations within the Department of Public Works to assess fees for the collection and disposal of solid wastes in the CNMI

Under 2 CMC § 3514, the Department of Public Works is granted the authority to "Assess fees by regulations for the collection and disposal of solid wastes." And that the Department is authorized to contract with any person for performance of solid waste collection or disposal duties of the Department of Public Works.

Through these authorities, the Task Force proposes that DPW assess a municipal solid waste collection fee that is applied to all residential, commercial, and government units as determined by customer information presented by the CUC and informed by sustainability and equity principles.

The Solid Waste Management Revolving Fund, as the recipient of the fees collected, has been crafted to assume a structure such as this. 4 CMC § 3551 (b) states that:

"All monies received from direct appropriation, or as payment of fees pursuant to this Act, any tipping fees collected from any Commonwealth solid waste management facility, solid waste user fees assessed directly on residents and businesses, advance disposal fees and any other sources of solid waste management funding, such as federal grants or loans, shall be deposited into the revolving fund. Expenditure authority over the revolving fund is vested in the Secretary of the Department of Public Works. Revolving fund monies shall be available for expenditure without further appropriation and without fiscal year limitations." [emphasis added]

3. Establish a customer database from CUC customer information

In collaboration with CUC, DPW would manage and maintain a customer database to cross reference customers by requests for payments submitted by commercial waste haulers. DPW would be tasked with verifying this information and providing for timely payment for services performed.

RECOMMENDATION 3. SUBSIDIZED PHASED APPROACH

A significant consideration of the Task Force was the impact of additional charges on ratepayers and residents of the Commonwealth that is required for the Universal Garbage Collection system to be fully and successfully implemented. The Task Force believes that the negative impacts of littering and waste generation is a cost that is the responsibility of all residents to share, however, acceptance of this and participation within the program requires time, support, and funding to maximize.

As such, the Task Force recommends as a potential initial phase of a Universal Garbage Collection system, or in combination with Recommendations 1 and 2, the use of federal or local funding to support the mobilization of universal collection without increased costs to ratepayers and customers. The Task Force proposes two alternatives by which the government may subsidize universal collection for a determined period, while establishing longer-term solutions for the solid waste collection system.

ALTERNATIVE 1 – ZONED SUBSIDIZED COLLECTION

This alternative to the Subsidized Phased Approach builds upon Recommendation 1 and relies upon the creation of Collection Zones and the bidding of services to be provided in these zones. The differentiation is that, in lieu of establishing direct charges to ratepayers through the CUC billing system for collection services, federal funding resources (such as those available through the American Rescue Plan Act "ARPA"), be employed to pay for the services for a period of two years.

This alternative would see the selection of collection services for Collection Zones across the island, the performance of collection services, and the participation of private operators without direct expense onto individual ratepayers. During the implementation of this alternative, the government can determine the best means, and perform the structural changes to the CNMI Solid Waste Management system to assume the program following the expiration of funds. This would either involve the full implementation of Recommendation 1, or the continued subsidy of services through local or other sources of funding, such as institution of fees for major contributors to the solid waste stream (i.e. cardboard discussed further in later sections of this report), adjustments to the CNMI Excise Tax collection system, or collaboration with the Marianas Visitors Authority and the intended use of Hotel Occupancy Tax receipts.

ALTERNATIVE 2 – OPERATION THROUGH AN ESTABLISHED ENVIRONMENTAL COUNCIL

Similar to Alternative 1 of this recommendation, this requires the establishment of a Commonwealth Environmental Council that would take on the mandate of managing federal funds toward the establishment of universal collection and operation for the program period.

Marianas Universal
Garbage Collection Program
UGC Report to the Governor | Page 30

The establishment of the Environmental Council is discussed below but may allow for resources and expertise outside of the government to join in establishing the framework for long-term sustainability of the Universal Garbage Collection system through the initial phased implementation presented in this recommendation.

FURTHER CONSIDERATIONS

Given the current financial situation due to the COVID-19 pandemic, a pilot program that assesses costs and willingness to pay may be a prudent next step before full roll-out of an approach that may result in suspension of services. Robust data and customer use and satisfaction surveys could be conducted within waste catchment of collection zones to ensure a well calibrated programmatic approach that can grow with our communities and support further assessment of housing or population densities and waste generation characteristics that will facilitate ongoing comprehensive waste systems management planning.

Sustainability and viability of a collection system would benefit from ongoing data collection regarding quantities of waste, actual costs, and customer satisfaction. Equity considerations such as subsidizing costs for "low-income" households may also help ensure a cost-sustainable program that does not result in unintended hardships to the most vulnerable members of our community. Increasingly popular "pay as you throw" (PAYT) programs, also called unit pricing or variable rate pricing, are often coupled with free recycling and composting services to reduce landfilling requirements and meet solid waste management goals. PAYT models are growing in popularity worldwide and can be paired with universal garbage collection, recycling, composting, and other waste management strategies. Supported by a public-private partnership or use agreement that enables collection service providers to recoup costs and make a profit while encouraging waste reduction, this approach could be further assessed and integrated into a universal garbage collection and waste reduction program.⁵

⁵ See Bilitewski, Bernd. "Pay-as-you-throw – A tool for urban waste management." Editorial. Waste Management 28 (2008): 2759; and Kelleher, Maria, et al. "Taking out the Trash: How to Allocate the Costs Fairly." C.D. Howe Institute Commentary 213 (2005): 1-22.

COMMUNICATIONS STRATEGY

Necessary toward the success of these recommendations is the creation and implementation of a comprehensive outreach and communications strategy that will encourage public awareness of the need for prudent disposal of solid waste and the adoption of habits that will reduce the instances of littering and illegal dumping of waste.

Residents, businesses and organizations within the CNMI each have a critical role in managing their solid wastes and it is essential that communications with them be well considered and coordinated so that this program and the whole system functions properly. Comprehensive education should be conducted throughout the CNMI so that people are informed of the need to reduce, source separate and recycle solid waste.

THE ISSUE

Universal Garbage Collection is an entirely new concept for the residents of The Marianas. Currently, residents utilize a neighborhood collection system, when a representative of several households collects the waste, or a household collection system when a family unit manages their waste. Though many households have trash collection services, there are still those that need to physically handle and cart their garbage to a collection facility regularly. This requires a personal motor vehicle to be able to responsibly discard garbage, which is a challenge for some residents.

On Rota and Tinian, solid waste collection and disposal are a challenge as there are no commercial trash collection services on the islands. Families and businesses are tasked to bring their garbage to the landfills with limited sorting, recycling, upcycling, or composting options. All waste is mixed, and there is no long-term plan to reduce waste in all the islands' landfills. A substantial percentage of The Marianas' solid waste is household waste, which can become hazardous an environment concern if not collected or adequately managed.

In addition, a UGC program will require fees to pay for the waste collection. Residents and businesses will no longer need to haul or drive to dispose of their garbage, but they will need to pay for the required service to have their garbage picked up. Ultimately, this arrangement reduces the cost per household to collect their trash as the collection cost is spread over the entire population (universal).

Marianas Universal Garbage Collection Program

UGC Report to the Governor | Page 32

One of the biggest challenges that The Marianas face is illegal dumping. It is estimated that only 4,000-5,000 households and businesses out of the 12,000 homes and businesses in Saipan utilize the current trash collection scheme. Illegal dumping is pervasive on all islands, and an organized program will offer a solution to this problem.

Universal Garbage Collection will also give residents access to recycling and other "green" practices that support "Zero Waste" principles that are reflected in the Comprehensive Sustainable Development Plan and ongoing waste management efforts throughout the CNMI.

HOW WE WILL ADDRESS THIS ISSUE - THE UGC OUTREACH PLAN

With the UGC Task Force's recommendation to establish the Commonwealth's first Universal Garbage Collection program for homes and within the villages on Rota Tinian, and Saipan, the Committee recommends an informative and educational approach to engaging with residents throughout the islands.

Residents must first understand the following:

- What is a UGC program
- How will it work in The Marianas
- How it benefits them and the overall quality of life in The Marianas
- Why they will share the cost of this service.

