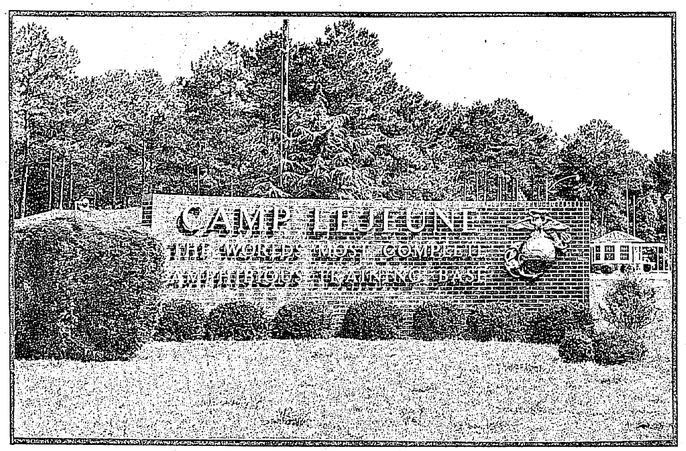
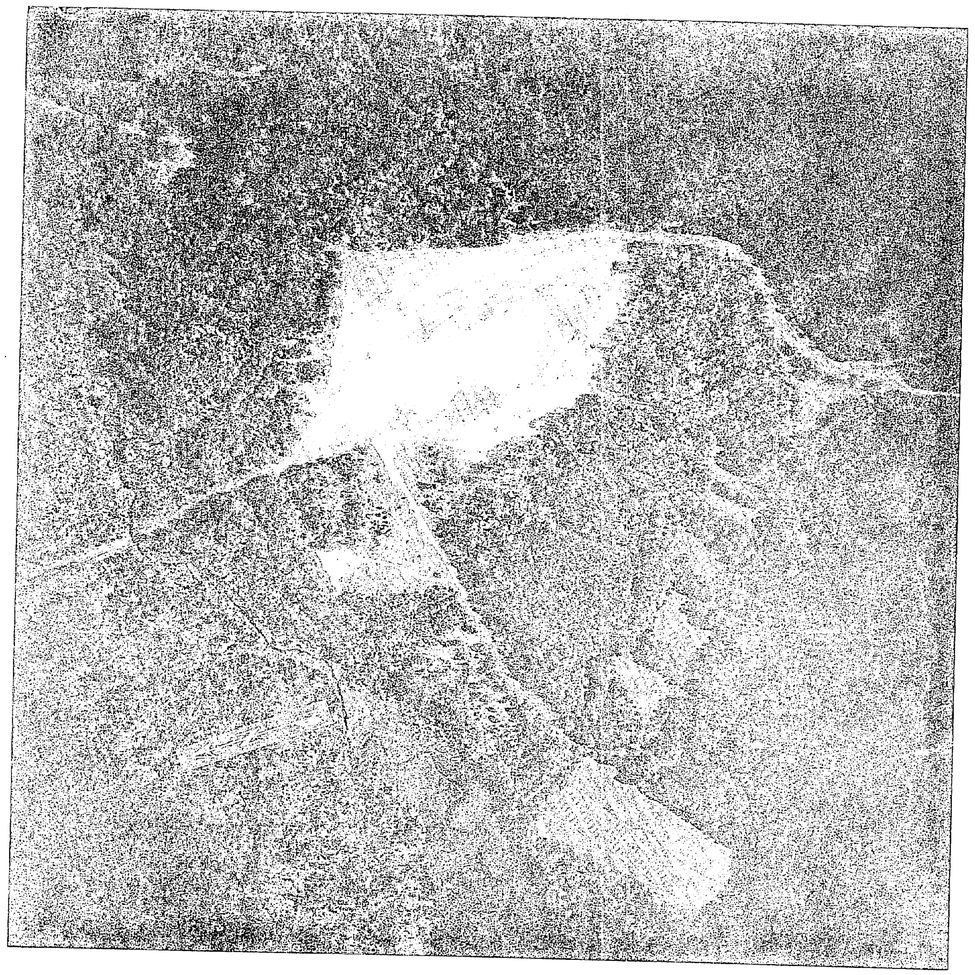
AREA STUDY

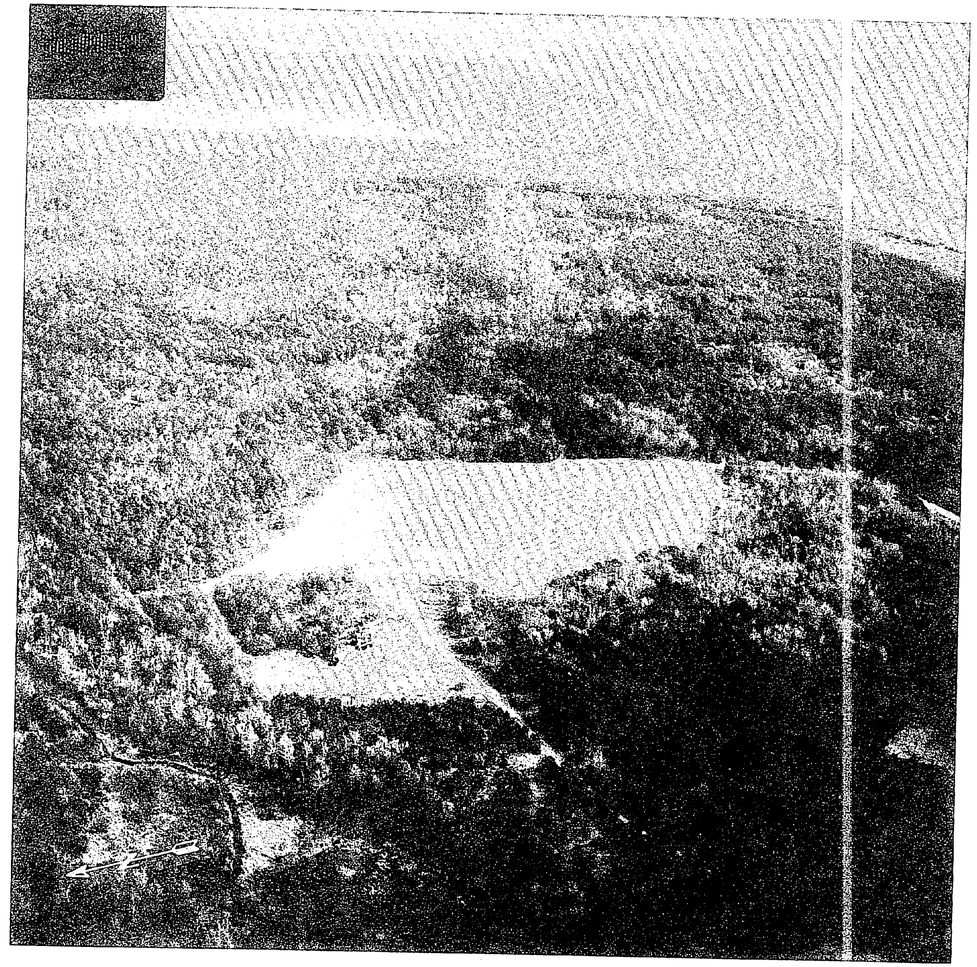


CAMP LEJEUNE , NORTH CAROLINA

TACTICAL LANDING ZONE ALBATROSS



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

HEADQUARTERS
2D MARINE DIVISION, FMF
CAMP LEJEUNE, NORTH CAROLINA 28542

2/FHS/WWW
3811
18 MAR 1974

FROM: COMMANDING GENERAL
TO: DISTRIBUTION LIST

SUBJ: SPECIAL PHOTO INTERPRETATION STUDY CAMP LEJEUNE, N.C.; PROMULGATION OF

1. FORWARDED HEREWITH IS THE AREA STUDY OF CAMP LEJEUNE, N.C.

2. INFORMATION CONTAINED HEREIN WAS COMPILED BY THE PHOTO IMAGERY INTERPRETATION UNIT (PIIU), G-2, 2D MARINE DIVISION, USING THE FOLLOWING SOURCES.

A. VMCJ-2 AERIAL PHOTO MISSION, SORTIE NO. 400 OF 16 FEB 72

B. USAF AERIAL PHOTO MISSION, SORTIE NO. 4316 OF 10 FEB 72

C. ONSLOW BEACH GROUND PHOTOGRAPHY OF 8 NOV 73

D. 2D RECON BN, HYDROGRAPHIC BEACH SURVEY REPORT OF 13 NOV 73

E. VMO-2 HANDHELD PHOTOGRAPHY 12 APR 73

3. REVISIONS WILL BE MADE AS REQUIRED. ADDRESSEES WHO OBSERVE OMISSIONS OR WHO REQUIRE AMPLIFICATION OF THE INFORMATION CONTAINED HEREIN, ARE INVITED TO FORWARD THEIR COMMENTS DIRECTLY TO THE ASSISTANT CHIEF OF STAFF, G-2, 2D MARINE DIVISION (ATTN: PHOTO IMAGERY INTERPRETATION OFFICER).

John J. Peeler
JOHN J. PEELER
BY DIRECTION

DISTRIBUTION:

CG, FMFLANT	10
COMPHIBLANT	5
CG, 2D MAW	20
CG, 4TH MAR DIV	5
CG, MCB CAMP LEJEUNE	5
CG, MCB CAMP PENDLETON, CALIF	1
CG, 101ST AIRBORNE DIV	5
CG, 82ND AIRBORNE DIV	5
CG, FORTRPS LANT	10
CG, LFTCLANT	5
CG, 4TH MAB	5
CO, FICLANT	3
CO, 2ND MARINES	20
CO, 6TH MARINES	20
CO, 8TH MARINES	20
CO, 10TH MARINES	20
CO, HQ BN, 2D MAR DIV	1
CO, 2D ENG BN	5
CO, 2D MEDICAL BN	1
CO, 2D MOTOR TRANSPORT BN	5
CO, 2D RECON BN	5
CO, 2D SERVICE BN	5
CO, 2D SHORE PARTY BN	5
MARINE CORPS LIAISON OFFICER, FORT BRAGG	5
MARCORREP AFAITC LOWRY AFB	1
MARCORREP USAICS FORT HUACHUCA	1
RESERVE LIAISON UNIT H&S BN MCB	5
G-2 FILES	35

TABLE OF CONTENTS

AREA BRIEF

1. PURPOSE AND LIMITING CONSIDERATIONS

A. PURPOSE: THIS AREA STUDY CONCERNS MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA, HOME OF THE 2ND MARINE DIVISION. IT IS THE PURPOSE OF THIS STUDY TO PUBLISH A CONCISE IN-DEPTH ANALYSIS OF THE AREA TO BE UTILIZED BY COMMANDS/UNITS IN THE PLANNING PHASE OF DEVELOPING TRAINING PROGRAMS OR FIELD EXERCISES.

B. LIMITING CONSIDERATIONS: INFORMATION PRESENTED IN THIS STUDY IS BASED ON DATA OBTAINED FROM; IMAGERY FLOWN DURING FEBRUARY 1972, MAPS AND DOCUMENTS DATED PRIOR TO 1 NOVEMBER 1973.

2. GENERAL DESCRIPTION OF THE TERRAIN

A. SYNOPSIS

(1) MARINE CORPS BASE, CAMP LEJEUNE, IS LOCATED IN ONSLOW COUNTY, NORTH CAROLINA, AND EXTENDS FROM THE CITY OF JACKSONVILLE, APPROXIMATELY 15 MILES EAST IN A TRAPEZOID SHAPE TO BORDER THE ATLANTIC OCEAN ALONG A 10 MILE AREA EXTENDING FROM BEAR INLET ON THE NORTH TO MILE HAMMOCK BAY ON THE SOUTH. THE NEW RIVER RUNS THROUGH THE BASE AREA FROM JACKSONVILLE TO MILE HAMMOCK BAY WHERE IT EMPTIES INTO THE ATLANTIC OCEAN. CAMP LEJEUNE IS THE WORLD'S LARGEST AMPHIBIOUS TRAINING CENTER COVERING APPROXIMATELY 82,650 ACRES OF LAND AND 26,000 ACRES OF WATER FOR A TOTAL OF APPROXIMATELY 108,650 ACRES.

(2) CAMP LEJEUNE IS SERVICED BY U.S. HIGHWAY 17 AND N.C. ROUTES 24 AND 258. THE ATLANTIC COAST LINE RAILROAD BRANCH WHICH SERVES CAMP LEJEUNE CONNECTS WITH THE ATLANTIC COAST LINE OUT OF WILMINGTON, 50 MILES SOUTHWEST, AND THE NORFOLK SOUTHERN RAILROAD OUT OF NEW BERN, 37 MILES NORTHEAST. THE TWO SEAPORTS SERVING CAMP LEJEUNE ARE LOCATED AT WILMINGTON AND MOREHEAD CITY, THE LATTER BEING LOCATED 46 MILES NORTHEAST ON N.C. ROUTE 24.

