APPENDIX - 16

PRICES OF CONSTRUCTION EQUIPMENT, MATERIAL AND LABOR AVAILABLE AT PROJECT AREA

September 29, 1983

PUBLIC WORKS EQUIPMENT RENTAL PRICES W/OPERATOR AND FUEL

| | NAME | RATE PER HOUF |
|-----|--|---------------|
| .1. | 50 tons Crane Hydraulic (KATO) | |
| 2. | 45 tons Crane 1,1/2 yd. bucket (LINK BELT) | \$95.00 |
| 3. | 25 tons Forklift (TCM) | 80.00 |
| 4. | 20,000lbs. Forlift (YALE) | 80.00 |
| 5. | Grader Mitsubishi | 60.00 |
| 6. | Loader 966 Cat. | 60.00 |
| 7. | Bull Dozer D6 Cat. | 70.00 |
| 8. | Backhoe Loader John Deer 420 | 60.00 |
| 9. | Dump Truck NISSAN 7 yds. | 40.00 |
| 10. | Dump Truck International | 40.00 |
| 11. | Pickup Truck 1/2 ton. | 40.00 |
| 12. | Welding Machine 200 Amps. | 7.00 15.00 |
| 13. | Concrete Mixer 1,1/4 yd. | 13.00 |
| 14. | Roller Road 8 ton | 36.00 |
| 15. | Compressor 200-250 CFM | 40.00 |
| 16. | Crawler Crane 50 ton | 95.00 |
| 17. | Pile Drive Hammer 7740 kg., Piston weight 3500 kg. | 80.00 |
| 18. | Excavator Hitachi UH. 083 | 80.00 |
| 19. | Vibrator Compactor 10.3 tons | 40.00 |
| 20. | Truck Tractor NISSAN - 22,000 kg. | 40.00 |
| 21. | Low-Bed Semi Trailer 60 ton | 35.00 |
| 2. | Portable Jack Hammer | 25.00 |
| 23. | Flood light portable, self power 12v. | 10.00. |
| 24. | Fuel Tanker | 40.00 |
| 25. | Water Tanker | 40.00 |
| 26. | | 45.00 |
| 27. | LCU Boat | 225.00 |
| ag. | 910 Loader | 53.00 |
| 39, | Hi-Lift Truck | 60.00 |
| | · Utility Truck | 40.00 |
| 3/, | Small Backhal | 20.00 |



P.O.BOX 6 MAJURO MARSHALL ISLANDS 96960

March 13, 1986

RATE INFORMATION

Equipment rental:

| | Retail | Contractor | Contractor |
|----------------------|------------|------------|------------|
| | rates/hour | rates/day | rates/week |
| D8 or D7 | \$120.00 | \$840.00 | \$3,360.00 |
| American Crane | 90.00 | 63Ø.ØØ | 2,520.00 |
| Hydrolic crane 6 Ton | 40.00 | 280.00 | 1,120.00 |
| 966 loader | 65.00 | 455.00 | 1,820.00 |
| 950 loader | 55.ØØ | 385.ØØ | 1,540.00 |
| Wabco loader | 40.00 | 280.00 | 1,120.00 |
| 15 Yard dump | 40.00 | 28Ø.ØØ | 1,120.00 |
| Bros compactor | 45.00 | 315.ØØ | 1,260.00 |
| Backhoe, Koering, HW | 90.00 | 630.00 | 2,520.00 |
| Air compressor | 25.00 | 175.ØØ | 700.00 |
| Drill rig | 65.00 | 455.00 | 1,820.00 |

Material prices: (At our yard)

| Cement | 6.85/40KG |
|----------------------------|-----------|
| Manufactured sand | 18.00/CY |
| Aggregate, 3/4" | 18.00/CY |
| Aggregate, 1" | 18.00/CY |
| C Raw fill | 6.50/CY |
| Redi-mix 2000 psi (5 bags) | 100.00/CY |
| 2500 (6 bags) | 107.00/CY |
| 3000 (7 bags) | 132.00/CY |

Redi-mix delivered to site, in the truck, less cement, less additives, \$48.00/CY for 5 bag mix. Add \$1.00 handling for each additional bag of cement per CY.