It would be beneficial if residents understood the waste cycle and how their behaviors and habits affect the volume of waste in the islands. It is essential for every person who calls The Marianas home to know that managing waste begins at the point of consumption. Mindful buying and consumption can positively affect the waste output.

"Waste management involves the regular collection, transportation, processing, recycling, and disposal of waste materials. It also involves educating a society about responsible consumption, sorting, and disposal of all types of materials to avoid environmental hazards."

Gary Sword, Chairperson of the UGC Task Force

Marianas Universal Garbage Collection Program

UGC Report to the Governor | Page 33

Keeping the people of The Marianas, their environment, and their quality of life at the forefront of the Marianas Universal Garbage Collection Program

The most important reason for establishing a Universal Garbage Collection Program in The Marianas is to improve the quality of life for its residents. The outreach program should remain people-focused and how a cleaner and protected environment would promote better personal health, safety, and overall beauty in their surroundings

The following are some of the additional key messages for a UGC outreach plan:

- Garbage is everyone's business.
- Effective and responsible solid waste management is vital for The Marianas and its people. Improper disposal of any waste into land or in water remains hazardous to people's health and the environment.
- A UGC program will make life easier for residents conveniences and modern services for every home and business.
- A UGC program aligns with The Marianas' cultural values.
- This is a long-term plan that includes big-picture thinking for a cleaner and greener future.
- A "universal" plan requires sharing the cost of the service throughout the community.
- An organized UGC program will support economic recovery and promote future investments in The Marianas.
- A UGC program provides the following benefits for residents of The Marianas:
 - Improves how residents manage and handle their home waste.
 - Provides a modern program that residents can rely on regularly.
 - Reduces pollution that can harm public health and safety.
 - Protects the islands' food and natural resources.
 - Addresses and provides solutions to illegal dumping issues.
 - Supports a clean tourism destination and improves The Marianas' tourism product.

PHASE 1 COMMUNICATIONS PLAN (COMPLETED IN 2021)

Marianas Universal Garbage Collection Program During Phase I, when the UGC Task Force assembled, the Outreach Committee completed initial public outreach efforts to help residents understand the goals of a UGC program. During this campaign, the committee achieved the following:

- Restated the purpose through public education and awareness.
- Introduce the concept of a UGC program.
- Supported the solid waste management recommendation and report.
- Addressed the issues of illegal dumping.
- Aimed to help educate residents about a UGC program to earn their support of a future UGC plan.
- Discussed the current waste issues in The Marianas and how they can affect change now.
- Rallied teachers to discuss this topic in their classrooms, engage students, and incite conversations in the homes.
- Prepared university professors to get behind a UGC program and consider teaching the topic in their classes.
- Enlisted important stakeholders, such as the Mayors of Rota, Tinian, and Saipan, and other voices in the community to support a UGC program.

COMMUNICATION CHANNELS

The committee established a primary channel of communication to reach residents -- the 10-part Trash Talk column, which was published in The Saipan Tribune, the Marianas Variety News & Views, and on the <u>Governor's Council of Economic Advisers (GCEA)</u> <u>website</u>. Columns published are contained in Appendix B of this report.

Through the columns, the committee was also able to identify and engage with future partners and stakeholders who would be ideal supporters of a UGC program: Environmental Protection Agency ("EPA"), Bureau of Environmental and Coastal Quality ("BECQ"), MINA, Micronesia Climate Change Alliance ("MCCA"), Marianas Visitors Authority ("MVA"), Public School Systems ("PSS"), GCEA, and tourism industry business. The committee recommends identifying other potential partners and social media influencers, for example, The Ms. Earth organization, the Saipan Chamber of Commerce,

and tourism-focused organizations, who can help extend the reach and messaging of a UGC program.

Other Channels used during Phase I included KKMP radio, where Chairperson Gary Sword, host of the morning show, discussed the need for a UGC program for The Marianas and other UGC topics. He also shared the Trash Talk column each week.

As a GCEA initiative, the Council supported Phase I messaging through its website and social media platforms (Facebook and Instagram). GCEA will also be a good partner moving forward. The GCEA website currently hosts a UGC page that archives the background on this initiative, the Executive Order that created the task force, a list of task force members, the Trash Talk columns, and reports. A formal UGC program's website should consider including this background information and continuing the discussions in a public forum.

PHASE II COMMUNICATIONS PLAN – RECOMMENDED PLAN

LAUNCH AND IMPLEMENTATION OF THE MUGC PROGRAM

The Committee recommends hiring an agency to help implement an integrated Marketing, PR, and Community Outreach plan for the Marianas Universal Garbage Collection ("MUGC") Program's launch.

MUGC's target audiences are the community at large, students, and sports teams, and the marketing plan should be shaped to reach these three key audiences.

A two-year plan to introduce the program, educate the community, and engage through two-way communication about the service is outlined below.

ESTABLISHING THE GOALS AND OBJECTIVES OF THE PLAN

The following goals have been identified:

MUGC's Community Goals:

Marianas Universal
Garbage Collection Program
UGC Report to the Governor | Page 36

- Aim for Marianas-wide awareness of the program and its benefits.
- Continue to engage community partners to support the dissemination of pertinent information throughout the community.
- Engage leaders and lawmakers to support the program.
- Share stories and welcome other voices from throughout the community to join the conversation about why MUGC is a long-term plan to improve the quality of life in The Marianas.
- Lead the conversation but require that residents take ownership of the outcome.
- Promote responsible tourism.
- Show how MUGC supports economic development in The Marianas.

MUGC's Environmental Goals:

- Reduce 60% of garbage/waste overall and from ending up in the landfill
- Affect behavioral changes get residents, businesses, PSS/private schools, and organizations on board to learn how they can adopt best practices
- Heighten the importance of environmental responsibility at the home, village, and island, and Commonwealth levels.
- Significantly deter illegal dumping.
- Partner with BECQ and leverage Environmental Month to reach more people in the community.

BRANDING

An important first step before launching the program is to conceptualize and establish the Marianas Universal Garbage Collection Program's brand and develop the following:

- Design a unique, recognizable brand image that appeals to residents of all ages and incorporates the community and environmental goals of the program.
- Produce branded marketing materials that are consistent with the brand guidelines.
- Develop MUGC's customer service voice to exude the highest level of Håfa Adai and Tirow hospitality, respect, professionalism, and capabilities. The MUGC's voice should convey a spirit of valuing customers' support. The MUGC voice is also patient, insightful, and helpful. It serves its customers and takes care of the environment.
- Begin branding work nine to 12 months before the launch of MUGC.

MARKETING PLAN

1. Establish a MUGC Program Launch Plan and Budget

- The integrated launch plan should include provisions for advertising (traditional, print, and social media), third-party expenses such as printing and supplies, design and production of marketing materials and digital content, social media management, program launch, and community engagement events/activities, and public relations efforts to announce the launch of MUGC.
- The Advertising plan should focus on traditional and digital media that can reach the masses throughout The Marianas.
- The PR Plan will support the launch of the program while providing ongoing PR support for MUGC's key messaging, developments, milestones, announcements, and media outreach and engagement. Prior to launch, a MUGC digital press kit should be established to archive pertinent information that can introduce the media to and educate them on the program.
- A MUGC spokesperson should be identified to provide a human touch and a recognizable face for the program. The spokesperson should uphold the brand's image and personality, be helpful to the community, serve as the first point of contact for the community and media, and be available to the media to provide insight and updates regularly.
- Begin planning nine to 12 months before the launch of MUGC.
- Earmark funding for a two-year plan.

2. Strategize a Public Education Campaign

- Design an integrated marketing campaign for the first two years to launch the program, grow awareness of the benefits, garner resident buy-in, and support successful utilization of the UGC service
- Establish a robust calendar for video and digital content creation to educate and address concerns or misperceptions about MUGC.

- Continue writing the UGC Column Trash Talk.
- Calendar community talks to teach about MUGC.
- Work with the universities to include UGC and waste management topics in their curriculum.
- Identify ambassadors and influences in the community to support MUGC's key messages.
- Begin planning six to nine months before the launch of MUGC.