(3) THE ATLANTIC COAST INTRACOASTAL WATERWAY PARALLELS THE COAST THROUGH THE CAMP LEJEUNE AREA AND MOVEMENT ACROSS THE WATERWAY IS CHANNALIZED TO THE ONSLOW BEACH DRAWBRIDGE AND SELECTED RIVER CROSSING SITES ALONG THE INTRACOASTAL WATERWAY. SEE CHAPTER 4, LINES OF COMMUNICATIONS. TERRAIN WITHIN THE BASE IS GENERALLY FLAT AND SANDY WITH SWAMPLAND ALONG THE STREAMS AND RIVERS. COMMUNICATION SYSTEMS IN THE STUDY AREA ARE VERY GOOD.

(4) THE CAMP LEJEUNE AREA IS FAVORABLE FOR AMPHIBIOUS TRAINING OPERATIONS THROUGHOUT THE YEAR. HOWEVER, MARCH THROUGH JUNE PROVIDES THE MOST FAVORABLE HYDROGRAPHIC CONDITIONS FOR AMPHIBIOUS OPERATIONS ACROSS ONSLOW BEACH. SEE CHAPTER 2, BEACH STUDY.

(5) OBSTACLES ARE THE INTRACOASTAL WATERWAY, NEW RIVER INLET AND THE SWAMP AREAS WITHIN CAMP LEJEUNE. CONDITIONS INFLUENCING CROSS-COUNTRY MOVEMENT ARE SENSITIVE TO PRECIPITATION.

B. WEATHER AND CLIMATOLOGY: THE WEATHER AND CLIMATE STATISTICS PROVIDED IN THIS STUDY ARE DERIVED FROM A PERCENTAGE OCCURRENCE PATTERN AND WILL BE AFFECTED BY EXTREMES. IN A GENERAL SENSE, THE AREA OF CAMP LEJEUNE IS FAVORABLE FOR AMPHIBIOUS OPERATIONS TRAINING THROUGHOUT THE YEAR, BUT MAY BE RESTRICTED BY SUDDEN TROPICAL STORMS AND HURRICANS WHICH DEVELOP OFF THE EASTERN COAST OF FLORIDA, GEORGIA AND THE CAROLINAS. THESE WEATHER CONDITIONS USUALLY OCCUR BETWEEN JULY AND LATE OCTOBER. SEE CHAPTER 5, CLIMATOLOGY.

C. VISIBILITY: LOW CEILINGS AND FOG CAN BE EXPECTED IN THE FALL AND WINTER MONTHS BUT USUALLY ARE OF SHORT DURATION AND OF NO MAJOR CONSEQUENCE TO OPERATIONS IN THE AREA.

D. TOPOGRAPHY

(1) RELIEF: THE AREA WITHIN THIS STUDY EXTENDS FROM SEA LEVEL TO A MAXIMUM HEIGHT OF 72 FEET WITH THE MAJOR PORTION BEING FLAT. SEE CHAPTER 1, OVERLAYS.

(2) DRAINAGE: THE AREA IS DRAINED BY SMALL CREEKS AND STREAMS EMPTYING INTO THE NEW RIVER. LAND BORDERING WATERWAYS ARE GENERALLY SWAMPY AND NOT CAPABLE OF HOLDING VEHICLE TRAFFIC WITHOUT MATTING OR BUILDUP. THERE ARE SOME MANMADE PONDS AND LAKES. THE NEW RIVER AND INTRACOASTAL WATERWAY ARE NAVIGABLE TO WATERCRAFT BOTH OF WHICH HAVE CHANNELS DREDGED TO A REPORTED DEPTH OF 6 FEET AND 12 FEET RESPECTIVELY AT MEAN LOW WATER. SEE CHAPTER 1, OVERLAYS.

(3) VEGETATION: THE AREA IS GENERALLY COVERED WITH DENSE GROWTHS OF PINE AND UNDERGROWTH SCRUB BRUSH. THERE ARE NUMEROUS CLEARED AREAS OF GRASS AND SCRUB BRUSH GROWTHS. AREAS ALONG WATERWAYS ARE PREDOMINATELY MARSH GRASS AND SCRUB BRUSH. TREES AVERAGE IN HEIGHT OF APPROXIMATELY 70 FEET WITH GRASS AND SCRUB BRUSH FROM 3 TO 12 FEET IN HEIGHT. CROSS-COUNTRY TRAFFIC IS CHANNELED AND CONTROLLED BY VEGETATION. SEE CHAPTER 1, OVERLAYS.

(4) SURFACE MATERIAL: THE SOILS FOUND IN THE CAMP LEJEUNE AREA CONSIST OF FINE SANDS, SILTS, CLAYS AND A GUMBO TYPE MUD. SWAMP AREAS ARE NUMEROUS NEAR SWALES AND GULLIES. GENERALLY THE AREA IS POORLY SUITED TO AGRICULTURAL USE.

(5) MAN-MADE FEATURES: THE MAN-MADE FEATURES INCLUDE ROADS, BRIDGES, RAILWAY, AIRFIELD, BUILT-UP AREAS AND CAMP AREAS.

(A) ROADS WITHIN THE CAMP LEJEUNE AREA THAT ARE HARD SURFACE ARE MADE UP OF AN ASPHALT SURFACE AND ARE CAPABLE OF CARRYING A 75 TON LOAD. TANK TRAILS AND ACCESS ROADS TO TRAINING AREAS ARE GRADED SAND AND GRAVEL AND IN SOME AREAS REQUIRE MATTING. SEE CHAPTER 4, LINES OF COMMUNICATIONS.

(B) RAILROADS INTO THE AREA ARE CONNECTING LINES FROM THE BASE INDUSTRIAL AREA TO THE RAILROAD BETWEEN WILMINGTON AND NEW BERN NEAR JACKSONVILLE. SEE CHAPTER 4, LINES OF COMMUNICATIONS.

(C) THE BRIDGES ALONG THE PRIMARY ROAD SYSTEM WITHIN THE STUDY AREA ARE CAPABLE OF SUPPORTING 40 TO 60 TONS. HOWEVER, TANKS, AMPHIBIOUS TRACKS AND HEAVY EQUIPMENT ARE RESTRICTED BY BASE REGULATIONS TO TANK CROSSING PADS AND TANK TRAILS. SEE CHAPTER 4, LINES OF COMMUNICATIONS.

(D) THE AIRFIELD LOCATED ON THE WEST BANK OF NEW RIVER IS NORMALLY USED FOR HELICOPTERS AND TRANSPORT-TYPE AIRCRAFT AND HAS A HARD SURFACE RUNWAY 5,000 FEET LONG.

(E) THE BUILT-UP AREAS AND CAMPS ARE OF PERMANENT STRUCTURAL DESIGN.

3. MILITARY ASPECT OF THE AREA

A. TACTICAL ASPECTS OF THE TERRAIN

(1) OBSERVATION IN THE AREA IS RESTRICTED DUE TO VEGETATION.

(2) FIELDS OF FIRE ARE RESTRICTED BY BUILT-UP AREAS AND ARE CONTROLLED BY THE BASE RANGE OFFICE. RANGE AND IMPACT AREAS ARE WELL MARKED WITH-IN THE STUDY AREA. SEE CHAPTER 6, TRAINING AREAS.

(3) CONCEALMENT IN THE STUDY AREA IS GOOD DUE TO THE HEAVY VEGETATION AND UNDERGROWTH.

(4) COVER IS LIMITED DUE TO THE GENERAL FLAT TERRAIN.

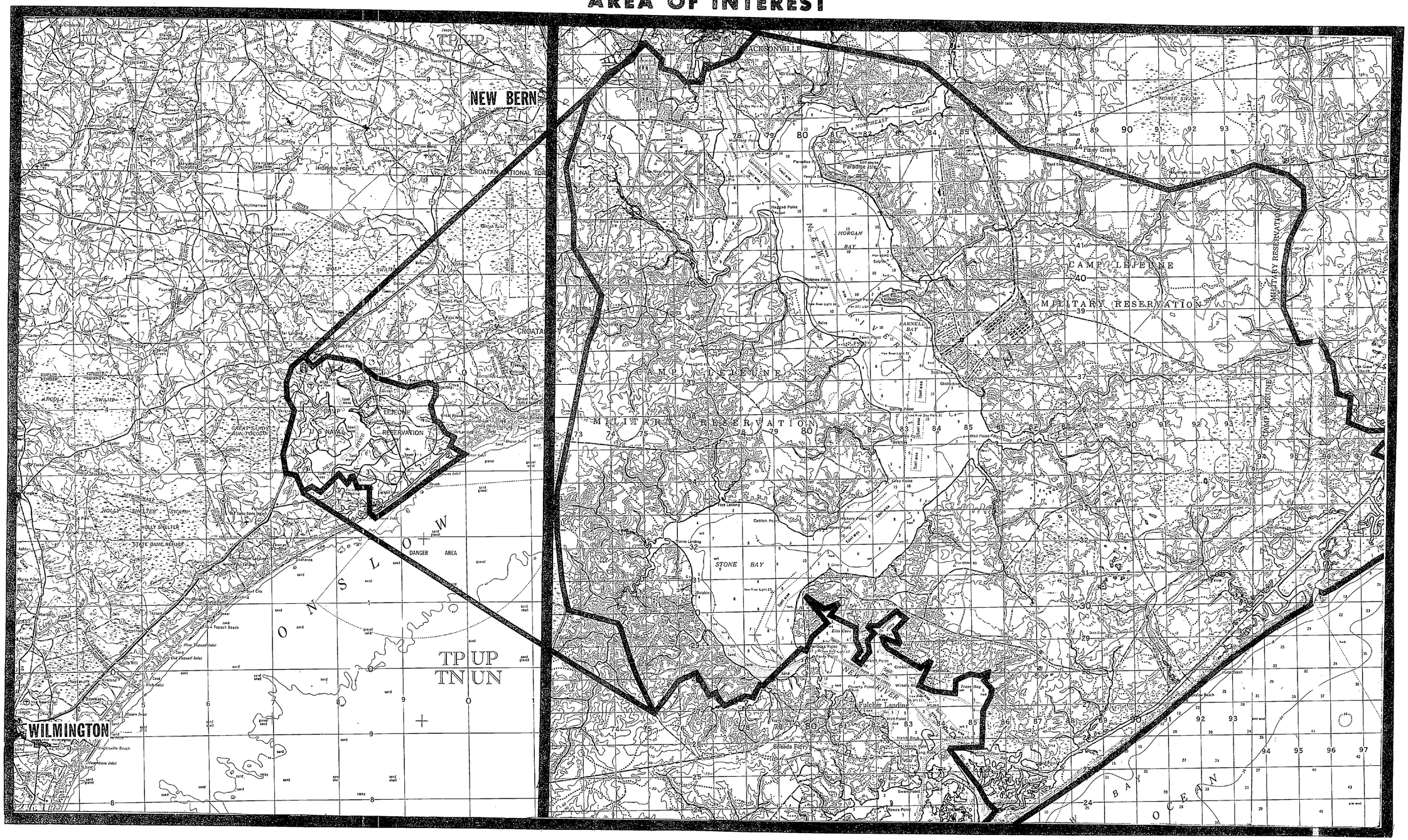
(5) OBSTACLES IN THE AREA ARE GENERALLY OF NATURAL-TYPE; RIVERS, SWAMPS, AND VEGETATION. THE BUILT-UP AREAS ARE RESTRICTED TO MOVEMENT BY BASE REGULATIONS.

(6) MOVEMENT IN THE AREA IS RESTRICTED BY BASE REGULATIONS TO THE TRAINING AREAS. TANK TRAILS AND ACCESS ROADS PROVIDE GOOD CROSS-COUNTRY MOVEMENT OF VEHICLES. TROOP MOVEMENT IS HAMPERED BY SWAMP AREAS AND VEGETATION ONLY.

