

## ENR 3.4 HELICOPTER ROUTES

### 1 General

1.1 There are two types of Helicopter Routes within the Hong Kong FIR :

- a) Oil Rig Support Helicopter Routes, and
- b) Hong Kong - Macau Helicopter Routes.

1.2 Only helicopter operators authorised by the Director-General of Civil Aviation may use the Helicopter Routes established in the Hong Kong FIR.

### 2 Oil Rig Support Helicopter Routes

2.1 Reporting Points

| Reporting Point       | Co-ordinates           |
|-----------------------|------------------------|
| MCU DVOR (116.4 MHz)  | 22 08 08 N 113 35 52 E |
| ZAO DVOR (117.2 MHz)* | 22 14.7 N 113 36.7 E   |
| ZUH DVOR (116.7 MHz)* | 22 13.3 N 113 28.0 E   |
| AOTOU*                | 22 43 00 N 114 31 55 E |
| DAPENG                | 22 27 00 N 114 30 00 E |
| DELTA                 | 21 31 00 N 113 30 00 E |
| HENGA*                | 22 39 00 N 114 12 00 E |
| HOTEL                 | 22 23 00 N 114 54 30 E |
| PINGSHAN*             | 22 41 30 N 114 21 00 E |
| ROMEO                 | 21 51.8 N 113 26.9 E   |
| SESAN                 | 22 30 50 N 114 50 25 E |
| UNIFORM               | 22 09 00 N 113 40 42 E |
| VICTOR WHISKEY        | 21 50 00 N 113 55 00 E |

\* Navaid/Reporting Point outside Hong Kong FIR

2.2 Routes

| Name                              | Route   | Controlling Unit Frequency *  |
|-----------------------------------|---|---|
| Track H<br>(IFR/VFR)              | Helicopter base - HENGA – AOTOU – SESAN   | Hong Kong Radar<br>126.5 MHz (primary)<br>132.8 MHz (secondary)                   |
| Track D<br>(Secondary IFR Track)  | ZUH DVOR – ROMEO – DELTA  | Hong Kong Radar<br>124.05 MHz (primary)<br>134.3 MHz (secondary)                  |
| Track VW<br>(VFR)                 | Helicopter base – ZAO DVOR – UNIFORM – VICTOR WHISKEY                           | Hong Kong Approach<br>119.1 MHz or<br>Hong Kong Zone<br>120.6 MHz, as instructed. |
| Track VH<br>(Secondary VFR Track) | Helicopter base – HENGA – PINGSHAN – along Eastern Coast of DAPENG WAN – DAPENG |   |

\* Helicopters departing from an oil rig shall contact Hong Kong Radar on the last assigned frequency as soon as practicable.

2.3 Vertical Limits

| Route      |                             | Less Than 50 NM from CH DME   | 50 NM or Greater from CH DME   |
|------------|-----------------------------|---|--|
| <b>VFR</b> | Track H                     | 2 000 ft AMSL or less   | Below 8 000 ft AMSL  |
|            | Track VH<br>(Base to rig)   | 2 000 ft AMSL or less   |  |
|            | Track VH<br>(Rig to base)   | 2 000 ft AMSL or less   |  |
|            | Track VW<br>(ZAO – UNIFORM) | 500 ft AMSL or less (RWY 07 in HKIA);<br>800 ft AMSL or less (RWY 25 in HKIA) | At appropriate cruising levels in accordance with ICAO Annex 2, Rules of the Air, Appendix C.<br><br>Oil rig support helicopters shall not normally be flown at or above 8 000 ft AMSL in controlled airspace. |
|            | Track VW<br>(UNIFORM – VW)  | 1 000 ft AMSL or less   |  |
|            | Track VW<br>(VW – rig)      | 2 000 ft AMSL or less   |  |
| <b>IFR</b> | Track H<br>(Base to rig)    | 5 000 ft AMSL   |  |
|            | Track H<br>(Rig to base)    | 4 000 ft AMSL   |  |
|            | Track D<br>(Base to rig)    | 4 000 ft AMSL (PRI)<br>6 000 ft AMSL (SRY subject to coordination)            |  |
|            | Track D<br>(Rig to base)    | 5 000 ft AMSL   |  |