3. Prioritize a Student Outreach Program

The Public School System and the Private School Coalition will be key partners in the rollout of the Universal Garbage Collection outreach plan. Engaging students and starting

conversations in the schools about the necessary behavior and lifestyle changes they can make as individuals will turn into conversations they make in their homes. As families change the way they treat their garbage, they can then influence their neighborhoods, then their villages. This can begin with learning resources for each grade level, and eventually with integrated learning objectives in their curriculum through environmental science classes. Interactive games and lessons will also enhance the learning process and have students experience and apply what they learn in the classroom.

MUGC can work closely with PSS to calendar school visits and training for administrators and teachers to learn more about UGC and the waste cycle. Students can become natural ambassadors of UGC and anti-illegal dumping topics. They can help to increase awareness and education in the homes.

Higher Education

Northern Marianas College's Natural Resources Management program is also an important partner to engage as their mission to protect and conserve the Marianas' natural resources and to develop strategies to efficiently meet these goals aligns with MUGC's goals. Having the NRMP as an ambassador for the program will greatly support the campaign's credibility and message. The Committee has initiated a partnership with

the Northern Marianas College Office of Institutional Advancement and sought out their expertise in creating video and digital content to push the key messages of the campaign.

Begin school outreach planning six to nine months before the launch of MUGC.

4. Welcome Stakeholder Involvement

The Universal Garbage Collection program will need the involvement of stakeholders in the government, private sector, nonprofit organizations, and the community at large to ensure its success. This includes the support of the U.S. Environmental Protection Agency, and the CNMI Bureau of Environmental and Coastal Quality. Corporate and nonprofit organizations' support of the program can be established through an ambassador program, committing to an environmental protection pledge through existing

programs such as the Hafa Adai & Tirow Pledge (require existing and new pledges to include an environmental pledge), or as a requirement for membership in various business or service organizations.

The Committee recommends engaging with existing stakeholders to support the launch of MUGC - EPA, BECQ, MINA, MCCA, MVA, PSS, GCEA, Mayors of Rota, Tinian, and Saipan, public and private entities, and tourism industry business.

5. Establish a MUGC Website

The MUGC branded website will serve as the program's communications hub.

The MUGC page will serve as the centralized hub of information that houses expansive information about the program's vision and mission, feature MUGC's leadership, bill payment channels; individual account login and management; customer service or chat capabilities; MUGC's contact and location information; frequently asked questions; updates about service; MUGC news archive; press links; downloadable assets such as fact sheets, photos, videos, and reports; and links to MUGC's social pages. The MUGC website will be the most important communications channel and should be updated regularly.

It would be helpful for customers to have access to a Frequently Asked Questions ("FAQs") page on the website to address their top anticipated questions. These questions can serve as a guide to create content for ads, future columns, and social media:

- 1. What is Universal Garbage Collection?
- 2. How is it different from what we have now?
- 3. Why is The Marianas intent on instilling a UGC program now?
- 4. What are the benefits of a UGC program to me as a resident?
- 5. What are the benefits of a UGC program to me as a business owner?
- 6. Why do we need to sort trash anyway, and what will you do with the sorted materials?
- 7. Under the UGC program, how will we need to sort our garbage?
- 8. How long will it take to implement the UGC program?
- 9. How much will it cost residents and businesses per month?
- 10. What if I can't pay this fee? Will I be able to get assistance?
- 11. How much will it cost to start up this UGC program?
- 12. Will a UGC program be better for the environment?
- 13. Will a UGC program deter illegal dumping?
- 14. Once the program is implemented, what should I expect?
- 15. How often will garbage be collected from my home?
- 16. Will bins be provided to me? How will I receive my bins?
- 17. What are all the recycling options available to us now in The Marianas?
- 18. What types of recyclables can I place in the bin?
- 19. How will having a UGC program be better for our health and the environment?
- 20. Will this program be available on Rota and Tinian?
- 21. Once the program begins, how will I manage my garbage? What is my role in this?
- 22. Will public parks and beaches be included in the UGC program?
- 23. I live in a hard-to-reach area. Will I still be able to use this service?
- 24. How often will my garbage be collected, and where will I need to place my trash bins?
- 25. How will we pay our bills for this service? Which agency will manage the billings?
- 26. What will happen to the transfer stations once this program is implemented?
- 27. How will UGC help the current landfill issues?

- 28. What percentage of garbage do you hope to keep out of the landfill?
- 29. Where will our recyclables be processed?
- 30. Will there be an economic benefit for The Marianas for recycling our garbage?
- 31. How will UGC improve our tourism industry?
- 32. What are green practices?
- 33. How can I make better choices when buying products?
- 34. What are some materials that we commonly use that cannot be recycled?
- 35. Why is it important to recycle? How long does it take for materials to break down if they are not recycled?
- 36. Can you give an example of a similar program that has been successfully implemented?

6. Identify Channels of Communication

Similarly, other channels of communication should be identified and strengthened to integrate well with MUGC's programs. The Marketing Team should identify and utilize all potential channels to communicate with the customer through the following opportunities:

- Dedicated social media pages (see below)
- MUGC app or online bill-pay system
- Messaging in the monthly billing
- Billing inserts
- Monthly newsletter
- Text messaging and notifications
- Marketing emailers
- In-office monitors
- Signage and collaterals
- Podcasts
- White papers
- Annual report

Develop a Robust Social Media Plan

MUGC's program will rely heavily on a robust social media program to support all branding, marketing, and PR efforts in addition to relaying timely information about services. The marketing team should establish dedicated SM pages for the UGC program – Facebook, Instagram, YouTube, and Twitter – using the same handle for all, for example, @mugc or @marianasugc. Dedicated hashtags will also help MUGC's content to be found. All campaigns should identify campaign hashtags as well.

Similarly, the social media team will be required to engage with followers regularly and respond to all inquiries.

MUGC can develop an ambassador and influencer program over time. Community engagement to be supported by enlisting stakeholder organizations to share MUGC content:

- Department of Public Works
- Bureau of Environmental and Coastal Quality
- Commonwealth Utilities Corporation
- Office of Planning and Development
- Governor's Council of Economic Advisors
- Saipan Chamber of Commerce
- Mariana Islands Nature Alliance

7. Establish a Community Engagement Center

Community engagement is essential in gathering the resident's buy-in and through community displays, interactive exhibits, and event booths; we can attract residents to actively learn more about garbage collection. Community displays are effective in showcasing appealing visuals to spread the key messages. To further expand the community outreach, interactive exhibits promote dynamic engagement and learning. In Madison, Wisconsin, a mobile art exhibit is housed in a remodeled cargo trailer that displays the human relationship with waste in the forms of interactive stations, and other media content. The MUGC can create a similar mobile exhibit (one per island) that can be transported to community events and reach a greater number of residents where they gather.

8. Identify a Community Outreach Team of Volunteers

The success of the outreach program relies on its volunteers. Throughout the campaign, we will need a multitude of volunteers to go into the villages to conduct the door-to-door outreach or staff the Community Engagement Center. It will be an effective way to personally interact with the residents, inform them of the Universal Garbage Collection and the issues within waste disposal. The volunteers will undergo a training program to prepare them with the necessary skills and knowledge to successfully convey the importance of a universal garbage collection program. Tools and materials will also be provided for the volunteers, as well as for clubs and schools in The Marianas.

9. Host Regular Events and Competitions

Waste reduction events and competitions in schools will generate interest in the topic of solid waste as an environmental issue. Events and competitions that focus on recycling material waste and disposing of garbage responsibly to reduce waste at the school level will eventually be practiced wherever a student goes. A successful waste reduction event or competitions will include a focus on preventing waste, understanding where the waste ends up and exploring how waste issues impact the land, air, water, and other living things in the local environment.

10. Develop Customer Engagement Campaigns

The Marketing Team should plan for ongoing customer engagement campaigns to promote customer satisfaction and support. These campaigns should be people-focused and include testimonials from customers. This exercise should also include the establishment of a customer feedback system to welcome feedback. This can be as simple as a comments option on the website or regular online surveys. Quarterly internal team surveys will also be helpful to obtain deeper insight from employees about the challenges and successes of the program that can be promoted or corrected, respectively.

The team should consider identifying a research budget each year to understand how customers perceived the rollout of the service and their overall satisfaction. Research should be conducted frequently to help fine-tune messaging and to better understand the needs of the customer.