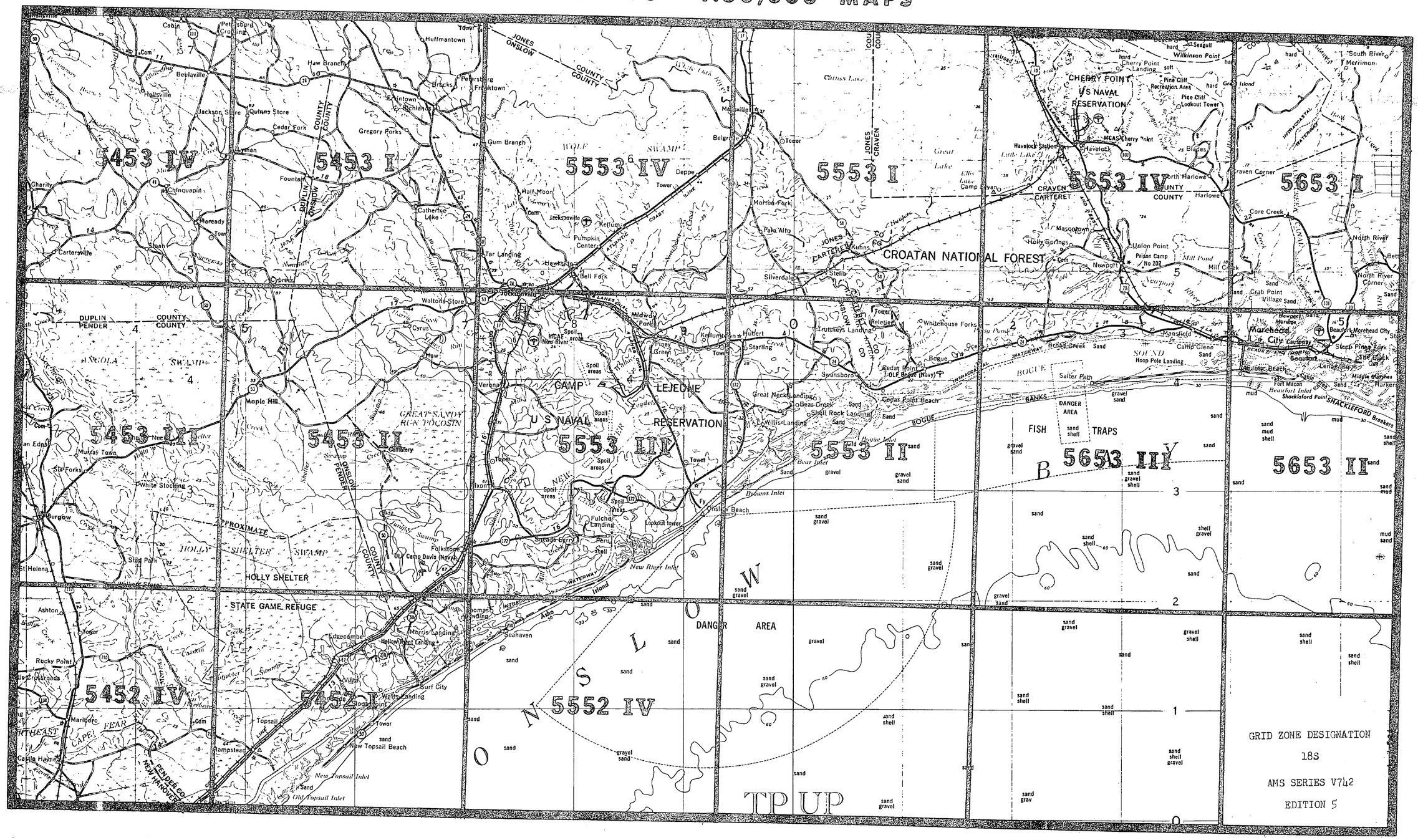
(7) KEY TERRAIN FEATURES IN THE STUDY AREA ARE THE NEW RIVER INLET AND THE ATLANTIC COAST. THE INTRACOASTAL WATERWAY IS A MAN-MADE TERRAIN FEATURE OF KEY IMPORTANCE.

B. ENGINEERING ASPECTS OF THE TERRAIN: DUE TO THE DEPTH OF GROUND WATER, CONSTRUCTION IN THE AREA IS POOR. PILINGS AND GROUND BASE IS REQUIRED IN MOST AREAS.

AREA OF INTEREST



INDEX TO 1:50,000 MAPS



CHAPTER 1

AREA BRIEF

AREA BRIEF OVERLAYS

1. RELIEF

2. DRAINAGE

3. VEGETATION

CHAPTER 2

ONSLOW BEACH STUDY

CHAPTER 3

HELICOPTER LANDING STUDY

ALTERNATE HELICOPTER LANDING AREAS

CHAPTER 3

HELICOPTER LANDING STUDY

ALTERNATE HELICOPTER LANDING AREAS

TACTICAL LANDING ZONE ALBATROSS

LOCATION: THE CENTER OF TLZ ALBATROSS IS AT UTM GRID COORDINATES TP896027З0, 700 METERS NORTHWEST OF THE INTRACOASTAL WATERWAY.

SHAPE AND SIZE: THE ZONE IS ROUGHLY OVAL IN SHAPE. IT IS 472 METERS LONG AND 282 METERS WIDE.

TERRAIN: THE TLZ IS COMPOSED OF SANDY SOIL AND IS RELATIVELY LEVEL. THE AREA SURROUNDING THE TLZ IS WOODED. A STREAM IS LOCATED APPROXIMATELY 400 METERS TO THE WEST OF THE TLZ.

MATERIAL, FIRMNESS AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND OF A FINE TEXTURE WHICH WILL ACCOMODATE WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: WITH THE EXCEPTION OF SCATTERED BRUSH THROUGHOUT THE TLZ, THERE ARE NO OBSTACLES TO GROUND MOVEMENT WITHIN THE ZONE. CROSS COUNTRY MOVEMENT OF VEHICLES IS SERIOUSLY RESTRICTED BECAUSE OF THE FOREST WHICH SURROUNDS THE TLZ. A SWAMP AREA AND HALOVER CREEK WHICH ARE 300 METERS WEST OF THE TLZ WOULD MAKE VEHICLE TRAFFIC IMPOSSIBLE IN THAT AREA.

COVER AND CONCEALMENT: THERE IS NO IMMEDIATE COVER OR CONCEALMENT WITHIN THE TLZ. COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE HEAVILY WOODED TERRAIN IMMEDIATELY SURROUNDING THE TLZ.

EXITS AND COMMUNICATIONS: THERE ARE FOUR ROADS LEADING OUT OF THE TLZ. THESE ARE APPROXIMATELY 6 METERS WIDE, ARE SAND SURFACED, AND LEAD OUT TO THE NORTH, NORTHEAST, SOUTHEAST, AND SOUTHWEST. EXITS FOR TROOPS ARE UNLIMITED.

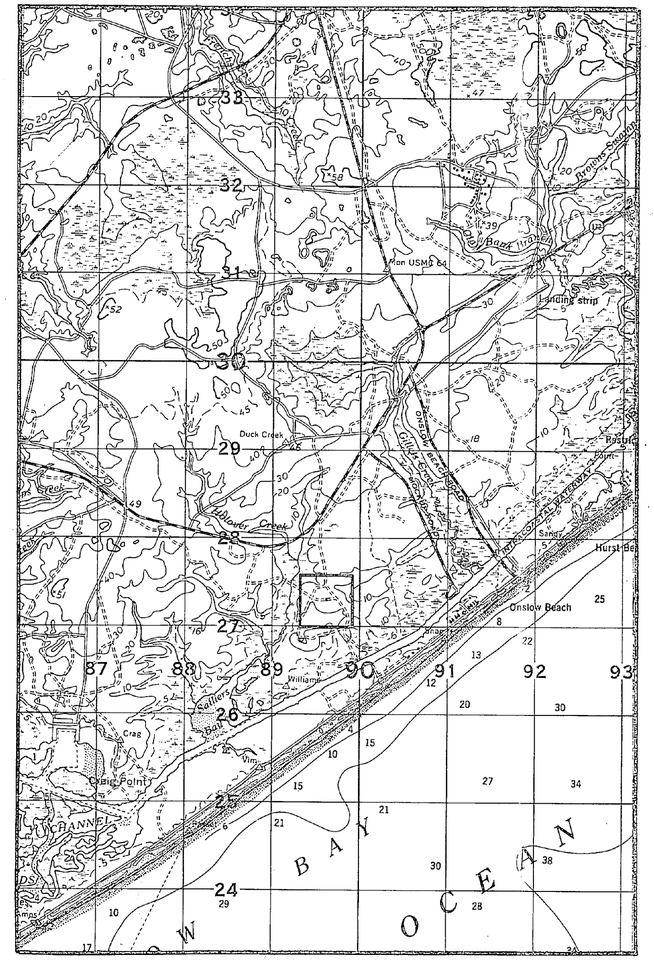
LANDMARKS: THE TLZ IS LOCATED APPROXIMATELY 800 METERS SOUTH OF SNEADS FERRY ROAD, APPROXIMATELY 700 METERS NORTH OF THE INTRACOASTAL WATERWAY AND APPROXIMATELY 300 METERS EAST OF HALOVER CREEK.

ELEVATION: THE TLZ IS LOCATED APPROXIMATELY 3 METERS ABOVE SEA LEVEL.

SLOPE: SLOPE IN THE TLZ IS NEGLIGIBLE AND LAND SURROUNDING THE TLZ IS FLAT.

LANDING OBSTRUCTIONS: THE LANDING ZONE IS SURROUNDED BY A HEAVILY WOODED AREA WITH TREES ATTAINING HEIGHTS RANGING UP TO 15 METERS.

HELICOPTER APPROACHES: ALL APPROACHES TO THE LANDING ZONE MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE BLUEBIRD

LOCATION: THE CENTER OF TLZ BLUEBIRD IS AT UTM COORDINATES TP872-258, APPROXIMATELY 300 METERS NORTHEAST OF MILE HAMMOCK BAY, 2.2 KILOMETERS SOUTH OF SNEADS FERRY ROAD AND 600 METERS WEST OF SALLIERS BAY (TP884260).

SHAPE AND SIZE: THE LANDING ZONE IS IRREGULAR IN SHAPE. IT IS APPROXIMATELY 1,000 METERS IN LENGTH, 300 METERS AT ITS MOST NARROW POINT AND 540 METERS AT ITS WIDEST POINT.

TERRAIN: THE TLZ AND SURROUNDING AREAS ARE FLAT.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: TLZ BLUEBIRD IS COMPOSED OF A SANDY SOIL WITH A 457 METERS LONG BY 23 METERS WIDE RUNWAY ON THE SOUTHWEST SIDE. TRAFFICABILITY IS GOOD FOR TROOPS AND VEHICULAR MOVEMENT WITHIN THE TLZ.

OBSTACLES TO GROUND MOVEMENT: THERE ARE NO OBSTACLES TO GROUND MOVEMENT WITHIN THE TLZ. VEHICULAR MOVEMENT OUTSIDE THE ZONE IS RESTRICTED TO EXISTING ROADS DUE TO DENSE STANDS OF TREES, SWAMP AREAS, AND BAYS WHICH SURROUND THE ZONE.

COVER AND CONCEALMENT: THERE IS NO COVER AND CONCEALMENT WITHIN THE ZONE. EXCELLENT COVER AND CONCEALMENT CAN BE FOUND IN THE HEAVILY WOODED AREA THAT SURROUNDS ALL BUT THE SOUTHWESTERN PORTION OF THE ZONE.

EXITS AND COMMUNICATIONS: A 6 METER WIDE DIRT ROAD THAT FORMS THE WESTERN BOUNDARY OF THE LANDING ZONE PROVIDES ACCESS TO A TWO LANE HARD SURFACE ROAD AT THE NORTHWEST CORNER OF THE ZONE. THIS ROAD CONNECTS WITH SNEADS FERRY ROAD APPROXIMATELY 2.5 KILOMETERS TO THE NORTH.