Rates we now use to calculate costs:

| | Machine excavation | \$6.05/CM |
|---|-----------------------------|-----------------------|
| | Backfilling customer mat. | 2.55/CM |
| | Backfill new material | 9.10/CM |
| | Disposal soil | 2.50/CM |
| 0 | Reinforcing steel | $TM \setminus OO.OO8$ |
| | Form work | 35.ØØ/SM |
| | Steel trowel finish | 1.50/SM |
| • | Site prep cut. less than 1' | 2.00/SM |
| | Steel struct erection | 128.00/MT |

Our average billing rates on manpower/hour

| | • | | |
|------------------------|---|--------|-------|
| Civil Engineer (Phil.) | | 13.75 | |
| Supervisor/foremanw | | 11.25 | |
| Skilled worker, local | | 5.50 | ٠. |
| Unskilled | | 3.15 - | -3.79 |



NINE GROUP

NINE WELL ENTERPRISE CO., LTD.

P. O. BOX 989, MOULEN, CONTRACT SEE XOB OF TAIWAN P. O. C.

TELEX: 23(26)

TEL: 3413, 337; TELEX: 0942 N

EGUIPMENT RENTAL RATE

EFFECTIVE FEB. 10, 1986

| DESCRIPTION | MADE/NODEL | UNIT FRICE (HOUR |
|-------------------------|-------------------------|------------------|
| 1. DUMP TRUCK, 10 T | NISSAN/TWSOL | 40.00 |
| 2. DUMP TRUCK, 10 T | NISSAN/TWEOL | 40.00 |
| 3. DUMP TRUCK, 10 T | IZUZU/SSZ450D | 40.00 |
| 4. DUMP TRUCK, 10 T | IZUZU/SSZ450D | 40.00 |
| 5. TRAILER, 22 T | OAEHHIDNIH | 80.00 |
| 6. CRANE, 5 T | FUSO/FK115KK | 40,00 |
| 7. CRANE, 5 T | IZUZU/TS60N | 40.00 |
| 8. EXCAVATOR | MITSUBISHI/MS160 | 60.00 |
| 9. EXCAVATOR | MITSUBISHI/MS180 | 80.00 |
| 10. EXCAVATOR | MITSUBISHI/MS230 | 80.00' |
| 11. EXCAVATOR | KATO/HD-300GS | 40.00 |
| 12. EXCAVATOR | KATO/HD-300GS | 40.00 |
| 13: EXCAVATOR | KOMATSU/10 HT | 40.00 |
| 14. EXCAYATOR/SHOVEL | FORD/4500 | 40.00 |
| 15. PAYLOADER | KOMATSU/JH62CV02 | 60.00 |
| 16. PAYLOADER | KOMATSU/JH60A | 60.00 |
| 17. PAYLOADER | KDMATSU/JH308 | 40.00 |
| 18. FORK LIFT | MITSUBISHI/2FD30 | 15.00 |
| 19. EXCAVATOR W/BREAKER | KOMATSU 10-HT W/NPK 3-) | 00,00 |
| 20. EXCAVATOR W/BREAKER | M2190/WBK 800 | 80.00 |
| | | • |

-To be continued on page 2-



NINE GROUP

NINE WELL ENTERPRISE CO., LTD.

RM. 1001, NO. 15, FU SHING N. RO., TAIPZI, TAIWAN P. O. BOX 34-289, TAIPEI, TAIWAN, R. O. C.
P. O. BOX 989, NAJURO, MARSHALL ISLANDS 96960.