11. Plan for the Future

To grow MUGC for the future, the program may consider community tie-ups with existing resellers or charities, such as Helping Hands, to create a nonprofit community depository. A reuse store for upcycled materials can be established (ex: Habitat for Humanity ReStore; Hawaii Reuse store) to reduce the volume of goods that would otherwise end up in the landfill. The Marianas can instill a spirit of offering cost-effective materials to residents while extending the life of products. Proceeds can support the store's operations and public education campaigns.

MUGC can also use this effort to gauge the volume of waste that has been spared from the landfill.

DESIGN AND PRODUCTION - MARKETING MATERIALS

Here is a list of materials that will be needed during the first two years of the program:

- 1. Branded materials (logo, letterhead, look and feel, guidelines, etc.)
- 2. Launch materials Advertising:
 - a. TV commercial
 - b. Radio spots
 - c. Print ads
 - d. Digital ads + SM ads
- 3. Updated materials for the UGC webpage ongoing
- 4. Marketing toolkit
- 5. Digital press kit
- 6. Fact sheet
- 7. FAQs sheet
- 8. Infographics for the website
- 9. Social Media graphics and designs for pages
- 10. Video series scripts to tell the stories in strategic order (4 to start Ex: What is UGC, Why is UGC good for us, How will UGC make life better, What is the process)
- 11. Lessons for elementary, middle, and high schools students
- 12. Booth design/ outreach display (ex: how long it takes for materials to breakdown, digital materials for monitors, trade show booth)
- 13. Content creation copywriting
- 14. PPT Presentation for community outreach and talks
- 15. Materials for school presentations
- 16. Giveaways for community and school outreach programs
- 17. Annual report

Marianas Universal Garbage Collection Program

TRANSLATION OF MATERIALS

All materials must be translated into multi-languages -- Chamorro, Tagalog, Chinese, and Carolinian. Translators and voice-over talents are available in The Marianas.

BUDGET AND PLANNING

The Marketing Team to formulate a general estimated budget for the above plan. The final plan will be based on the approved final scope of action.

CALENDAR AND TIMELINE

An annual calendar will be established to map out the strategic next steps for marketing, advertising, PR, customer engagement, and to support the goals of MUGC's program. Each step will be designed to build relationships, trust, and engagement with the customer by placing the customers' needs at the heart of every campaign. The timing of what information is shared and in what order will be essential to helping customers understand the UGC plan from the start.

The calendar will be broken down into six-month periods or phases:

- First 90-Day Plan this is critical to the success of the launch campaign
- Year 1 Plan 1H / 2H
- Year 2 Plan 1H / 2H

NEXT STEPS

The Task Force provided a range of options for accomplishing a Universal Garbage Collection system in the CNMI. The Task Force recommends that the Office of the Governor review the proposals listed in this report and work with DPW, and CUC to assess the viability of options presented. This review should include:

- Legal constraints
- Assessment of proposed legislation
- Cost of service, willingness to pay, and feasibility analysis
- Fee structure
- Timelines for Implementation

The Task Force further wishes to provide a list of recommended actions, outside of the direct provision of Universal Garbage Collection, but have been derived from the Task Force's work during its established period.

Marianas Universal Garbage Collection Program

1. Establishment of the Governor's Environmental Council

As demonstrated in the success of the Governor's Council of Economic Advisers since its initial inception in May 2020, the Task Force recommends the establishment of the Governor's Environmental Council to be a critical voice for the needs and sustainability of the CNMI's environment. The creation of the Council can be accomplished through Executive Order and should contain membership throughout the environmental community, to include environmental experts, consultants, practitioners, and academics in the field.

As discussed in Recommendation 3, the Council can be crafted to continue the work of the Task Force and even aid in the delivery of universal collection services.

A draft of a proposed Executive Order to see to the establishment of this Council is provided in Appendix C of this report.

2. Recognizing the Cost of Cardboard on the Solid Waste System

As reported in DPW's 2019 Report "Solid Waste Management Feasibility Study", the primary contributor to the CNMI's waste stream is cardboard. Of the solid waste assessed in the report's waste composition study, 16.2% of total weight analyzed were Old Corrugated Cardboard. Conversations with commercial waste haulers further confirm that cardboard represents the majority of the waste collected from private establishments. These figures exceed the rate of waste generation of plastic bags (8.4%), or non-ferrous metals, such as aluminum cans (2.4%).

Despite the significant impact cardboard has on the overall waste stream there is no direct charge for the importation of cardboard into the Commonwealth. This is in contrast to other components of waste. Presently, the CNMI levies an additional tax on soft drink beverage containers and alcoholic beverage containers at a rate of \$0.05 per container. The CNMI also has a .42% ad valorem tax on all consumer goods imported into the Commonwealth, but exemptions exist alleviating the charge on "Nonbusiness Use" under 4 CMC § 1402(d).

Given the wide proliferation of online commerce, and the rise in the purchase and importation of consumer goods, an effort should be made to assess the rate of imported cardboard entering the Commonwealth and whether the present structure of accounting

for the cost of disposal of cardboard products is adequate to ensure the sustainability of the Commonwealth's Solid Waste Management Facilities.

This goes in line with the need to restrict inappropriate disposal of recyclables and littering to achieve the goal of a sustainable solid waste management system. Therefore, ongoing investment in the Litter Control Program led by BECQ and supporting legislation such as cardboard disposal fees or bans, restrictions on single use plastic, and import fees for goods to offset disposal costs, and incentives to reuse materials including construction materials where viable should be considered to support the goal of achieving sustainable, economically efficient, and environmentally compliant waste management systems.

3. Assessing the Impact of Non-taxed Beverage Containers

The Task Force believes that the Army and Air Force Exchange Service ("AAFES") serves a critical purpose and provides a necessary benefit for its authorized patrons. These patrons include active active-duty military personnel, military retires, reservists, National Guard personnel, U.S. Department of Defense employees, among others in the CNMI. It should be noted however that AAFES is a federal entity and thus states and local governments cannot impose direct taxes on its products. These taxes would include the Beverage Container Taxes, and Environmental Beautification Taxes enacted to support the cost of the waste steam impacts caused by imported products.

The sale of alcoholic beverages from the AAFES on Saipan has previously raised public concern, namely under the finding that some businesses licensed to sell alcoholic beverages were engaged in the improper selling and/or reselling of products obtained from the AAFES. This led to the enactment of CNMI Public Law 19-15 which established penalties for the offer of sale of these untaxed items.

With this recent concern, and the in the interest of assessing the true cost of waste generation on the Commonwealth Solid Waste Management Facilities, the Task Force believes it necessary to review the impact of untaxed beverages in the CNMI. The Task Force recommends that the CNMI government initiate conversation with the AAFES to gather information on the total quantity of goods sold, the estimated loss of revenue for the Commonwealth's Solid Waste Management Facilities, and the unmet needs of these facilities from the presence of untaxed items.

Presently, the Task Force is unaware of the impact of these items on the CNMI's waste stream, and greater communication and information regarding waste generation

originating from AAFES sales can better guide further conversations regarding the needs of the CNMI's solid waste management system and potentially justify addition funding to support advancements to the solid waste management and/or collection system.

4. Utilize the Environmental Protection Agency's Diesel Emissions Reduction Act ("DERA") Funds to Support the Acquisition of Fuel Efficient Garbage Trucks

Under the Diesel Emissions Reduction Act (U.S. Public Law 111-364), the U.S. Environmental Protection Agency ("EPA") is authorized to offer funding assistance to accelerate the upgrade and turnover of legacy diesel fleets. Since its creation in 2008, EPA has awarded over \$830 million to 850 grant projects and 450 rebate projects to achieve this goal.

Within this program, recipients may directly implement projects by targeting vehicles that are owned by the organization or the recipient may partner with public and private fleet owners and provide them with subgrants or rebates so that they may address the emissions from their fleets. Subawards establish a financial assistance relationship under which the subrecipient's employees and contractors implement programs and projects to accomplish the goals and objectives of the DERA grant.