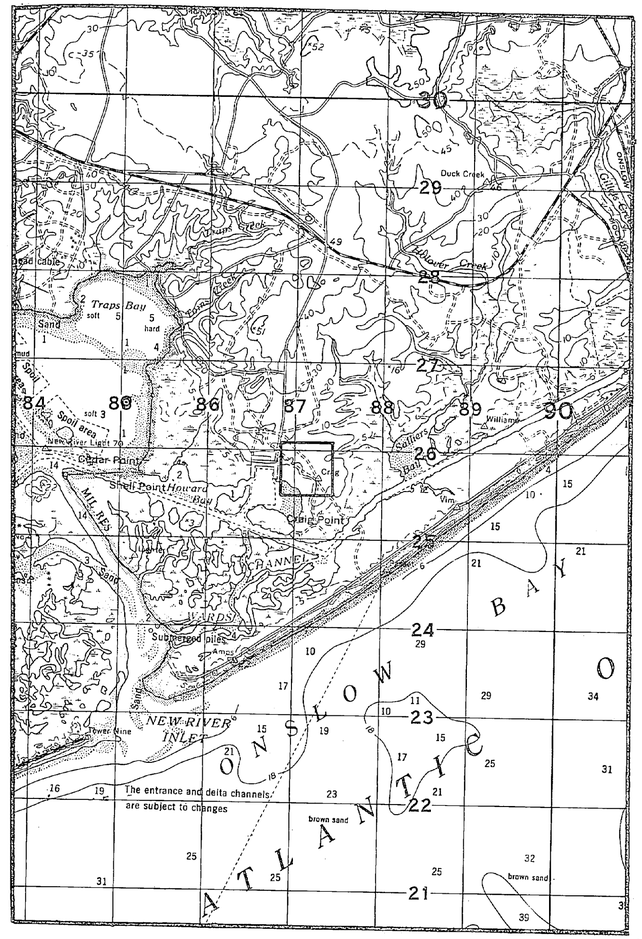
LANDMARKS: THERE IS A U-SHAPED QUAY IN MILE HAMMOCK BAY TO THE WEST OF THE ZONE AT TP866552582.

ELEVATION: THE ZONE IS APPROXIMATELY 3 METERS ABOVE SEA LEVEL.

SLOPE: THE ZONE IS FLAT.

LANDING OBSTRUCTIONS: THE ZONE IS SURROUNDED BY TREES RANGING IN HEIGHTS OF 12 METERS. THERE IS A TELEPHONE LINE RUNNING ALONG MILE HAMMOCK BAY ROAD WHICH DOES NOT EXCEED THE HEIGHTS OF THE TREES. THE ZONE IS FREE OF TREES AND BRUSH.

APPROACHES: THE BEST APPROACH IS FROM THE SOUTHWEST.



TACTICAL LANDING ZONE CANARY

LOCATION: THE CENTER OF TLZ CANARY IS AT UTM COORDINATES TP852284 APPROXIMATELY 330 METERS NORTH OF TRAPS BAY (TP850270) AND APPROXIMATELY 650 METERS SOUTH OF SNEADS FERRY ROAD.

SHAPE AND SIZE: THE ZONE IS ROUGHLY OVAL IN SHAPE AND IS 180 METERS LONG AND 140 METERS WIDE.

TERRAIN: THE TERRAIN WITHIN THE ZONE IS FLAT. THE AREA IMMEDIATELY SURROUNDING THE ZONE IS RELATIVELY FLAT AND IS COVERED WITH A HEAVY GROWTH OF TREES.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL WITHIN THE ZONE CONSISTS OF LIGHT COLORED SAND WHICH WILL ACCOMODATE TROOP AND VEHICULAR MOVEMENT.

OBSTACLES TO GROUND MOVEMENT: THERE ARE NO OBSTACLES TO MOVEMENT WITHIN THE ZONE. THE TREES SURROUNDING THE ZONE RESTRICT VEHICLE MOVEMENT TO THE 6 METER WIDE ROAD LEADING NORTH-SOUTH ALONG THE EASTERN EDGE OF THE ZONE.

COVER AND CONCEALMENT: THERE IS NO AVAILABLE COVER OR CONCEALMENT WITHIN THE ZONE. THERE IS EXCELLENT COVER AND CONCEALMENT AFFORDED BY THE HEAVY STAND OF TREES SURROUNDING THE ZONE.

EXITS AND COMMUNICATIONS: DISPERSION OF TROOPS IS POSSIBLE IN ANY DIRECTION. A 10 METER WIDE EXIT TO A DIRT ROAD RUNNING ALONG THE EASTERN EDGE OF THE ZONE AND A 4 METER WIDE DIRT ROAD LEADING OUT OF THE NORTHERN END OF THE ZONE TO THE DIRT ROAD ON THE EASTERN EDGE OF THE ZONE, ARE THE ONLY VEHICLE EXITS FROM THE ZONE.

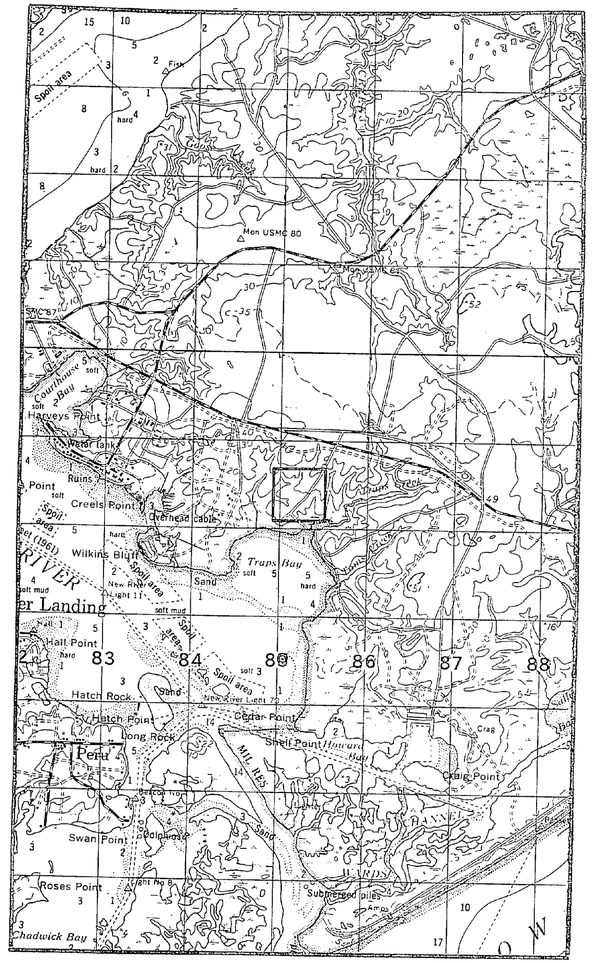
LANDMARKS: SNEADS FERRY ROAD AND TRAPS BAY ARE THE MOST PROMINENT LANDMARKS.

ELEVATION: THE ZONE IS APPROXIMATELY 3 METERS ABOVE SEA LEVEL.

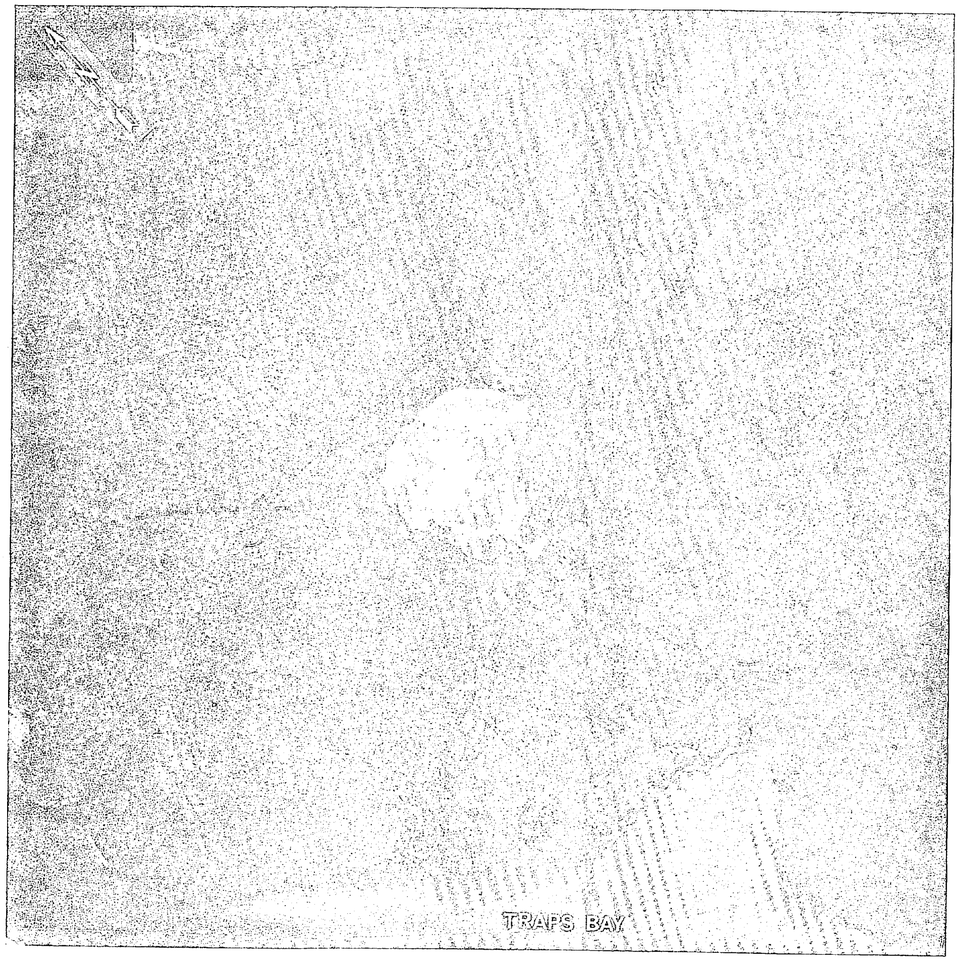
SLOPE: SLOPE WITHIN THE ZONE IS NEGLIGIBLE.

LANDING OBSTRUCTIONS: THERE ARE NO LANDING OBSTRUCTIONS WITHIN THE ZONE. THE ZONE IS SURROUNDED BY A HEAVY GROWTH OF TREES ATTAINING HEIGHTS UP TO 24 METERS.

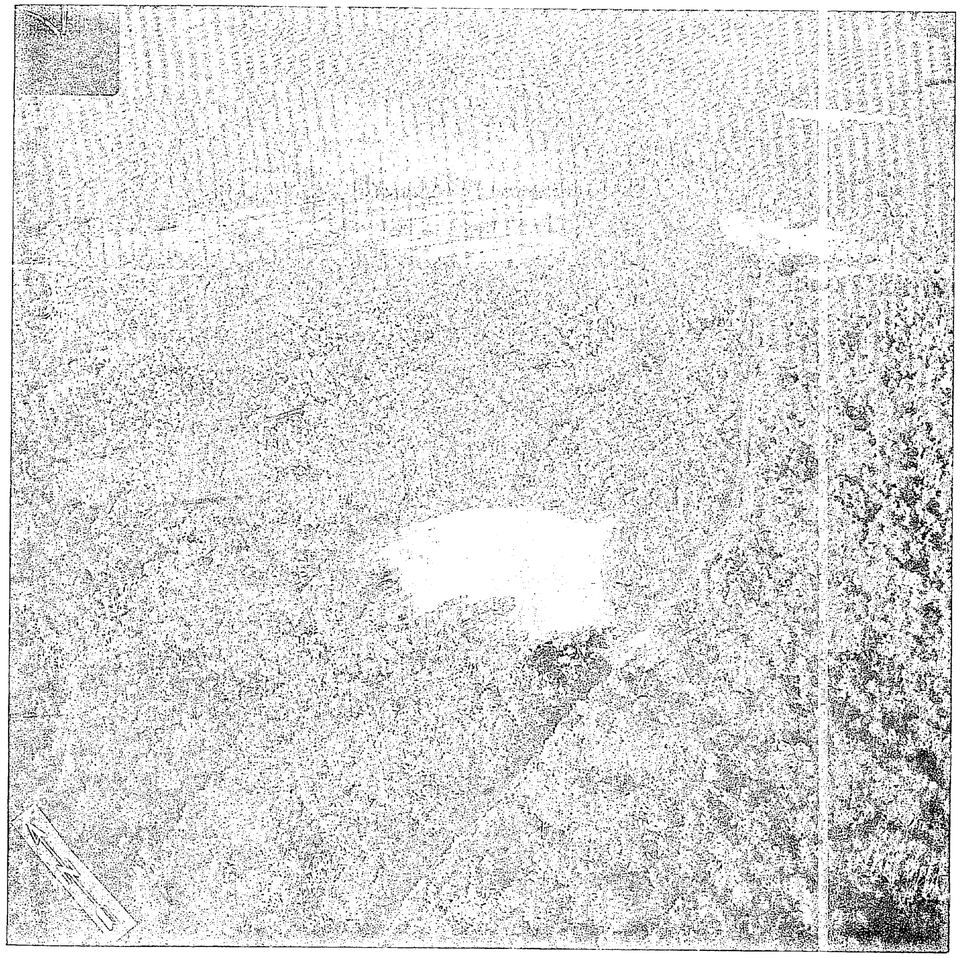
APPROACHES: ALL APPROACHES TO THE ZONE MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE CANARY



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE CROW

LOCATION: THE CENTER OF TLZ CROW IS AT UTM COORDINATES TP91123238 APPROXIMATELY 1,200 METERS EAST OF SNEADS FERRY ROAD.