### 3. Hong Kong - Macao Helicopter Routes

#### 3.1 VFR/SVFR ROUTE A, ROUTE B and ROUTE C

##### 3.1.1 Reporting Points

| Reporting Point      | Co-ordinates           |
|----------------------|------------------------|
| Macao Heliport       | 22 11 48 N 113 33 33 E |
| Sky Shuttle Heliport | 22 17 20 N 114 09 08 E |
| Cheung Chau Buoy     | 22 12 24 N 114 00 12 E |
| Cheung Chau South    | 22 09 00 N 114 01 48 E |
| Fan Lau              | 22 11 24 N 113 51 00 E |
| Green Island         | 22 17 20 N 114 06 20 E |
| Lighthouse           | 22 04 42 N 113 48 12 E |
| Soko South           | 22 09 00 N 113 51 00 E |
| TANGO                | 22 11 24 N 113 40 12 E |
| UNIFORM              | 22 09 00 N 113 40 42 E |
| Abeam Uniform        | 22 08 20 N 113 40 42 E |
| Waypoint 2           | 22 05 00 N 113 53 12 E |

##### 3.1.2 Routes

| Name    | Route  | Availability   |
|---------|--|--|
| Route A | Sky Shuttle Heliport - Green Island - Cheung Chau Buoy - Fan Lau - TANGO - Macao Heliport                          | Specifically approved operators only.<br>VFR / SVFR<br>Standard Westbound route      |
| Route B | Macao Heliport - UNIFORM - Soko South - Cheung Chau South - Green Island - Sky Shuttle Heliport                    | Specifically approved operators only.<br>VFR only<br>Eastbound route                 |
| Route C | Macao Heliport - Abeam UNIFORM - Lighthouse - Waypoint 2 - Cheung Chau South - Green Island - Sky Shuttle Heliport | Specifically approved operators only.<br>VFR / SVFR<br>Standard Eastbound SVFR route |

##### 3.1.3 Communication

- a) Helicopters operating VFR shall contact Hong Kong Zone 120.6 MHz.
- b) Helicopters operating SVFR shall contact Hong Kong Zone, 120.6 MHz, or Hong Kong Approach, 119.1 MHz, as instructed.

### 3.1.4 Altitude Restrictions

| Route   | Hong Kong RWY in Use | Operating Conditions | Maximum Altitude |
|---------|----------------------|----------------------|------------------|
| Route A | RWY 07               | VFR / SVFR           | 500 ft AMSL      |
|         | RWY 25               | VFR / SVFR           | 900 ft AMSL      |
| Route B | RWY 07               | VFR                  | 500 ft AMSL      |
|         | RWY 25               | VFR                  | 1 200 ft AMSL    |
| Route C | RWY 07               | VFR                  | 500 ft AMSL      |
|         |                      | SVFR                 | 1 000 ft AMSL    |
|         | RWY 25               | VFR / SVFR           | 1 200 ft AMSL    |

### 3.2 SVFR ROUTE A2 and ROUTE C2

#### 3.2.1 Reporting Points

| Reporting Point      | Co-ordinates               |
|----------------------|----------------------------|
| Macao Heliport       | 22 11 48.0 N 113 33 33.0 E |
| Sky Shuttle Heliport | 22 17 19.7 N 114 09 08.4 E |
| CHAKO                | 22 10 20.5 N 113 56 16.3 E |
| FATUT                | 22 11 32.4 N 113 48 03.6 E |
| FOVOG                | 22 11 33.2 N 113 40 58.3 E |
| GOGRE                | 22 11 33.2 N 113 34 30.4 E |
| HASAN                | 22 10 18.6 N 113 53 20.9 E |
| HOROT                | 22 16 40.0 N 114 05 56.8 E |
| HUGOT                | 22 10 52.0 N 113 36 31.9 E |
| LEVKE                | 22 14 58.2 N 114 04 42.7 E |
| NUBOK                | 22 05 50.2 N 113 56 16.8 E |
| SANDO                | 22 07 16.4 N 113 42 57.5 E |
| WAVOS                | 22 12 01.5 N 114 04 02.3 E |
| ZEXEK                | 22 10 23.1 N 114 00 34.9 E |
| ZIRUG                | 22 05 36.3 N 113 48 14.9 E |