Subrecipients only receive reimbursement for their actual direct or approved indirect costs such that they do not "profit" from the transaction and subrecipients are subject to the same Federal requirements as the pass-through entity. In other grant programs, for-profit entities participating in grant activities are typically contractors rather than subrecipients. However, DERA is one of the few grant programs where it is appropriate for pass-through entities to make subawards to for-profit organizations to purchase and install equipment for that organization's own use.

The city of Stamford, Connecticut has utilized the DERA program to establish a program to replace seven-diesel powered garbage trucks with new trucks that meet the EPA emissions standards. For this program the city received \$546,610.

Since 2018, the CNMI only participated once in the program, receiving an award of \$81,441 in 2020. The Task Force recommends utilizing the relationship with commercial waste haulers in the CNMI to make an application under the DERA program to support subgrants to these permitted private organizations to support the upgrading of their fleets to aid in the delivery of universal garbage collection services across the islands. The State Agency for this program is the Bureau of Environmental and Coastal Quality.

APPENDIX A

DRAFT

A BILL FOR AN ACT

TO PROVIDE THE COMMONWEALTH UTILITIES CORPORATION WITH THE RESPONSIBILITY TO MANAGE SOLID WASTE COLLECTION SERVICES FOR THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

BE IT ENACTED BY THE TWENTY-FIRST NORTHERN MARIANAS COMMONWEALTH LEGISLATURE:

Section 1. Finding and Purpose. The Legislature finds that the Commonwealth requires a comprehensive solution to ease the rates of littering and environmental pollution caused by solid waste disposal that addresses the many root causes of these actions. Universal Garbage Collection, and the expanded access of garbage collection services across residences and businesses throughout the Commonwealth provides for an efficient means for residents and businesses to properly dispose of solid waste and limit the need to illegally dump refuse or further degrade the environment through littering. Many examples across the United States place solid waste and refuse collection within the domain of a utility service, provided for by local and municipal governments. Currently, garbage collection is performed by a number of private operators, but greater efficiency and accessibility can be obtained through a true public-private partnership to expand the benefits of access to collection services.

The Legislature further finds that the protection of our environment provides benefits to all residents of the Commonwealth, and that costs for securing those benefits should be shared by all to ensure its success. Determining that solid waste collection is a public priority and a necessary utility, and providing the Commonwealth Utilities Corporation with the responsibility to manage its universal access through collaboration with the Commonwealth's private sector is key to expanding the benefits of a healthy and clean environment for all residents to benefit.

Section 2. Amendment. Title 4, Division 8, Chapter 1, Article 2, Section 8121(c) shall be amended to or read as to read as follows:

- (c) CUC shall have the following divisions:
 - (1) Electrical Power division;
 - (2) Water services division;

- (3) Sewer division;
- (4) Solid Waste Collection division;
- (5) Compliance division

Section 3. <u>Amendment.</u> Title 4, Division 8, Chapter 1, Article 2, Section 8122(a) shall be amended to or read as to read as follows:

(a) CUC shall supervise the construction, maintenance operations, and regulation of electric, water, <u>solid waste collection</u>, and sewage services; provided that whenever feasible CUC shall contract with the private sector to assume its duties with respect to one or more of its divisions.

Section 5. <u>Severability</u>. If any provision of this Act or the application of any such provision to any person or circumstance should be held invalid by a court of competent jurisdiction, the remainder of this Act or the application of its provisions to persons or circumstances other than those to which it is held invalid shall not be affected thereby.

Section 6. <u>Savings Clause</u>. This Act and any repealer contained herein shall not be construed as affecting any existing right acquired under contract or acquired under statutes repealed or under any rule, regulation or order adopted under the statutes. Repealers contained in this Act shall not affect any proceeding instituted under or pursuant to prior law. The enactment of this Act shall not have the effect of terminating, or in any way modifying, any liability civil or criminal, which shall already be in existence at the date this Act becomes effective.

Section 7. Effective Date. This Act shall take effect upon its approval by the Governor or upon its becoming law without such approval.

APPENDIX B

Column Sig.: TRASH TALK

Author: Gary Sword, Chairman, Universal Garbage Collection Task Force

Submission Date: October 27, 2021 Publication Date: October 28, 2021

It's time to implement an effective waste management system in The Marianas

Let's talk trash, but no filthy words, only rubbish talk. We should start with a clear picture of our current garbage situation then work together in addressing its serious health, environmental, and economic threats to the Marianas.

The illegal dumping of trash is rampant and out of control. Our landfill is running out of space by the day. Recyclable materials are not being processed correctly. We aren't composting materials that can fertilize our soil. The list of concerns surrounding our waste management goes on and on, much like the piles of trash causing significant harm to our islands and its people.

This week, the newly-established Universal Garbage Collection (UGC)Task Force held its second meeting and discussed the immediate steps we should be taking to mitigate this issue. We have only 90 days to produce solid recommendations to resolve our trash problems. We established four committees – Logistics, Cost of Service, Comprehensive Planning, and Outreach – that will address these key components of our plan.

Why we need waste management

Waste management involves the regular collection, transportation, processing, recycling, and disposal of waste materials. It also involves educating a society about responsible consumption, sorting and disposal of all types of materials to avoid environmental hazards.

Look at it this way: we have vessels bringing shiploads of containers full of supplies, food, and materials weekly but not none of those containers take any trash away. Saipan alone generated 58,105 tons of waste material in FY 2018, according to a feasibility study report. If garbage is not collected and handled professionally, we will soon see the effects of this issue on our environment, food supply, and even our water

Marianas Universal Garbage Collection Program

system. Eventually, it will have an effect on our overall economy if we don't get our trash issues under control.

Most important, waste management is important to public health. Harmful wastes can cause long-term health problems if not collected and disposed of properly. A poorly managed landfill can and will affect the health of a community. Dangerous materials such as oil, paints, and acids can seep into our water aquifers and pollute the water we use to drink, cook and bathe.

UGC is everyone's business

As we move forward, the task force would like to hear more ideas from our youth, community, government, and business leaders to find sustainable solutions to our waste management problems. We welcome your input and will look at all feasible pathways to achieving house-to-house garbage collection, reducing the volume of garbage dumped in the landfill, recycling and upcycling of materials, and eliminating illegal dumping Marianas-wide.

There will be a cost to these efforts, but I am confident that the task force will identify avenues that will make the UGC system work and not overly burden our community.

Join me each week as we talk trash and pick fights — the good kinds that demand a safer and healthier environment for our community and aim to improve the quality of life in the Marianas for all of us.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at cnmieconomy.com. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Gary Sword, Chairman, Universal Garbage Collection Task Force

Gary Sword is the Vice President of the KKMP Radio Station, one of the most popular and beloved stations in the Marianas and has extensive experience in power, water, waste water, and solid waste services. Gary serves as a member of the Domestic Policy Recovery Committee for the Governor's Council of Economic Advisers.

Author: Gary Sword, Chairman, Universal Garbage Collection Task Force

Submission Date: November 3, 2021 Publication Date: November 4, 2021

The benefits of a Community Solid Waste Disposal system

Recently on social media, a resident posted a photo depicting bags of trash dumped at her family member's grave. She was furious. Imagine going to the cemetery to visit and honor your loved ones only to find a pile of trash left behind by irresponsible and disrespectful illegal dumpers. You'd be furious, too.

As chairman of the CNMI Universal Garbage Collection Task Force, I strongly advocate for the strict enforcement of anti-littering laws in the Marianas to penalize violators. However, legal action should be complemented with an efficient system that would address our never-ending problems with waste management. Again I remind our community that thousands of containers of goods come into the CNMI and NOT ONE container of waste is exported. It all goes into the landfill or is randomly discarded.

A substantial percentage of our garbage and solid waste is household waste, which can become hazardous if not collected or adequately managed. Yes, organic domestic waste such as leftover food can pose a serious threat when they ferment and create conditions favorable to the survival and growth of microbial pathogens. The flies, maggots and other pests you see surrounding a pile of trash left at a picnic site near the beach not only smell bad but also spreads diseases.

Regular collection of solid waste keeps neighborhoods clean and reduces health risks. Solid waste collection means gathering it from where it is produced -- from homes and businesses -- and transporting it, either to an intermediate collection site or to a final place of recycling or disposal.