SHAPE AND SIZE: THE ZONE IS ROUGHLY OVAL IN SHAPE. IT IS APPROXIMATELY 575 METERS LONG AND 265 METERS WIDE AT ITS WIDEST POINT.

TERRAIN: THE ZONE IS COMPOSED OF SANDY SOIL AND IS RELATIVELY LEVEL. THE AREA SURROUNDING THE TLZ IS WOODED. A STREAM IS LOCATED APPROXIMATELY 900 METERS SOUTH OF IT.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND WHICH WILL SUPPORT WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: A RECTANGULAR BUNKER APPROXIMATELY 3X6X2 METERS IN SIZE LIES 50 METERS WEST OF THE CENTER OF THE ZONE. THERE ARE SCATTERED BUSHES THROUGHOUT THE AREA. THERE ARE NO OTHER GROUND OBSTACLES WITHIN THE TLZ.

COVER AND CONCEALMENT: THERE IS NO IMMEDIATE COVER WITHIN THE TLZ WITH THE EXCEPTION OF THE BUNKER MENTIONED ABOVE. THIS WOULD PROVIDE COVER FROM SMALL ARMS FIRE FOR GROUND TROOPS. COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE HEAVILY WOODED AREA IMMEDIATELY SURROUNDING THE TLZ.

EXITS AND COMMUNICATIONS: THERE IS A DIRT ROAD WHICH PARALLELS AND IS ADJACENT TO THE LONG SIDE OF THE ZONE. THIS LEADS TO SNEADS FERRY ROAD TO THE WEST AND TO HWY 172 TO THE SOUTHEAST. OTHER CUTS INTO THE WOODS HAVE BEEN MADE BY HEAVY VEHICLES AND MAY BE USED BY HEAVY AND LIGHT WHEELED VEHICLES. THESE LEAD TO THE SAME TWO PAVED ROADS WHICH ARE REACHED BY THE DIRT ROADS ALREADY MENTIONED. TROOP MOVEMENT IS UNRESTRICTED.

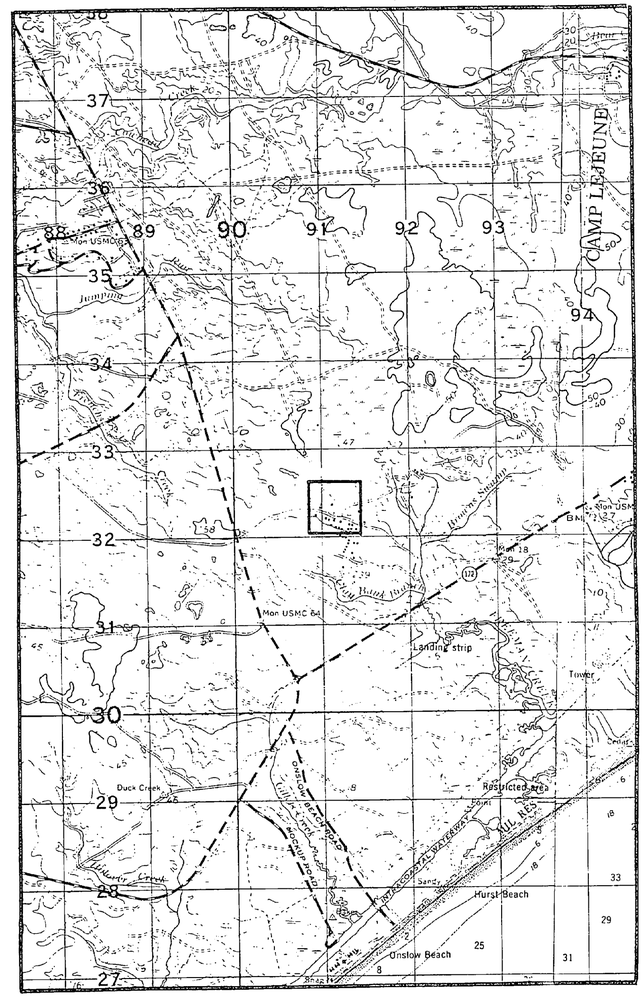
LANDMARKS: THE MOST PROMINENT LANDMARK IS A FIRE TOWER LOCATED APPROXIMATELY 1,100 METERS WEST OF THE TLZ.

ELEVATION: THE TLZ IS APPROXIMATELY 8 METERS ABOVE SEA LEVEL.

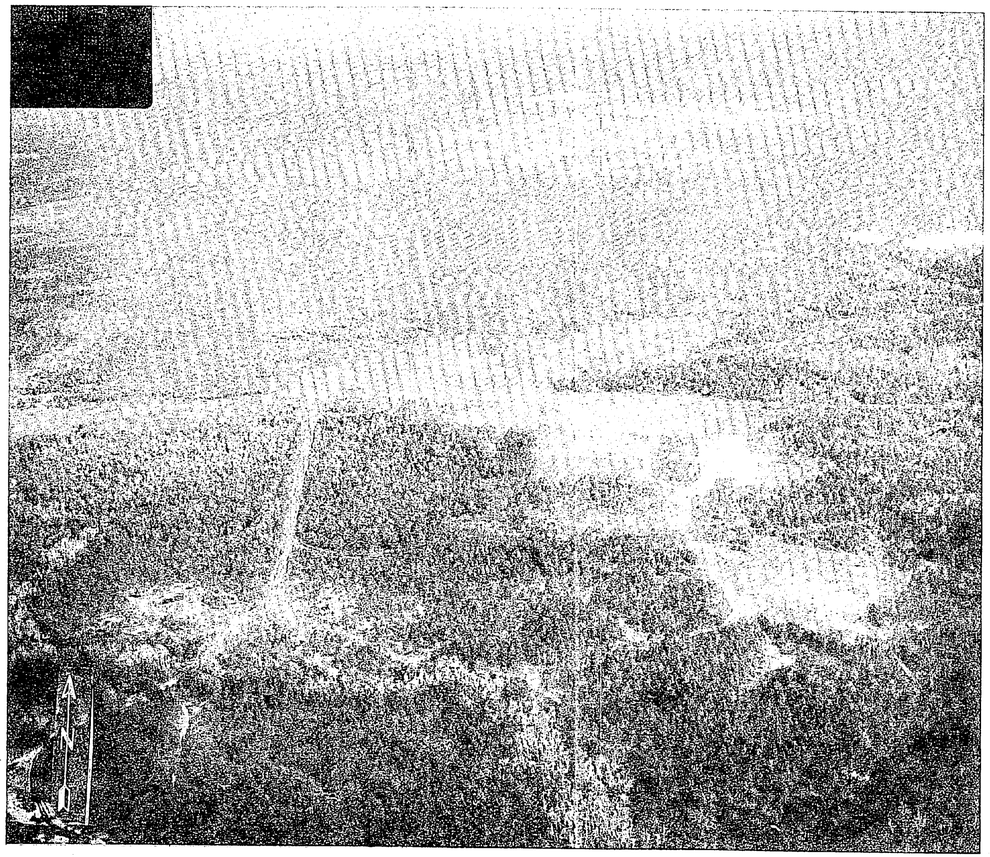
SLOPE: SLOPE IN THE TLZ IS NEGLIGIBLE AND THE SURROUNDING AREAS ARE FLAT.

LANDING CONDITIONS: IN THE CENTER OF THE TLZ IS A FLAT LANDING PLATFORM INSTALLED AT GROUND LEVEL AND APPEARS TO BE CONSTRUCTED OF HEAVY WOODEN PLANKING. IT IS APPROXIMATELY 23X15 METERS IN SIZE. THERE ARE NO LANDING OBSTRUCTIONS, WITH THE EXCEPTION OF A SMALL BUNKER, WITHIN THE TLZ; HOWEVER, THE AREA IS SURROUNDED BY TREES ATTAINING HEIGHTS RANGING UP TO 15 METERS.

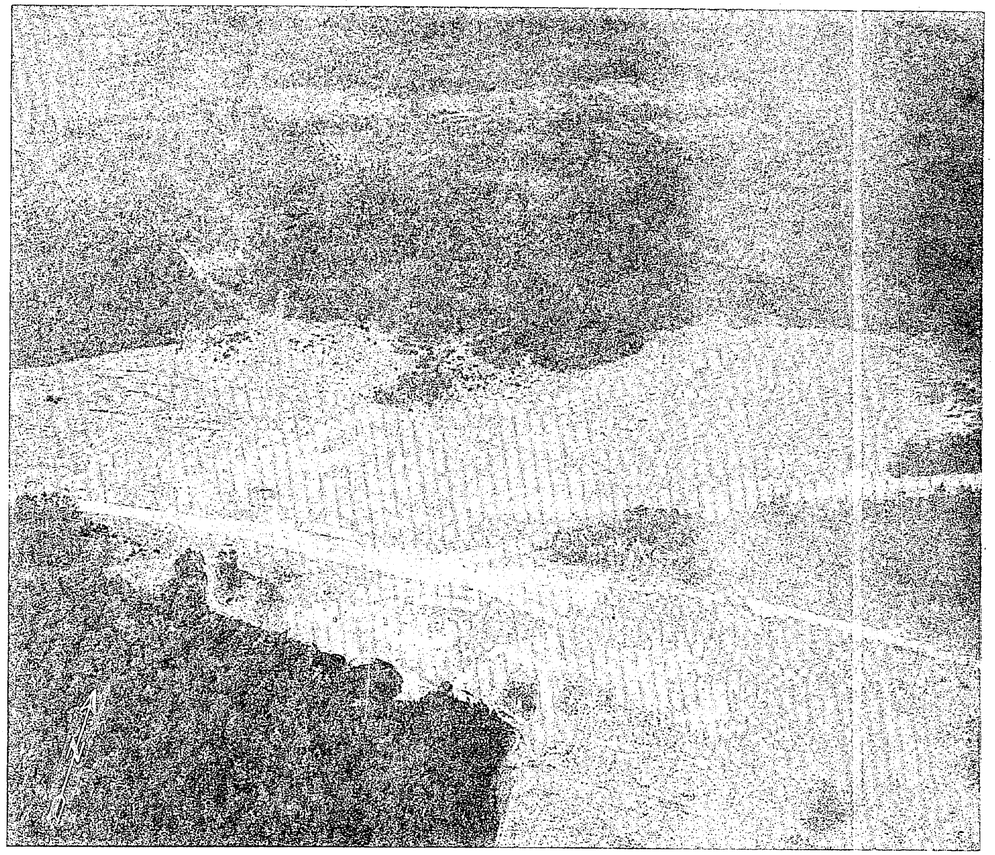
LANDING APPROACHES: ALL APPROACHES MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE CROW



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE DOVE

LOCATION: TLZ DOVE IS LOCATED AT UTM COORDINATES TP858307 DUE WEST OF DUCK CREEK AND APPROXIMATELY 225 METERS SOUTH OF MARINE ROAD.

SHAPE AND SIZE: THE ZONE IS ROUGHLY RECTANGULAR IN SHAPE AND VARIES FROM 125 METERS TO 220 METERS IN LENGTH AND APPROXIMATELY 100 METERS IN WIDTH.

TERRAIN: THE TERRAIN SURROUNDING THE ZONE IS GENERALLY FLAT AND COVERED BY GRASS, SCRUB GROWTH, AND DENSE STANDS OF TREES.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE FIRM SANDY SOIL AFFORDS EXCELLENT DRAINAGE AND TRAFFICABILITY WITHIN THE ZONE WHICH IS GOOD UNDER MOST WEATHER CONDITIONS.

OBSTACLES TO GROUND MOVEMENT: THE ZONE IS CLEAR OF OBSTACLES AND MOVEMENT IS UNRESTRICTED, CROSS COUNTRY MOVEMENT OF VEHICLES WILL BE SEVERELY LIMITED BY THE SWAMP AREA TO THE EAST AND HEAVILY WOODED AREAS SURROUNDING THE ZONE.

COVER AND COMMUNICATIONS: THERE IS NO COVER OR CONCEALMENT WITHIN THE ZONE. EXCELLENT COVER AND CONCEALMENT CAN BE FOUND IN THE HEAVY STAND OF TREES THAT SURROUND THE LANDING ZONE.

EXITS AND COMMUNICATIONS: TROOPS CAN LEAVE THE ZONE IN ANY DIRECTION. MOVEMENT OF VEHICLES SHOULD BE TO THE SOUTH THROUGH A NARROW STAND OF TREES TO A 6 METER WIDE DIRT ROAD. THIS EASTWEST ROAD PROVIDES ACCESS TO MARINES ROAD TO THE NORTH.