#### 3.2.2 Routes

| Name     | Route   | Availability  |
|----------|---|---|
| Route A2 | Sky Shuttle Heliport - HOROT - LEVKE - WAVOS - ZEXEK - CHAKO - HASAN - FATUT - FOVOG - GOGRE - Macao Heliport                 | Specifically approved operators only.<br>Standard Westbound route |
| Route C2 | Macao Heliport - GOGRE - HUGOT - Abeam UNIFORM - SANDO - ZIRUG - NUBOK - ZEXEK - WAVOS - LEVKE - HOROT - Sky Shuttle Heliport | Specifically approved operators only.<br>Standard Eastbound route |

## 3.2.3 Communication

- a) Helicopters operating SVFR shall contact Hong Kong Zone, 120.6 MHz, or Hong Kong Approach, 119.1 MHz, as instructed.

## 3.2.4 Altitude Restrictions

| Route    | Hong Kong RWY in Use | Maximum Altitude |
|----------|----------------------|------------------|
| Route A2 | RWY 07               | 500 ft AMSL      |
|          | RWY 25               | 900 ft AMSL      |
| Route C2 | RWY 07               | 1 000 ft AMSL    |
|          | RWY 25               | 1 200 ft AMSL    |

## 3.3 IFR ROUTE J and ROUTE L

## 3.3.1 Reporting Points

| Reporting point      | Co-ordinates (WGS84)       | Cross Reference from Navaid |
|----------------------|----------------------------|-----------------------------|
| Macao Heliport       | 22 11 48.0 N 113 33 33.0 E | -                           |
| Sky Shuttle Heliport | 22 17 19.7 N 114 09 08.4 E | -                           |
| PEARL                | 22 03 04.7 N 113 47 35.7 E | MCU R115/DME 12 NM          |
| QUBEC                | 22 06 01.7 N 113 40 45.3 E | MCU R115/DME 5 NM           |
| WALIN                | 22 05 40.1 N 113 58 43.2 E | CH R201/DME 8 NM            |

## 3.3.2 Routes

| Name    | Route  | Availability  |
|---------|--|---|
| Route J | Macao Heliport - visual segment to MCU DVOR - MCU R115 - QUBEC - intercept CH R201 - WALIN - MAP (CH R201/DME 3 NM) - visual segment to Sky Shuttle Heliport                         | Specifically approved operators only.               |
| Route L | Sky Shuttle Heliport - visual segment to CH R150/ DME 2 NM - CH R150 - intercept TD R224 - intercept MCU R115 - PEARL - MAP (MCU R115/DME 1.1 NM) - visual segment to Macao Heliport | Only one flight at a time shall use Routes J and L. |

## 3.3.3 Communication

- a) Helicopters on Route J shall contact Hong Kong ATCU on the notified frequency at or before QUBEC;
- b) Helicopters on Route L shall contact Hong Kong Zone 120.6 MHz.