There are three types of waste collection:

Household collection results when members of a family collect their solid waste in containers and carry it to a composting, recycling or disposal site or secondary storage. This is suitable for the collection of small amounts of waste at the local or neighborhood level. Waste is processed and disposed of at a transfer station or landfill.

Neighborhood collection results when a representative of several households collects their waste and takes it to a composting, recycling, or disposal site. This is suitable for the

Marianas Universal Garbage Collection Program

collection of larger amounts of waste and will require a motor vehicle. Most community collection in the CNMI is through commercial entities and is currently the most utilized method in the Commonwealth.

Community collection is when households and businesses put their waste out and paid government hired contractors collect the waste containers and sort them to a community composting, recycling, or disposal site. This is a communal collection system where households are issued waste containers and / or recycling bins that are placed at the curb for collection on a regular schedule. Larger trash containers are also placed in common public areas and are also collected on a schedule.

This method requires fees to pay for the waste collection contractors but residents and businesses will no longer need to haul or drive to dispose of their garbage. Ultimately, this arrangement reduces the cost per household to collect their trash as the collection cost is spread over the entire population (universal). Universal Garbage Collection also allows the CNMI to easily gravitate towards recycling and other "green" opportunities for our CNMI community.

Under our proposed Universal Garbage Collection system, we are suggesting having a Community Solid Waste Disposal system. Our current garbage collection process utilizes collection contractors, but the systematic collection and availability of appropriate trash containers in critical places are not enough to meet the community's demand. Placement of waste containers at homes, businesses, and markets will make it accessible to the collection team. Establishing a collection route is also essential in keeping efforts efficient. Routes should be as short and simple as possible and end as near and practical to the disposal site.

Currently only 4,000-5,000 households and businesses out of the 12,000 homes and businesses in Saipan utilize the current trash collection scheme. Where do the other 7,000-8,000 homes and businesses take their garbage? Your guess is as good as mine.

Can 1,000 enforcement officers monitor 9,000 homes and businesses 24 hours a day? IMIPOSIBLE! This is why you see your neighbors dumping their trash in parking lots or driving to the boonies to illegally dispose of their garbage. This behavior passes the burden to the entire community, and we will pay an even higher price as their garbage pollutes the soil, ocean and our drinking water sources. This puts our entire community health and safety at serious risk.

If we continue to believe that garbage is not our shared responsibility, we are condemning our children to a polluted environment.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at cnmieconomy.com. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Gary Sword, Chairman, Universal Garbage Collection Task Force

Gary Sword is the Vice President of the KKMP Radio Station, one of the most popular and beloved stations in the Marianas, and has extensive experience in power, water, wastewater, and solid waste services. Gary serves as a member of the Domestic Policy Recovery Committee for the Governor's Council of Economic Advisers.

Author: Gary Sword, Chairman, Universal Garbage Collection Task Force

Submission Date: November 10, 2021 Publication Date: November 11, 2021

Universal Garbage Collection is an investment in our people, not a cost

The other day someone asked me why it is important for the Marianas to develop a universal garbage collection plan now. I told them that there's a sense of urgency to provide the service for many important reasons, one of which is that it is an investment in our people's health, quality of life, and future. Moreover, we need to protect our environment and natural resources from pollution before it's too late.

The management of waste materials is a worldwide problem, not just a local one. Urbanization and population growth are solely responsible for the increasing rate of solid waste, and the proper management of that waste is a major problem for all small Pacific Island communities. Islands have shifted from subsistence living -- tending to farms and fishing for food – to becoming small cities with growing populations that are producing higher volumes of waste materials.

The problems are particularly evident on small islands where there is little land available for landfill waste disposal. This impacts potable groundwater resources. In many Pacific Islands, waste management involves the uncontrolled and semi-controlled dumping of rubbish at official and unofficial sites. The sites are commonly located on low-lying unoccupied land, mangrove areas, or un-purposed lands. Often the sites are not staffed, and there is no equipment to compact and cover the deposited waste.

Improper trash disposal and management cause all types of pollution: air, soil, and water. Haphazard dumping of wastes contaminates surface and groundwater supplies. In urban areas, solid waste clogs drains, creating stagnant water for insect breeding and floods during rainy seasons. Uncontrolled burning of trash contributes significantly to air pollution and jungle fires. Greenhouse gases are generated from the decomposition of organic wastes in landfills, and untreated leachate pollutes surrounding soil and water bodies.

This is where we will see health and safety issues arising from improper or illegal disposal. Insects, flies, and rodents are attracted to the wastes and can spread cholera, dengue fever, and enteric infections. If polluted water is used for bathing, food irrigation, and

drinking water, our people will be exposed to diseases, organisms, and other contaminants.

Poorly disposed rubbish contaminates the groundwater with nitrates, heavy metals, and other chemicals. Open burning of wastes pollutes the air with particulates and oxides of Sulphur and nitrogen. The ashes from open burning may result in leachates that are rich in heavy metals and other potentially toxic substances. Leachate is a contaminated liquid that is produced from water percolating through trash disposal or burn site, accumulating contaminants, and sinking into our water tables.

The U.S. Public Health Service has identified 22 human diseases that are linked to improper Solid Waste Management. To put it plainly, it is a very scary picture for humans and animals when solid waste is not properly stored, collected, and processed.

The ultimate goal of the Universal Garbage Collection (UGC) is to improve the quality of life for all residents. The lack of attention given to human health, environment, and safety issues cannot be attributed to cost factors. Modern societies depend on regular, efficient trash removal. Ask a relative who lives stateside if they can do without their solid waste program. Compare their modern and convenient process for disposing of garbage versus our current system. Which would you prefer?

In the past, most communities used to have a reactive approach to dealing with waste management and investing only in times of emergencies or when pushed by regulatory compliance issues. Instead, our community can approach Universal Garbage Collection as an investment, not a cost, in our community. It is a very small price to pay for clean water, good health, and a viable economy for the Marianas.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at <u>cnmieconomy.com</u>. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Gary Sword, Chairman, Universal Garbage Collection Task Force

Gary Sword is the Vice President of the KKMP Radio Station, one of the most popular and beloved stations in the Marianas, and has extensive experience in power, water, wastewater, and solid waste services. Gary serves as a member of the Domestic Policy Recovery Committee for the Governor's Council of Economic Advisers.

Author: Gary Sword, Chairman, Universal Garbage Collection Task Force

Submission Date: November 17, 2021 Publication Date: November 18, 2021

Universal Garbage Collection will keep Rota beautiful and safer for its residents

Last week, I took a trip to Rota and sat down with Honorable Mayor Efraim M. Atalig, Mayor of Rota, to discuss his vision for Rota's solid waste collection and disposal. He shared that solid waste collection and disposal is a challenge, as there are no commercial trash collection services on the island. Families and businesses are tasked to bring their garbage to the landfill.

With the debris impact from Typhoon Mangkhut, the landfill is filling up faster than the residents expected. They will soon need to find new ground to open another landfill. The Rota Landfill is an open dumpsite that is managed by four of the mayor's dedicated staff members and three pieces of antiquated equipment.

Mayor Atalig shared that for the most part, people are good at bringing their garbage to the landfill, but some people still throw their garbage in the jungle or over a cliff into the ocean. His staff has been trained and deputized to issue citations for littering, but they are waiting for the Bureau of Environmental Quality to provide the citation books. A lot of Rota families don't have vehicles to bring the garbage to the dumpsite, so they depend on other family members to dump their trash.

Mayor Atalig also conveyed his growing concerns for the health and safety of the community. The threat of sickness and disease that emanate from rotting garbage, and its possible effects on their groundwater source are among the greatest of these. It is terrifying to know that the trash discarded into the ocean is being eaten by the same fish that our people consume. Ocean pollution is unsightly, but what we can't see is worse. Most of the garbage dumped in the ocean sits at the bottom, and we're unlikely to ever be able to clean it up.

Rota's residents are proud of their island and take great care in keeping it clean to the best of their abilities and resources. Mayor Atalig's office is looking into sourcing a garbage truck to pick up residential garbage to deter illegal dumping. After hearing that the Universal Garbage Collection Task Force will incorporate solid waste management for Rota, he was excited and welcomes any help they can get to resolve their trash issues.