TEL:7710994.; TELEX: 23126 TEL: 3415: 35: TELEX: 0942;

EQUIPMENT RENTAL RATE

EFFECTIVE FEB. 10, 1986

| DESCRIPTION | MADE/MODEL | UNIT PRICE (HOURLY |
|--------------------------|--|--------------------|
| 21. EXCAVATOR W/BREAKER | MS 160/MBK 1300 | 100.00 |
| , GENERATOR | HINO/125KVA/DG ï25 B | 60.00 |
| 23. GENERATOR | DENYO/9KVA DCA-858S | 15.00 |
| 24. GENERATOR | KOBIN | 5.00 |
| 25. COMPRESSOR | FDR-175F | 40.00 |
| 26. COMPRESSOR | PUMA | 5.00 |
| 27. POWER TROWEL | MIKASA | 6,00 H |
| 28. CONCRETE CUTTER | MIKASA MCD-24 | 5.00 |
| 29. COMPACTOR | MIKASA MVC-70G | 3.00 |
| 30. TAMPING HAMMER | MIKASA MT-50 | 5.00 |
| 31. WELDING MACHINE | AC ARC | 5.00 |
| . 4" WATER PUMP | TOKAI OP-402 | 10.00 |
| 33. 3" WATER PUMP | GF-801 | 5.00 |
| 34. 8" WATER PUMP | SUBMERGE | 20.00 |
| 35. 4" WATER FUMP | SUBMERGE | 10.00 |
| 36. 2" WATER PUMP | SUBMERGE | 5.00 |
| 37. VIBRATING PILE DRIVE | R WITH CONTROL PANEL | 90.00 |
| 38. SAND BLASTING MACHIN | en en de la composition de la frança de la grada de la En la composition de la composition de La composition de la | 20.00 |

^{**} EQUIPMENT RENTAL RATE INCLUDES OPERATOR, FUEL, MAINTENANCE.
RATES SUBJECT TO CHANGE WITHOUT NOTICE.

APPENDIX - 17

REFERENCES

REFERENCES

1. General

- U.S. Department of the Interior, <u>Trust Territory of the Pacific Islands</u>
 1984, Oct. 1, 1981 to Sep. 30, 1984.
- Office of Planning and Statistics, the Republic of the Marshall Islands, First Five Year Development Plan 1985 - 1989.
- Design and Engineering Division, Department of Public Works,

 Specifications for Local Public Works Capital Development and

 Investment Program, Trust Territory of the Pacific Island, Sep.

 1977.
- TTPI, Majuro Development Plan, Nov. 1981
- Austin, Smith & Associates. Inc., Engineering Report Covering A Master

 Planned Water Supply and Distribution System as well as a Sewerage

 System for the Majuro Atoll for the Marshall Islands District, Oct.

 1967.
- TTPI, TTPI Capital Improvements Program (CIP), Oct. 01, '85.
- DPW, Operation and Maintenance Management Plan, Majuro Water System.
- RMI, The Rural Water Supply Project in Majuro
- The Republic of the Marshall Islands, Republic of the Marshall Islands
 Public Service Regulations, June 25, 1984.
- DPW, Official Holidays in 1986
- U.S. Department of the Interior, Report Draft "Occurrence of Ground Water in the Laura Area, Majuro Atoll, Marshall Islands"

- American International Constructors, Inc., Report dated 6 November 1973 on Majuro Water Supply System Treatment Plant "B".
- American International Constructors, Inc., Report dated 6 November 1973 on Majuro Water Supply System Treatment Plant "C".
- DPW, Organization Chart of Department of Public Works.
- DPW, Water System Operation of Maintenance Crew.
- U.S. Army Corps of Engineers Pacific Ocean Division, <u>Invitation for</u>

 Bids No. DACA (TTPI) 84-82-B-0143 Specifications for Majuro Water

 Treatment Facility.
- U.S. Army Engineer Division, Pacific Ocean, <u>Invitation for Bids</u>
 (Construction Contract) Amendment-0001 82 June 02, Majuro Water
 Treatment Facility, Manuro Atoll.
- Williams & Works, A proposal to Republic of Marshall Islands for