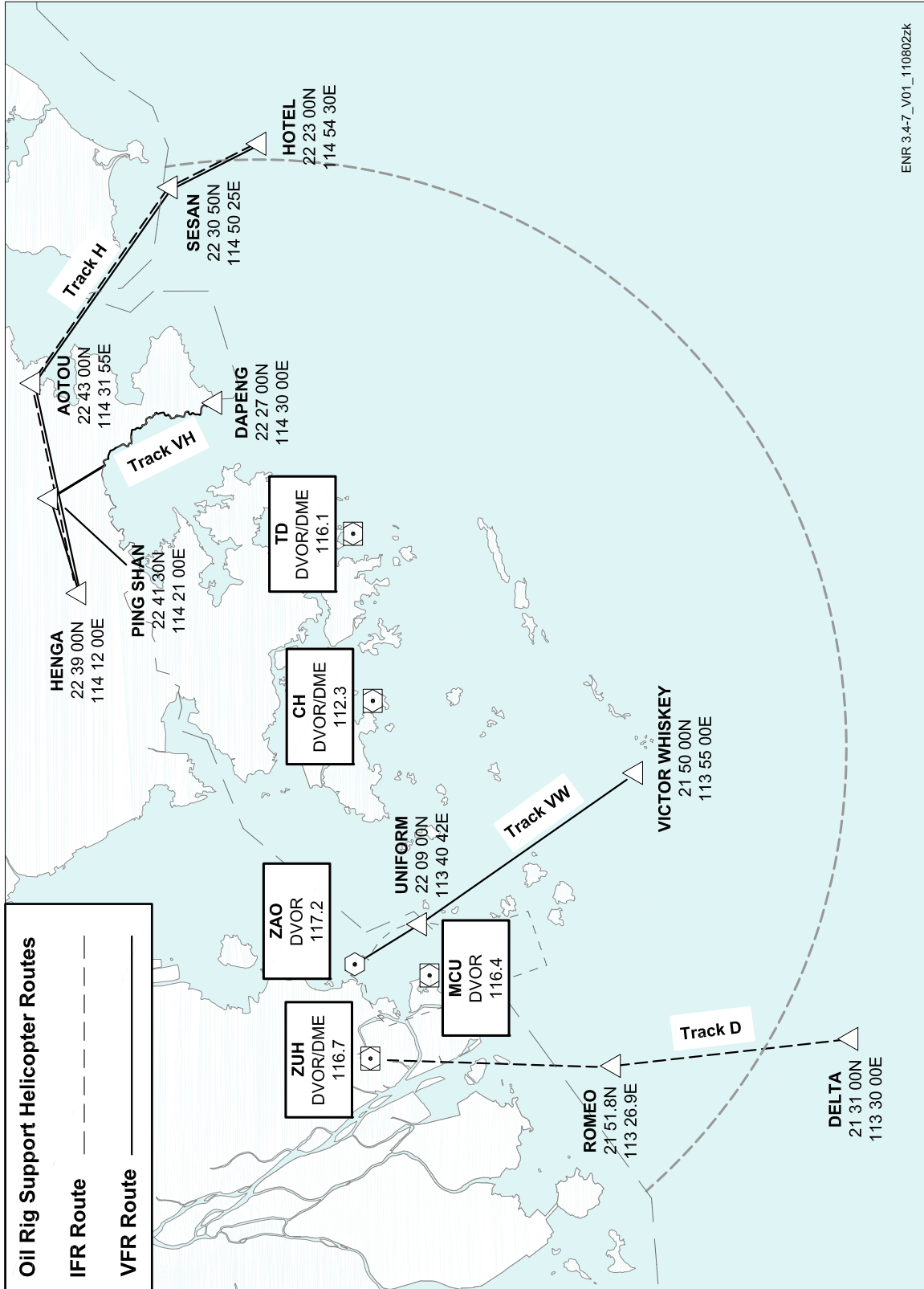
3.3.4 Altitude Restrictions

| <b>Route</b> | <b>Segment</b>                          | <b>Maximum Altitude</b> |
|--------------|---|-------------------------|
| Route J      | Macao Heliport - MCU R115/DME 1 NM      | Visual not above 500 ft |
|              | MCU R115 - WALIN                        | 1 800 ft                |
|              | WALIN – CH R201/DME 3 NM                | 1 800 ft                |
|              | CH R201/DME 3 NM - Sky Shuttle Heliport | Visual not above 500 ft |
| Route L      | Sky Shuttle Heliport - CH R150/DME 2 NM | Visual not above 500 ft |
|              | CH R150 - TD R224                       | 1 600 ft                |
|              | TD R224 - MCU R115/DME 1.1 NM           | 2 000 ft                |
|              | MCU R115/DME 1.1 NM - Macao Heliport    | Visual not above 500 ft |