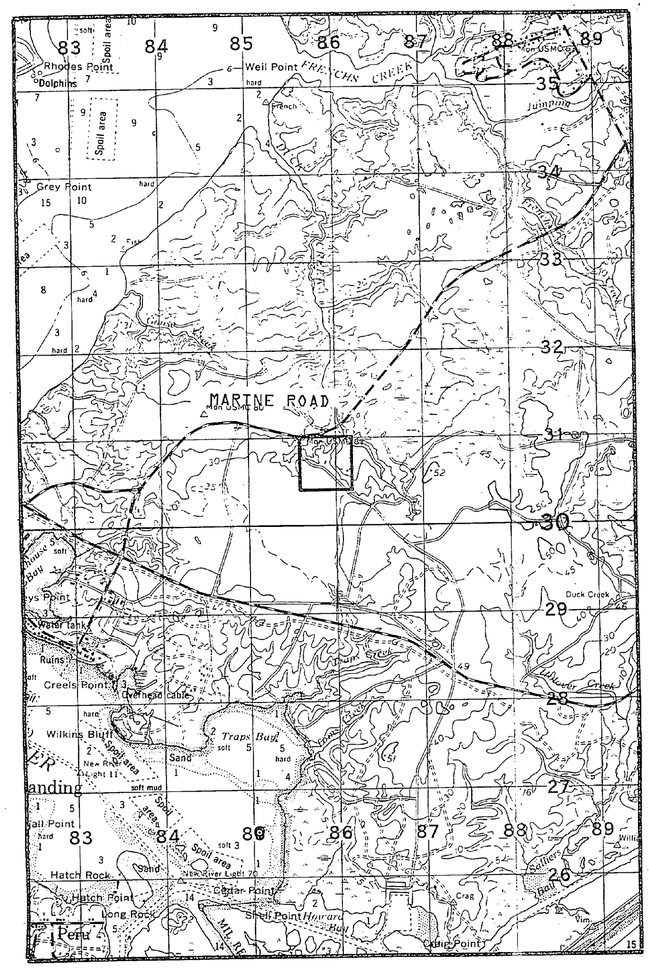
LANDMARKS: THE SWEEPING BEND OF MARINES ROAD AND THE DIRT ROAD IMMEDIATELY SOUTH OF THE ZONE ARE THE MOST PROMINENT LANDMARKS.

ELEVATION: THE ZONE IS APPROXIMATELY 11 METERS ABOVE SEA LEVEL.

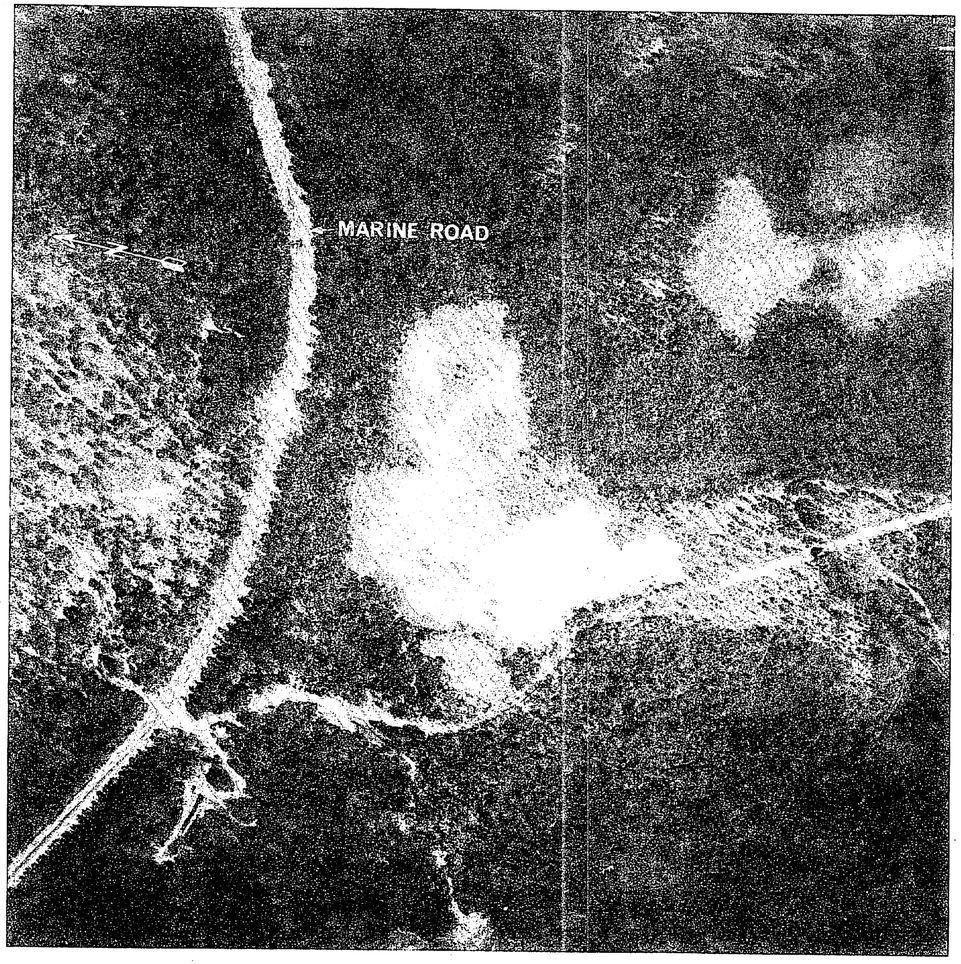
SLOPE: SLOPE IN THE LANDING ZONE IS NEGLIGIBLE.

LANDING OBSTRUCTIONS: THE SAND DUNE SITUATED IN THE NORTHERN PORTION OF THE LANDING ZONE PRESENTS THE ONLY LANDING OBSTRUCTION WITHIN THE ZONE. THE LANDING ZONE IS SURROUNDED BY TREES ATTAINING HEIGHTS OF 12 METERS. THERE ARE POWERLINES APPROXIMATELY 10 METERS HIGH ALONG BOTH SIDES OF THE ROAD TO THE SOUTH.

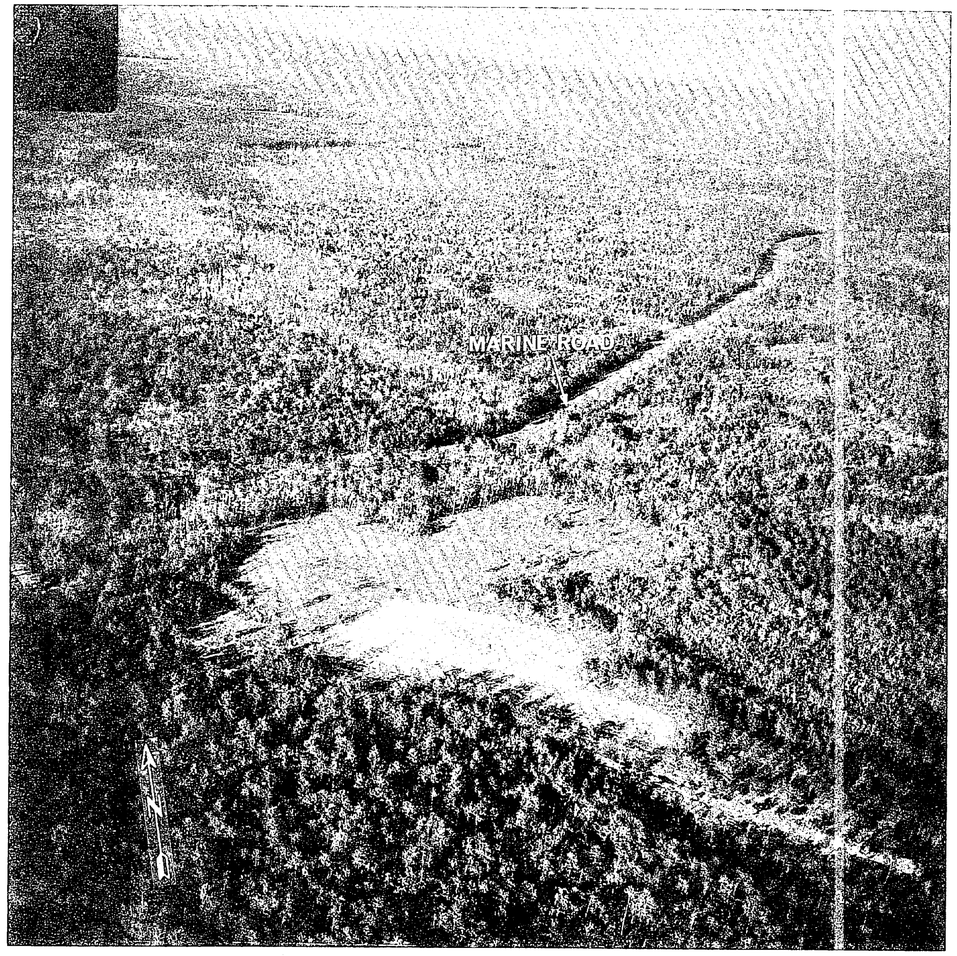
APPROACHES: ALL APPROACHES TO THE ZONE MUST BE MADE OVER THE SURROUNDING TREES. THE MOST OPEN APPROACH IS FROM THE NORTHEAST.



TACTICAL LANDING ZONE DOVE



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE EAGLE

<u>LOCATION</u>: TLZ EAGLE IS CENTERED AT UTM COORDINATES TP785410 APPROXIMATELY 1.2 KILOMETERS INLAND FROM THE TIP OF RAGGED POINT {TP78624222}.

<u>SHAPE AND SIZE</u>: THE ZONE IS RECTANGULAR IN SHAPE, 760 METERS LONG AND 300 METERS IN WIDTH, WITH THE LONG AXIS RUNNING IN AN EAST-WEST DIRECTION.

<u>TERRAIN</u>: THE TERRAIN THROUGHOUT THE ZONE IS RELATIVELY FLAT WITH SMALL IRREGULAR SAND DUNES LOCATED ON BOTH EAST AND WEST ENDS. IN THE NORTHEAST CORNER OF THE ZONE IS A SMALL TRIANGULAR SHAPED POND APPROXIMATELY 75 METERS LONG BY 65 METERS WIDE AT ITS WIDEST POINT.

<u>MATERIAL, FIRMNESS, AND TRAFFICABILITY</u>: THE SOIL WITHIN THE ZONE CONSISTS OF LIGHT COLORED SAND WHICH WILL SUPPORT WHEELED VEHICLE MOVEMENT.

<u>OBSTACLES TO GROUND MOVEMENT</u>: WITH THE EXCEPTION OF THE SMALL POND LOCATED IN THE NORTHEAST CORNER OF THE ZONE, THERE ARE NO OBSTRUCTIONS TO MOVEMENT WITHIN THE ZONE. DUE TO THE DENSITY OF THE HEAVY GROWTH OF TREES SURROUNDING THE ZONE ALL VEHICULAR TRAFFIC MUST RELY ON THE 6 METER WIDE ROAD LEADING NORTH-SOUTH THROUGH THE ZONE FOR ENTRANCE OR EXIT.

<u>COVER AND CONCEALMENT</u>: SCRUB BRUSH AND LOW SAND DUNES LOCATED AT BOTH ENDS OF THE ZONE COULD PROVIDE LIMITED COVER AND CONCEALMENT FOR TROOPS. THE DENSE STAND OF TREES SURROUNDING THE ZONE WILL PROVIDE EXCELLENT COVER AND CONCEALMENT.

<u>EXITS AND COMMUNICATIONS</u>: THE 6 METER WIDE DIRT ROAD EXTENDING THROUGH THE ZONE PROVIDES ACCESS TO VERONA LOOP ROAD 2.7 KILOMETERS SOUTHWEST OF THE ZONE. THIS ROAD ALSO EXTENDS TO THE MOUTH OF SOUTHWEST CREEK {TP78624222}.