 Groundwater Resource Evaluation and Proposed Water Supply

 Improvements at Majuro, July 1983.
- Barrett, Harris & Associates, Inc. Consulting Engineers, <u>Contract</u>

 Documents for the Construction of Majuro Sewer Project Phase II

 D-U-D Area.
- TTPI, Project Grant Agreement for Majuro Water System Project No. T-717.
- Williams & Works, A Proposal to Republic of the Marshall Islands for

 Improvement of the Existing Airport Facilities at Majuro, June
 1983.
- Capital Improvement Projects Administration RMI, Request for Proposal

 Desalination Facility Using Waste Heat, Majuro, Marshall Islands.

U.S. Department of the Interior, <u>Activities of the U.S. Geological</u>
Survey Water Resources Division, Hawaii District 1984.

Majuro Sewer Project Phase 1 & 2 Log of Borings & Test Pits.

National Oceanic and Atmospheric Administration, USA, Local Climatological Data Monthly Summary Jan. 1982 - Dec. 1982, Jan. 1983 - Dec. 1983.

National Oceanic and Atmospheric Administration, USA, <u>Local Climatological Data Monthly Summary</u> Jan. 1986 - Jun. 1986.

National Oceanic and Atmospheric Administration, USA, <u>Local Climatological Data Annual Summary with Comparative Data 1981, 1983, 1984, 1985.</u>

DPW, Daily Report, Water Operation.

CIP, Pressure Readings at Rita.

DPW, Maintenance Fee for Water Supply.

DPW, Survey Results of Households with Water Meter.

Ministry of Foreign Affairs, Public Law No. 1984-3.

Ministry of Foreign Affairs, Public Law No. 26-18-1.

Ministry of Foreign Affairs, Customs Clearance.

Ministry of Foreign Affairs, Labor Cost.

DPW & Local Contractor, Unit Cost for Construction Works.

National Hospital of Marshall Islands, <u>Test Results of Potable Water</u>, 1985, 1986.

- IPSECO International Power Systems Limited, Pipe Trench G.A. & R.C. Details for Diesel Power Station.
- DPW, Catalogue for Hypalon Sheet.
- Engineering Advancement Association of Japan, Study on the Proposed

 Social Development Type Improvement Plan of the RMI March 1985.
- Ministry of Construction of Japan, Report of the Preliminary Study on the Master Plan for Housing Development in the RMI - March 1985.
- JICA, State of the Construction Industry in the Micronesia Federation (Yap State, Kosrae State) January 1986.

Photographs

CIP, Aerial Photograph of Majuro.

3. Drawings

- U.S. Army Engineer Division Pacific Ocean, <u>Majuro Airfield and Related</u> Facilities 315-86-1.
- U.S. Army Engineer Division Pacific Ocean, Majuro Airfield and Related Facilities (Phase II) 315-86-2.
- Barrett, Harris & Associates, Inc., <u>Water System Base Maps, Majuro</u>
 Atoll.
- U.S. Army Engineer Division Pacific Ocean, Majuro Air Terminal.
- Barrett, Harris & Associates, Inc., Contract Documents for Construction of Majuro Sewer Project Phase I D-U-D Area.

- Barrett, Harris & Associates, Inc., Contract Documents for Construction of Majuro Sewer Project Phase II D-U-D Area.
- Chodai Co., Ltd., The Construction Project of the Majuro fishing Boat
 Channel Majuro Atoll.
- U.S. Army Engineer Division Pacific Ocean, Majuro Water Treatment Facility.
- U.S. Army Engineer Division Pacific Ocean, Majuro Electrical Distribution System.

Key Map 1, 2 - Majuro Distribution system.

Ministry of Public Works and CIP, Majuro International Airport Expansion Project Scheme 3.

ADIL