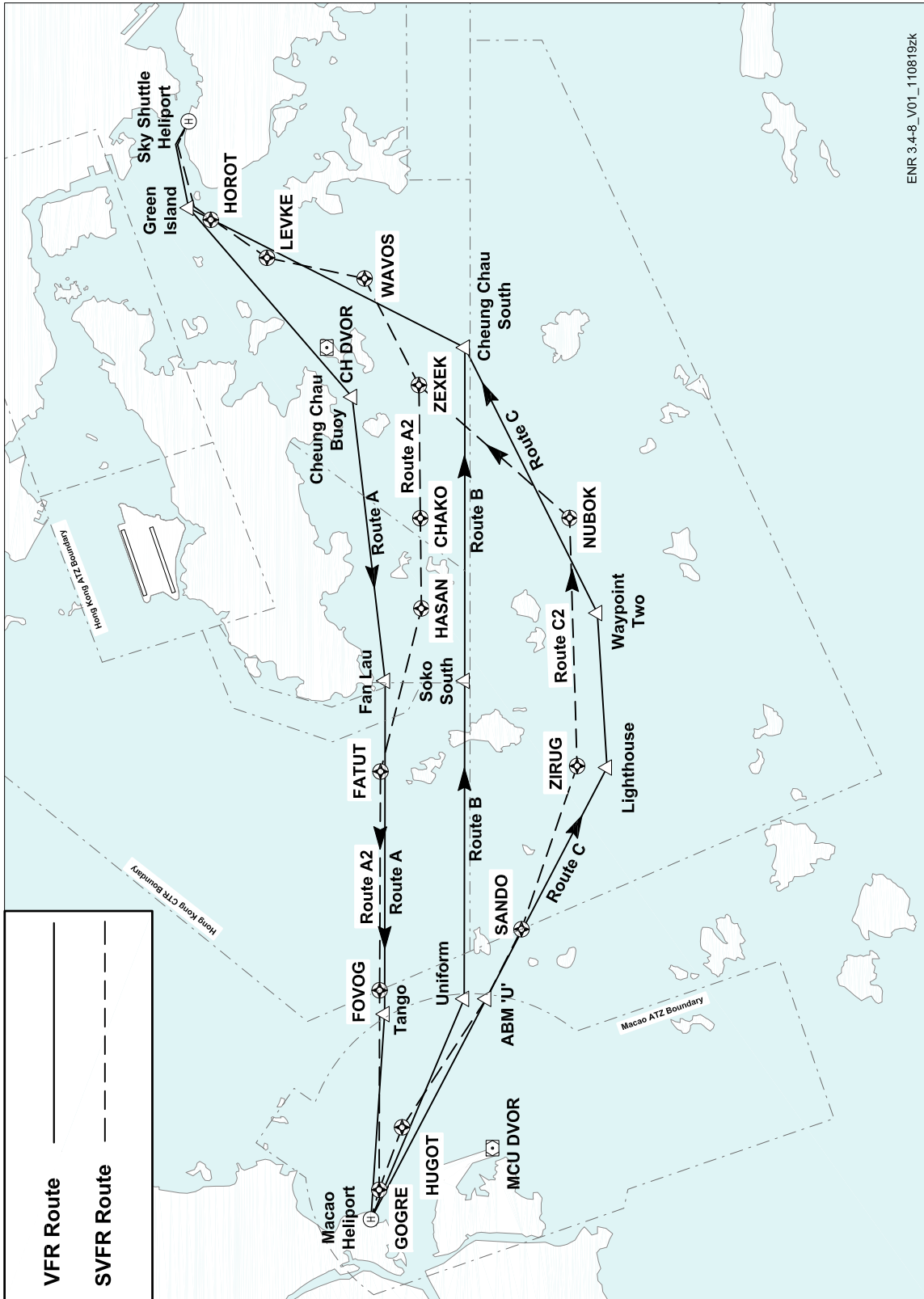
3.3.5 Operating Procedures

- a) Only specifically approved helicopter operators are permitted to use the IFR routes.
- b) Operators shall obtain authorisation from Hong Kong Control Tower Supervisor and Macao Control Tower by fax or telephone prior to departure.
- c) Only one helicopter at a time shall use both Route J and L.
- d) Helicopters shall have a serviceable SSR transponder.
- e) The IFR routes shall not normally be used during the peak periods of Macao Airport traffic.
- f) The operating altitudes of the IFR routes are generally below the Minimum Safe Altitude (MSA) and Minimum Vectoring Altitude, therefore no deviation from the published procedures is permitted.