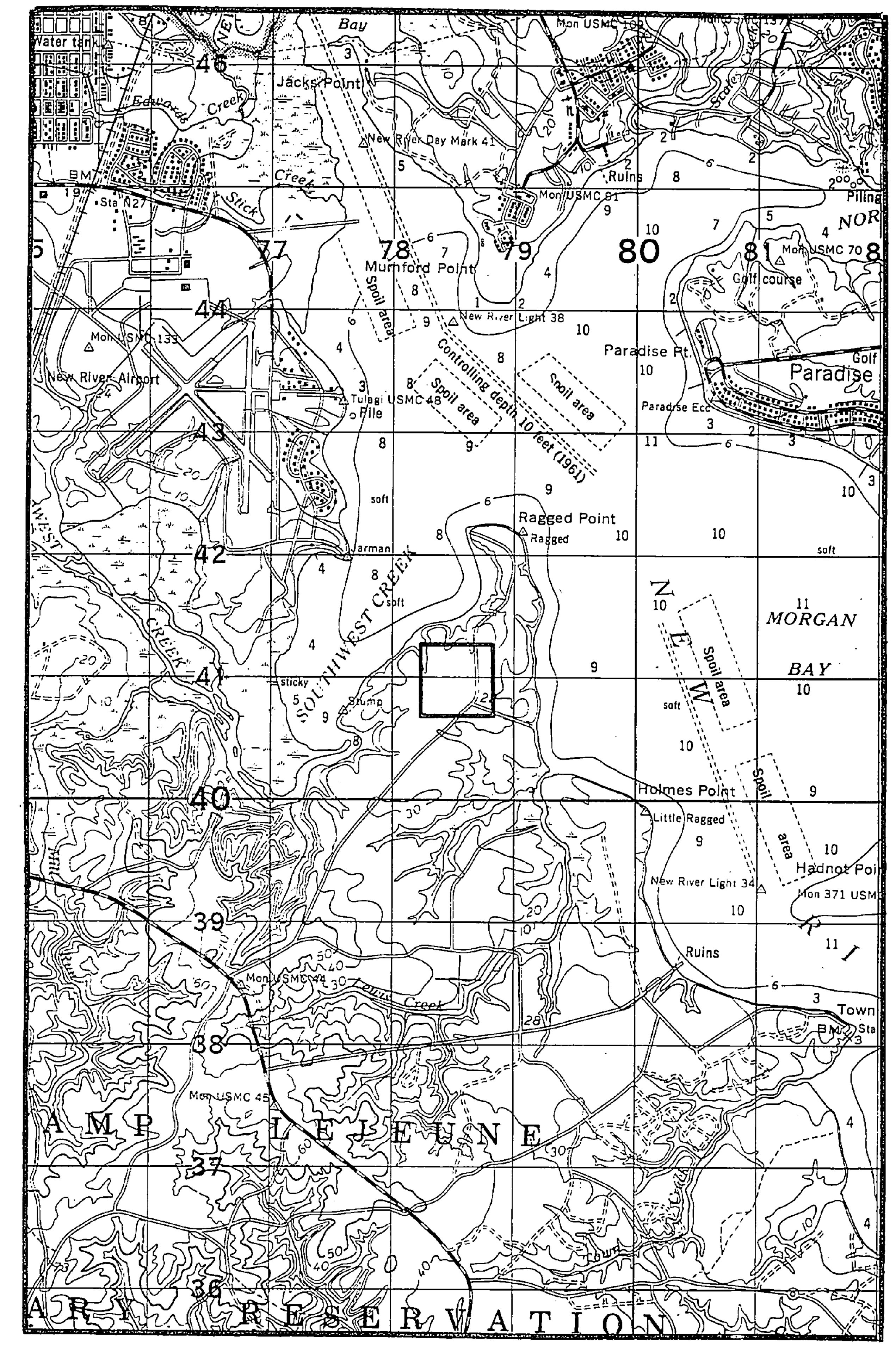
<u>LANDMARKS</u>: RAGGED POINT LOCATED 1.2 KILOMETERS NORTHEAST AND NEW RIVER AIRFIELD APPROXIMATELY 2.7 KILOMETERS NORTHWEST OF THE ZONE ARE THE ONLY MAJOR LANDMARKS.

<u>ELEVATION</u>: THE ELEVATION OF THE ZONE IS 3 METERS ABOVE SEA LEVEL.

<u>SLOPE</u>: SLOPE WITHIN THE ZONE IS NEGLIGIBLE.

<u>LANDING OBSTRUCTIONS</u>: THE SMALL POND SITUATED IN THE NORTHEAST CORNER OF THE ZONE AND THE SMALL SCRUB BRUSH PRESENT THE ONLY OBSTRUCTIONS WITHIN THE ZONE. THE TREES SURROUNDING THE ZONE RANGE IN HEIGHT FROM 6 TO 15 METERS AND PRESENT THE MAJOR OBSTRUCTION TO HELICOPTER OPERATIONS OUTSIDE THE ZONE.

<u>APPROACHES</u>: APPROACHES ARE UNRESTRICTED. HOWEVER, DUE TO THE SHAPE OF THE ZONE AND ITS LONG AXIS, AN APPROACH FROM AN EASTWEST DIRECTION IS RECOMMENDED.



TACTICAL LANDING ZONE EAGLE

LOCATION: The Eagle is centered at UTM coordinates TP785420 (TP78545555).

APPROXIMATELY 3.5 KILOMETERS INLAND FROM THE TIP OF RAGGED POINT.

SHAPE AND SIZE: The zone is rectangular in shape, 750 meters long and 300 meters in width, with the long axis running in an east-west direction.

TERRAIN: The terrain throughout the zone is relatively flat with small irregular sand dunes located on both east and west ends. In the northeast corner of the zone is a small triangular shaped pond approximately 75 meters long by 45 meters wide at its widest point.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: The soil within the zone consists of light colored sand which will support wheeled vehicle movement.

OBSTACLES TO GROUND MOVEMENT: With the exception of the small pond located in the northeast corner of the zone, there are no obstructions to movement within the zone. Due to the density of the heavy growth of trees surrounding the zone all vehicular traffic must rely on the 6 meter wide road leading north-south through the zone for entrance or exit.

COVER AND CONCEALMENT: Scrub brush and low sand dunes located at both ends of the zone could provide limited cover and concealment for troops. The dense stand of trees surrounding the zone will provide excellent cover and concealment.

EXITS AND COMMUNICATIONS: The 6 meter wide dirt road extending through the zone provides access to Verona Loop Road 5.7 kilometers southwest of the zone and its long axis, an approach from an eastwest direction is recommended.

SHAPE OF THE ZONE AND ITS LONG AXIS, AN APPROACH FROM AN EASTWEST DIRECTION IS RECOMMENDED.

APPROACHES: APPROACHES ARE UNRESTRICTED. HOWEVER, DUE TO THE HELICOPTER OPERATIONS OUTSIDE THE ZONE.

IN HEIGHT FROM 6 TO 35 METERS AND PRESENT THE MAJOR OBSTRUCTION TO

STRUCTIONS WITHIN THE ZONE. THE TREES SURROUNDING THE ZONE RANGE

CORNER OF THE ZONE AND THE SMALL SCRUB BRUSH PRESENT THE ONLY OB-

LANDING OBSTRUCTIONS: THE SMALL POND SITUATED IN THE NORTHEAST

SLOPE: SLOPE WITHIN THE ZONE IS NEGLIGIBLE.

ELEVATION: THE ELEVATION OF THE ZONE IS 3 METERS ABOVE SEA LEVEL.

ARE THE ONLY MAJOR LANDMARKS.

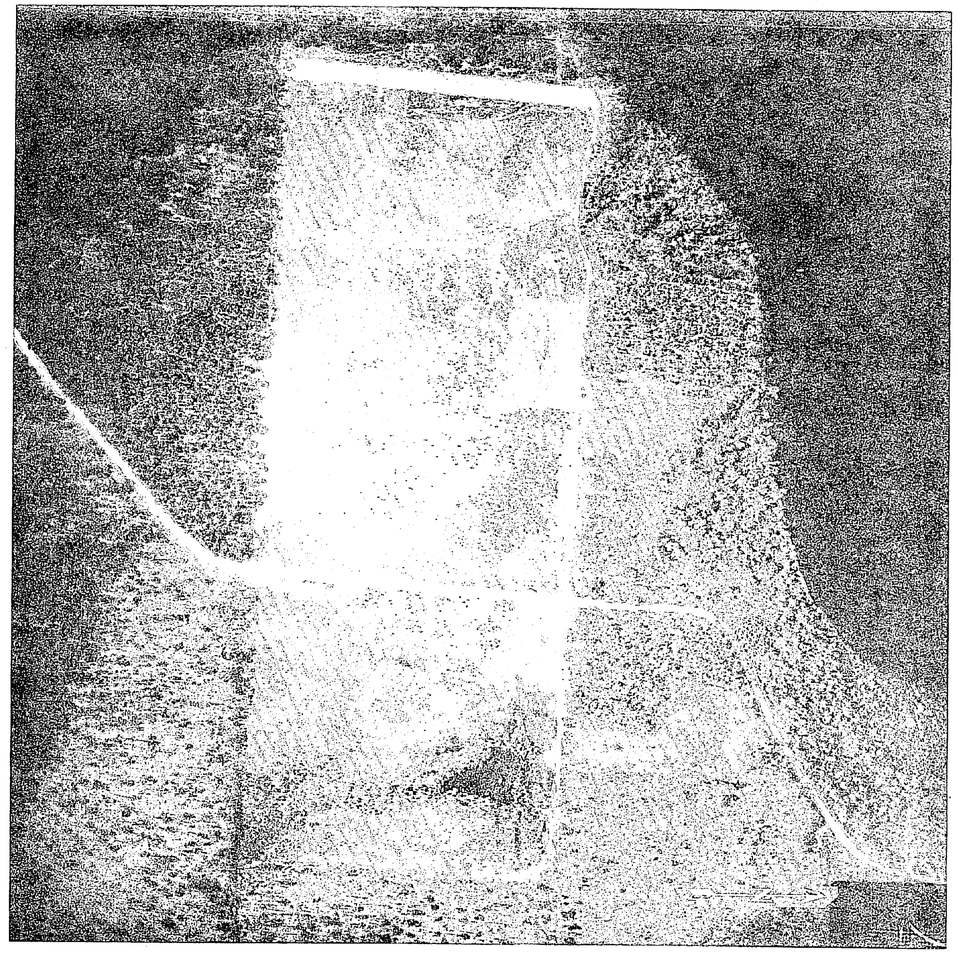
RIVER AIRFIELD APPROXIMATELY 5.7 KILOMETERS NORTHWEST OF THE ZONE

LANDMARKS: RAGGED POINT LOCATED 3.5 KILOMETERS NORTHEAST AND NEW

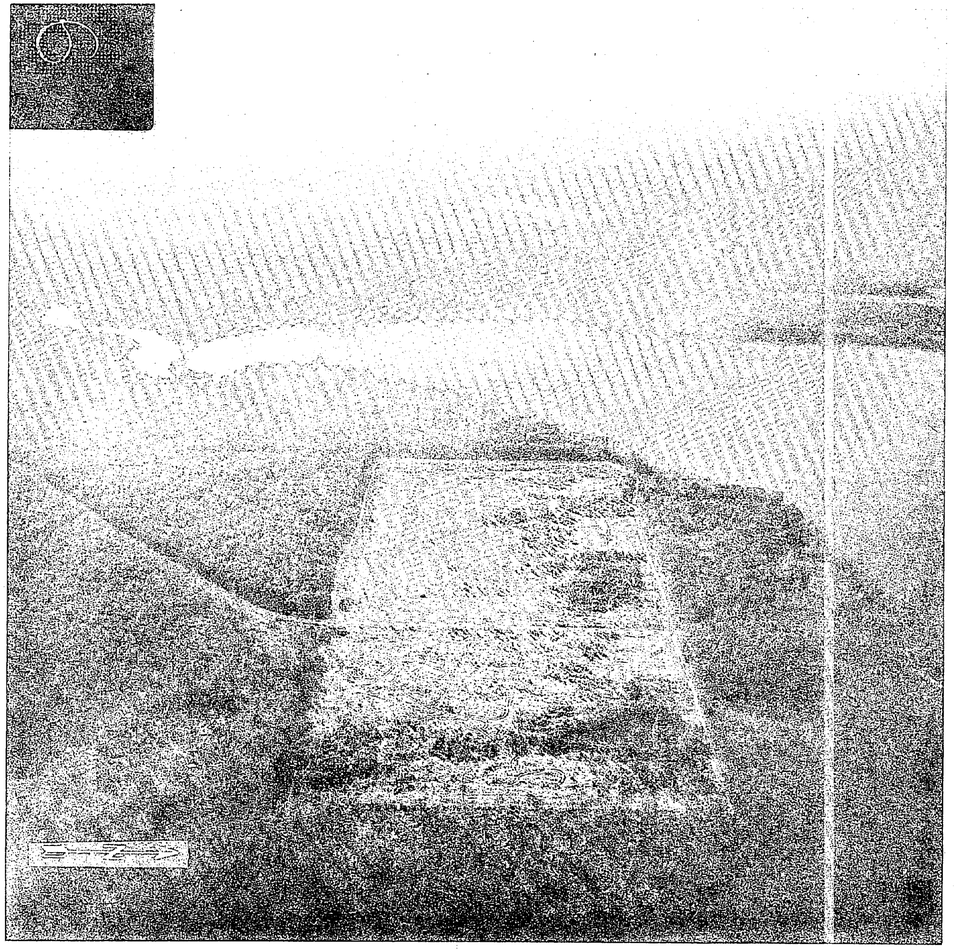
OF SOUTHWEST CREEK (TP78545555).