Mayor Atalig added that his staff spends a lot of time picking up trash along the roadways and keeps visitor areas clean and beautiful. He said he hopes that one day Rota can have a universal garbage collection so that his staff can focus on other areas of need in the municipality.

All over the island, you can see signs that read "Na gatbo Luta", which means "keep Rota beautiful". There's no better way to keep this island pristine than by helping them first establish a solid waste management system.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at <u>cnmieconomy.com</u>. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Gary Sword, Chairman, Universal Garbage Collection Task Force

Gary Sword is the Vice President of the KKMP Radio Station, one of the most popular and beloved stations in the Marianas, and has extensive experience in power, water, wastewater, and solid waste services. Gary serves as a member of the Domestic Policy Recovery Committee for the Governor's Council of Economic Advisers.

Author: Hon. Mayor Edwin Aldan, Office of the Mayor of Tinian and Aguiguan,

Guest Columnist

Submission Date: November 24, 2021 Publication Date: November 25, 2021

Universal Garbage Collection will improve quality of life in Tinian

In last week's column, Hon. Mayor Efraim M. Atalig shared that one of the greatest challenges in Rota's solid waste collection and disposal processes is the island's lack of commercial trash collection services. Unfortunately, the same is true for our beautiful island of Tinian. Our current waste disposal practices include residents and businesses hauling their trash to either the "Green Waste" site or the landfill. However, some of our residents don't have cars to be able to transport their trash to the dump, so they have to depend on their family members or friends to help them. This is usually done weekly, which means that residents spend a lot of time handling their garbage.

The Universal Garbage Collection (UGC) system will improve the overall quality of life in Tinian by providing a service that collects, sorts, and disposes of garbage for residents and businesses. It will save our residents the time it takes to handle their waste and the resources it takes to be able to do so.

Very often, the Mayor's Office staff will find residential garbage dumped in public trash bins, drum cans, and even the jungle by the beaches. Although our staff is not responsible for picking up trash from private properties, we collect about a truckload of trash from public spaces every Monday after residents enjoy their weekends at the parks. Cleaning up garbage takes up valuable time that we could use to accomplish other meaningful projects in our community. There have been instances when we had to cite businesses for illegal dumping.

Litter has the potential to cause harm to human health, safety, welfare, as well as the environment. The harmful impact of litter includes trapping or poisoning animals, killing aquatic life directly through choking and indirectly through its impact on water quality. Littering is a fire hazard, and it attracts and provides an incubation area for pests and rodents.

From an environmental position, a UGC system in Tinian will deter illegal dumping in our beaches, jungles, and public trash bins. Some people throw hazardous materials, green waste, and large household goods where they shouldn't because it's the most convenient

Marianas Universal Garbage Collection Program

way to get rid of them from their homes. This poses a great risk to our health, environment, and natural resources.

A UGC system will manage the impact on our environment and ensure that hazardous waste materials are disposed of properly. The ongoing military activities will also benefit from having a UGC system in Tinian, as they are continuously looking for ways to get rid of their waste more efficiently and conveniently.

UGC will provide a well-thought-out plan to properly collect, sort, upcycle, recycle, and compost waste to reduce the amount that will end up in our landfill. We need to implement a long-term plan to manage our waste for generations to come.

Above all this, a UGC system will promote a more beautiful and enjoyable experience in Tinian – one that is without litter and the flies that come with it! However, keeping Tinian clean is not a responsibility left only for UGC and the government agencies. It is our responsibility as a community to take a proactive approach when it comes to cleaning up after ourselves at home and in public spaces. It is also our responsibility to keep our island free from illegal dumping. We can't say we want to keep our island clean and become a world-class destination if we don't do our part as residents to take care of and protect our island.

The conveniences, safety assurances, and the decrease in health risks are some of the immediate benefits of an implemented UGC system, and Tinian is ready to take this next step to improve the quality of life for its residents.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at cnmieconomy.com. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Hon. Mayor Edwin Aldan, Office of the Mayor of Tinian and Aguiguan

Hon. Mayor Edwin Aldan is the 14th Mayor for the island of Tinian and Aguiguan. He has served the Marianas for several years as a police officer, congressman, and member of the Tinian Municipal Council. Mayor Aldan is committed to leading the mission to foster safety, cleanliness, and equal opportunity for all residents.

Author: Gary Sword, Chairman, Universal Garbage Collection Task Force

Submission Date: December 1, 2021 Publication Date: December 2, 2021

Filthy & Dangerous: The Risky Job of a Garbage Collector

This week I had the honor of meeting our CNMI trash collection companies to share with them the Universal Garbage Collection (UGC) initiative and to get their feedback on moving the UGC forward. I say honor because trash collection is a dirty and underappreciated job in our community. We all know by now that keeping our hands clean is one of the most effective ways to keep the coronavirus away. But what if it's your job to get your hands dirty?

When you talk about the dirtiest jobs around, there's no doubt that the image of a trash collector on the back of a garbage truck comes to mind. After all, it's their job to handle your garbage. More than dirty, a waste and recycling worker's job is dangerous.

Perhaps you may not think about trash and recycling workers often, yet every week they arrive at your house or business to empty your bins. That's only a fraction of what they do each day, rain or shine, and usually with no recognition. If you look up the 10 most dangerous jobs in America, you will find garbage collectors have been ranked as high as number three. According to Time magazine, refuse and recyclable material collectors are ranked fifth on the list of dangerous professions. As far dangerous jobs go, refuse collectors, such as those who pick up your trash, beat out farmworkers, steelworkers, and powerline installers.

Many factors contribute to the dangers of this labor-intensive position, including the elements. Picking up and dumping trash bins over and over for hours each day is physically taxing, but when you throw extreme temperatures into the mix, it becomes even more dangerous. Trash collection workers have to stay hydrated to avoid heatstroke, a real and serious risk in our hot and humid weather.

Other dangers include exposure to hazardous materials in the trash bins. Trash collectors suffer injuries from broken glass, used medical needles, nails from construction debris, chemicals, paint, and many other waste items that are dangerous when tossed mindlessly into a trash collection bin. This is another good argument for why we need to properly sort and dispose of our garbage.

Overhead obstacles such as low-hanging electrical wires, communication wires, and even tree branches are a challenge for garbage trucks and workers. Sometimes tree branches have wires tangled within them, making them camouflaged and difficult to see. There is always the threat of electrocution.

Road Incidents are a concern for waste and recycling workers. Being hit by a vehicle always remains a top worry for sanitation workers and one of the leading causes of fatalities in the industry in the US. Distracted or careless drivers zooming around a truck and hitting a worker loading materials into the back of a truck are incidents that plague the industry. When you see a truck, please slow down and proceed with caution.

During this Covid-19 emergency, we've seen excessive amounts of garbage from personal protective equipment to disposable containers. They can all host the virus and facilitate the spread of the disease. The New England Journal of Medicine found that the coronavirus remains viable on surfaces for several hours, surviving longer on plastic and stainless steel than on copper and cardboard. Accumulation must be avoided, which makes the continuity of sanitation services even more essential.

I tip my hat and offer an acclamation of thanks for the untiring efforts of our trash collection companies and their workers. The next time you come across a garbage collector, be sure to thank him or her for their service.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at <u>cnmieconomy.com</u>. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Gary Sword, Chairman, Universal Garbage Collection Task Force

Gary Sword is the Vice President of the KKMP Radio Station, one of the most popular and beloved stations in the Marianas, and has extensive experience in power, water, wastewater, and solid waste services. Gary serves as a member of the Domestic Policy Recovery Committee for the Governor's Council of Economic Advisers.

Author: Rep. Sheila J. Babauta, Guest Author

Submission Date: December 9, 2021 Publication Date: December 10, 2021

It's time to implement a Universal Garbage Collection program in the Marianas

Trash. It's everywhere – along our beaches, buried underneath the soil, in our ocean, and illegally dumped in various parts of the islands. It is unsightly, unhealthy, and threatens our environment and natural resources.