# Oil Rig Support Helicopter Routes

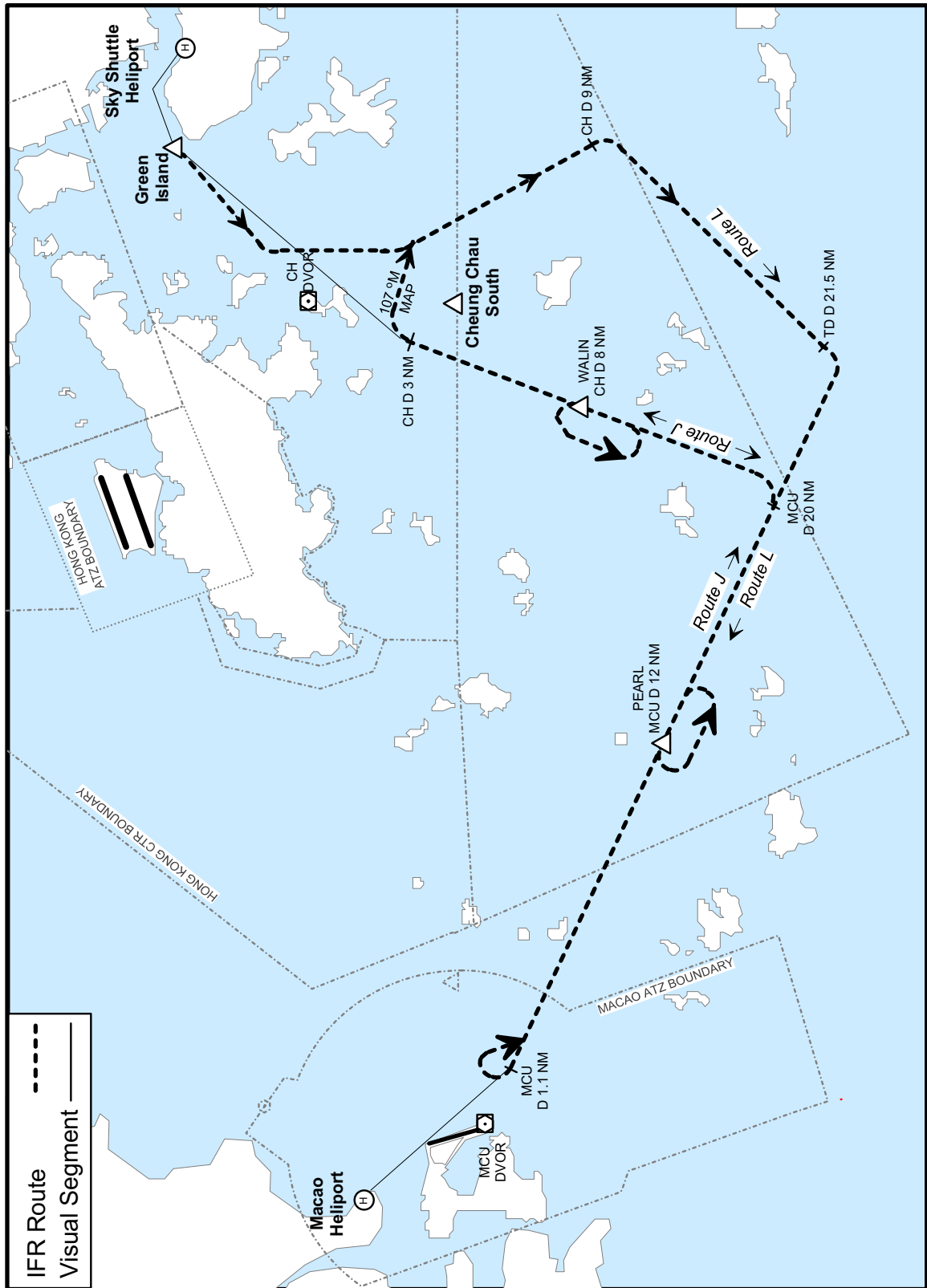


# Hong Kong - Macao VFR/SVFR Helicopter Routes





# Hong Kong - Macao IFR Helicopter Routes



22/10/10

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