We know something must be done about this issue, and a reliable universal garbage collection (UGC) system is what the CNMI needs right now. This idea has been discussed for years and several legislative terms, and I'm glad to see the CNMI take the steps in forming a task force that is fully committed to focusing on this solution. A reliable UGC program will surely alleviate the issue of trash throughout our community and in private and public spaces.

A major benefit of UGC is that our trash will be picked up from our homes. There won't be regular visits to the transfer station or landfill. Hopefully, we can see an end to illegal dumping sites.

It is our responsibility to properly dispose of our trash – for the overall health of our community and our environment.

When I was in Scotland for the United Nations Climate Change Conference, the garbage collectors went on strike. Garbage collector unions – comprising over 1,000 workers – went on strike for eight days. They were protesting due to a lack of respect from management, low wages, and poor working conditions.

According to reports by the New York Times and other sources, many garbage collectors in Glasgow earn between \$25,000-\$27,000 per year, yet these wages have not kept up with the pace of waste production in the city. Especially during this pandemic, there has been a surge in waste due to takeout and online food deliveries. Trash receptacles have been swamped, thus becoming ideal homes for pests such as rats. It's common to see rats attack garbage collectors, and there are instances when garbage collectors were sent to outpatient clinics for treatment due to injuries.

The result of the strike was evident – garbage bins were visibly overflowing at every street in the city. Currently, the unions and city officials are in talks to discuss what

Marianas Universal Garbage Collection Program

improvements can be made. However, the unions have mentioned their intention to resume the strikes leading up to the Christmas and New Year holidays if their demands for higher wages and others are not met.

This strike highlights the growing disconnection between major governments, communities, and workers around the realities of trash, not just in Scotland but around the world and in the Marianas, too.

The Universal Garbage Collection Task Force aims to bridge this gap and offer a solution that works for all of us. As Chairwoman of the Natural Resources Committee, an environmental advocate, and a daughter of the Marianas, I am extremely supportive of this effort. I encourage our people to learn more about it, support this initiative, and take part in making this happen for our islands and our people.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at <u>cnmieconomy.com</u>. Engage with the UGC Task Force via email at <u>gceacnmi@gmail.com</u>.

By Rep. Sheila J. Babauta, Guest Author

Rep. Sheila J. Babauta serves as a member of the 22nd CNMI Legislature and holds key leadership positions in the Natural and Cultural Resources Committee, Education Committee, and the Saipan and Northern Islands Legislative Delegation. She is a passionate advocate for the responsible management of the Marianas' natural resources and improving the quality of life for all.

Author: Roberta Guerrero, Guest Author Submission Date: December 15, 2021 Publication Date: December 16, 2021

Transforming our waste stream can start today

Trash is everybody's business. Over the last few months in this column, the Universal Garbage Collection (UGC) Task Force has listed the many ways that the improper disposal of garbage affects our homes, health, safety, and environment. However, before we even begin to tackle the solutions for these issues, we must take our first step as a community – accepting the fact that garbage is everyone's concern.

As a consumer society, we are all responsible for our environment. We must do our part to keep our lands and surrounding waters clean for our people and the generations to follow. Accepting this responsibility isn't always easy. Mariana Islands Nature Alliance (MINA) conducted multiple surveys over the years about why people litter, and the answers are not surprising. They are consistent with the idea that "someone" will come in after they're gone to clean up the mess. Unfortunately, for many years and even today, this mindset is still prevalent in our community.

An important key to changing this behavior is understanding that the proposed Universal Garbage Collection program can transform the Marianas into a truly pristine home for our residents and destination for our visitors. The absence of litter along our shores and inside our villages will go far in creating a desirable destination. The UGC system will support this by providing facilities that will make waste disposal convenient and efficient, and therefore reinforce good habits in our community. When we invite someone into our homes, we clean in preparation. In the same way, we must clean up our islands as we invite our visitors to enjoy our home and rebuild our tourism economy.

We also do not have to wait for the full execution of the UGC program. Today, we can all make practical and conscious changes in how we treat waste disposal in our homes and when we are out enjoying our beaches and parks.

One of MINA's programs is "Adopt a Bin" with recycling bins placed at public parks and beach fronts. While many beachgoers make good use of these bins and place their recyclable items in the appropriate receptacles, there is a disheartening number of instances that we see reported in the news every Monday about litter everywhere. MINA's Rangers spend countless hours every week maintaining these bins and collecting household trash that gets dumped alongside them. If it weren't for the dedicated

Marianas Universal Garbage Collection Program

volunteers such as Max Aguon and his team who come in to clean up after people, their mess would end up in the ocean.

The Saipan Mayor's Office is doing a tremendous job of keeping our major roadways clean and free of litter, as is the Department of Parks and Recreation. BECQ and MINA's Tasi Watch Rangers do monthly beach cleanups with youth and civic organizations, but the question remains: why is garbage so carelessly tossed aside?

MINA's mission is "Empowering Communities for Conservation," and if we begin engaging in the proper management of waste disposal and recycling now, we can make a difference. With the implementation of the Universal Garbage Collection program, the Marianas can become a top-tier destination to visit and call home.

For more information about the Universal Garbage Collection initiative, visit the GCEA website at cnmieconomy.com. Engage with the UGC Task Force via email at gceacnmi@gmail.com.

By Roberta Guerrero, Guest Columnist

Roberta Guerrero is the Executive Director of the Mariana Islands Nature Alliance. A proud resident of Saipan with a heart for volunteerism, Roberta passionately serves the Marianas to preserve and protect the islands' environment for generations to follow.

APPENDIX C

DRAFT

EXECUTIVE ORDER NO. 2021-XX

SUBJECT: ESTABLISHMENT OF THE GOVERNOR'S ENVIRONMENTAL COUNCIL

WHEREAS, Article I, Section 9 of the Commonwealth of the Northern Mariana Islands Constitution states "Each person has the right to a clean and healthful public environment in all areas, including the land, air, and water"; and

WHEREAS, the Commonwealth government has successfully established a governmental regulatory framework to enforce the environmental standards to protect and preserve the Northern Marianas environment; and

WHEREAS, the responsibility of protecting the environment is shared by all residents of the CNMI community, both private and public; and

WHEREAS, collaboration between members of the public and its government on the critical issues regarding environmental protection, sustainable development, and conservation allows for community ownership in the protection of the Commonwealth's resources and the sharing of skills, expertise and knowledge to aid the government agencies in implementing their respective mandates; and

WHEREAS, the long-term interest of all residents of the CNMI would be best served through providing members of the public a voice in the critical issues facing its environment and to aid the government in delivering the policies, programs and initiatives that will see the lasting protection of the Commonwealth's resources for future generations

NOW THERE I, RALPH DLG. TORRES, Governor of the Commonwealth of the Northern Mariana Islands, do hereby order the establishment, within the Executive Branch, the Governor's Environmental Council with the following structure and goals:

Representation

The Governor's Environmental Council (GEC) shall be chaired by a representative of the CNMI community chosen by the Governor.

Member to the GEC shall be appointed at the Governor's discretion.

The Governor shall appoint members from various government and non-government sectors who hold backgrounds and expertise in environmental policy, conservation, and environmental activism.

Members to the GEC will serve as Environmental Advisers to the Governor at no expense to the CNMI Government.

Member of the GEC shall be removed at the discretion of the Governor or by a vote of the GEC members.

Council Charge

The GEC shall be advisory to the Governor and its responsibilities shall include, but are not limited to:

- 1. The formulation of policy initiatives or community activities to encourage environmental protection, conservation, and sustainable development.
- 2. Providing recommendations to the Governor on environmental issues relating to the administration of the Executive Branch and its departments and agencies.
- 3. The creation of detailed reports to advance environmental policy initiatives beneficial to the CNMI population.
- 4. Conducting a review of current environmental laws and policies to determine their efficacy in protecting the environment
- 5. Proposing studies to be conducted related to the CNMI environment to include surveys, valuation studies, cost benefit analyses, and willingness to pay estimations.
- 6. The convening of GEC meetings at least once every three (3) months.

Direction to CNMI Government Departments and Agencies

I direct all departments and agencies of the CNMI Government to fully support and cooperate with the GEC in the performance of this Executive Order.