METERS SOUTHWEST OF THE ZONE. THIS ROAD ALSO EXTENDS TO THE MOUTH

TACTICAL LANDING ZONE EAGLE



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE FALCON

LOCATION: THE CENTER OF TLZ FALCON IS LOCATED AT UTM COORDINATES TP91222868. IT IS ADJACENT TO THE HURST BEACH ROAD AND IS APPROXIMATELY 1,000 METERS NORTHWEST OF THE INTRACOASTAL WATERWAY.

SHAPE AND SIZE: THE TLZ IS ROUGHLY RECTANGULAR IN SHAPE. IT IS 305 METERS LONG AND 229 METERS WIDE.

TERRAIN: THE TLZ IS COMPOSED OF SANDY SOIL AND IS RELATIVELY LEVEL. THE ZONE IS SURROUNDED BY A WOODED AREA WITH NUMEROUS CLEARINGS. THE SURROUNDING GROUND IS BROKEN UP WITH DUNES, DITCHES, AND SMALL HILLS RANGING IN HEIGHT FROM 2 METERS TO 6 METERS. GILLETTS CREEK LIES APPROXIMATELY 300 METERS TO THE WEST OF THE TLZ.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND OF A FINE TEXTURE WHICH WILL SUPPORT WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: GROUND MOVEMENT WITHIN THE TLZ IS UNRESTRICTED. HEAVY VEHICLES CAN FORCE THEIR WAY THROUGH THE BRUSH AND IRREGULAR TERRAIN SURROUNDING THE TLZ FOR APPROXIMATELY 1,000 METERS IN ALL DIRECTIONS EXCEPT WEST AND SOUTHWEST. THEN THE MOVEMENT OF VEHICLES BECOMES RESTRICTED TO ROADS IN THE AREA.

COVER AND CONCEALMENT: THERE IS NO IMMEDIATE COVER OR CONCEALMENT WITHIN THE TLZ. COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE WOODED AREAS SURROUNDING THE TLZ.

EXITS AND COMMUNICATIONS: HURST BEACH ROAD RUNS PARRALLEL TO THE WEST SIDE OF THE TLZ AND IS THE ONLY GOOD AVENUE FOR EGRESS INLAND.

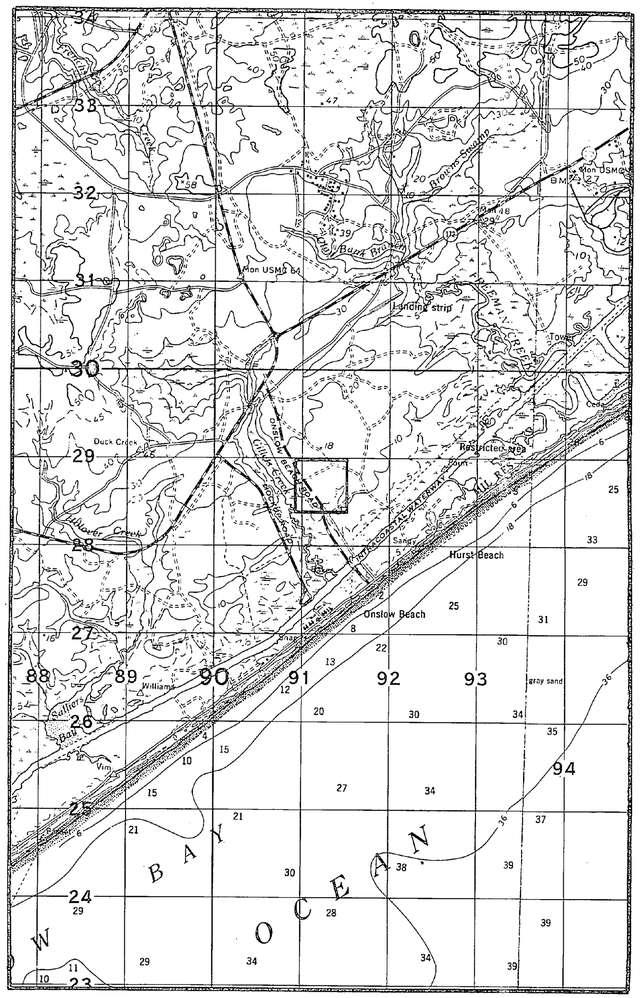
LANDMARKS: HURST BEACH ROAD AND GILLETTS CREEK ARE THE MOST PROMINENT LANDMARKS.

ELEVATION: THE TLZ IS APPROXIMATELY 3 METERS ABOVE SEA LEVEL.

SLOPE: SLOPE IN THE TLZ IS NEGLIGIBLE.

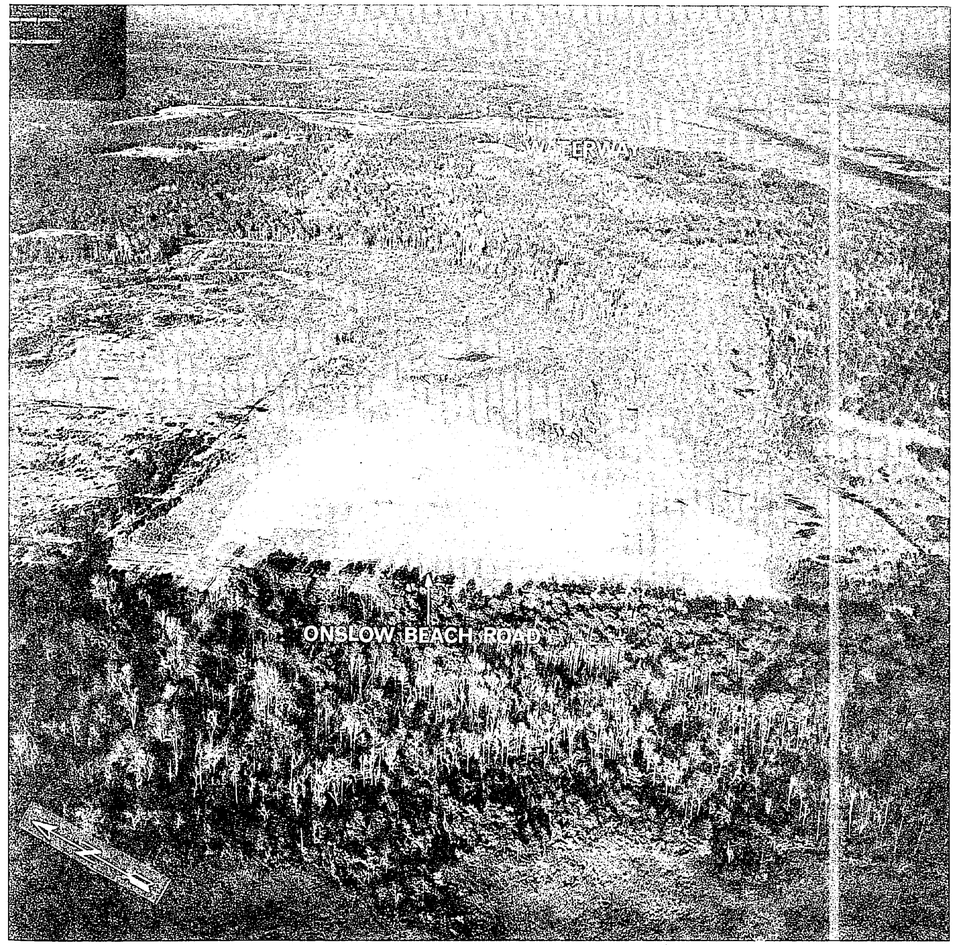
LANDING OBSTRUCTIONS: THERE ARE TELEPHONE LINES SET UP ALONG HURST BEACH ROAD ON POLES APPROXIMATELY 18 METERS HIGH. THESE WOULD PRESENT THE ONLY OBSTACLES TO HELICOPTERS.

APPROACHES: THE BEST APPROACHES CAN BE MADE FROM THE SOUTHEAST OR NORTHWEST.



TACTICAL LANDING ZONE FALCON

DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE GANDER

LOCATION: THE CENTER OF TLZ GANDER IS LOCATED AT UTM COORDINATES TP91522960 APPROXIMATELY 800 METERS EAST OF HURST BEACH ROAD.

SIZE AND SHAPE: THE TLZ IS RECTANGULAR SHAPED LANDING PLATFORM WHICH IS CONSTRUCTED OF METAL MATTING. IT IS APPROXIMATELY 23 X 15 METERS IN SIZE.

OBSTACLES TO GROUND MOVEMENT: ADJACENT TO THE TLZ IS A RECTANGULAR SHAPED POND FORMED BY A DEPRESSION PROBABLY DUG OUT DURING THE CONSTRUCTION OF THE LANDING PLATFORM. ITS SIZE IS APPROXIMATELY 18X27 METERS AND ITS DEPTH IS UNKNOWN. THE TLZ IS SURROUNDED BY A HEAVILY WOODED AREA WHICH WILL OBSTRUCT ALL WHEELED VEHICLES.

COVER AND CONCEALMENT: COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE WOODS IMMEDIATELY SURROUNDING THE TLZ.

EXITS AND COMMUNICATIONS. VEHICULAR TRAFFIC WILL BE RESTRICTED TO A DIRT ROAD WHICH LEADS WEST TO HURST BEACH ROAD. THIS SAME ROAD CONTINUES NORTHEAST OF THE TLZ WHERE IT NARROWS AND EVENTUALLY COMES OUT ON HWY 172 APPROXIMATELY 1,500 METERS FROM THE TLZ. ANOTHER DIRT ROAD IS ADJACENT TO THE TLZ AND THIS LEADS APPROXIMATELY 100 METERS SOUTH, THEN TURNS WEST AND CONTINUES THROUGH THE WOODS TO TLZ FALCON WHICH IS ADJACENT TO THE HURST BEACH ROAD (TP91222868).

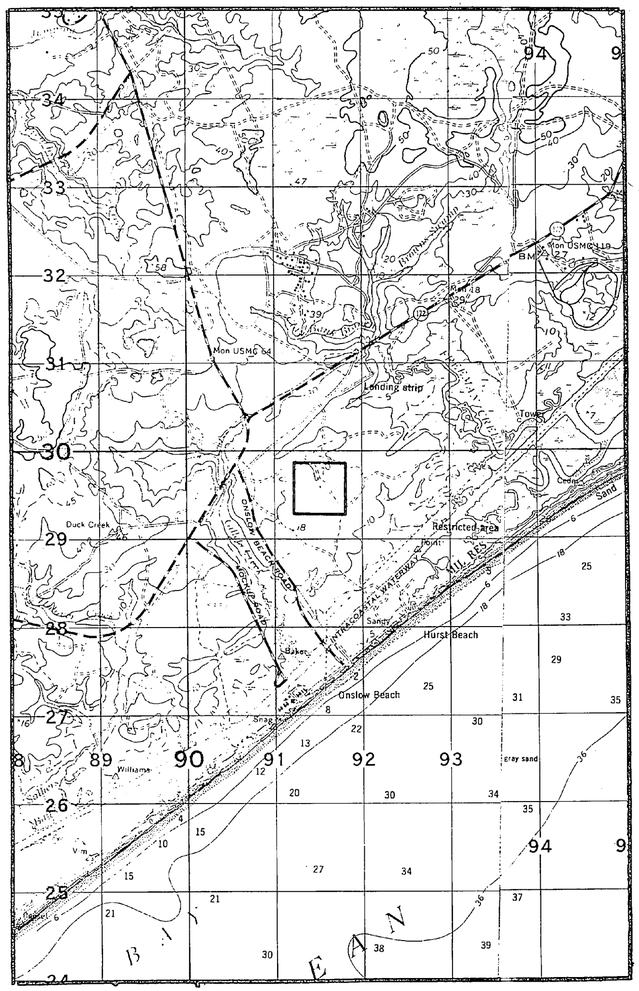
LANDMARKS: THE MOST CONSPICUOUS LANDMARKS ARE THE RECTANGULAR POND AND THE HURST BEACH ROAD.

ELEVATION: THE TLZ IS APPROXIMATELY 8 METERS ABOVE SEA LEVEL.

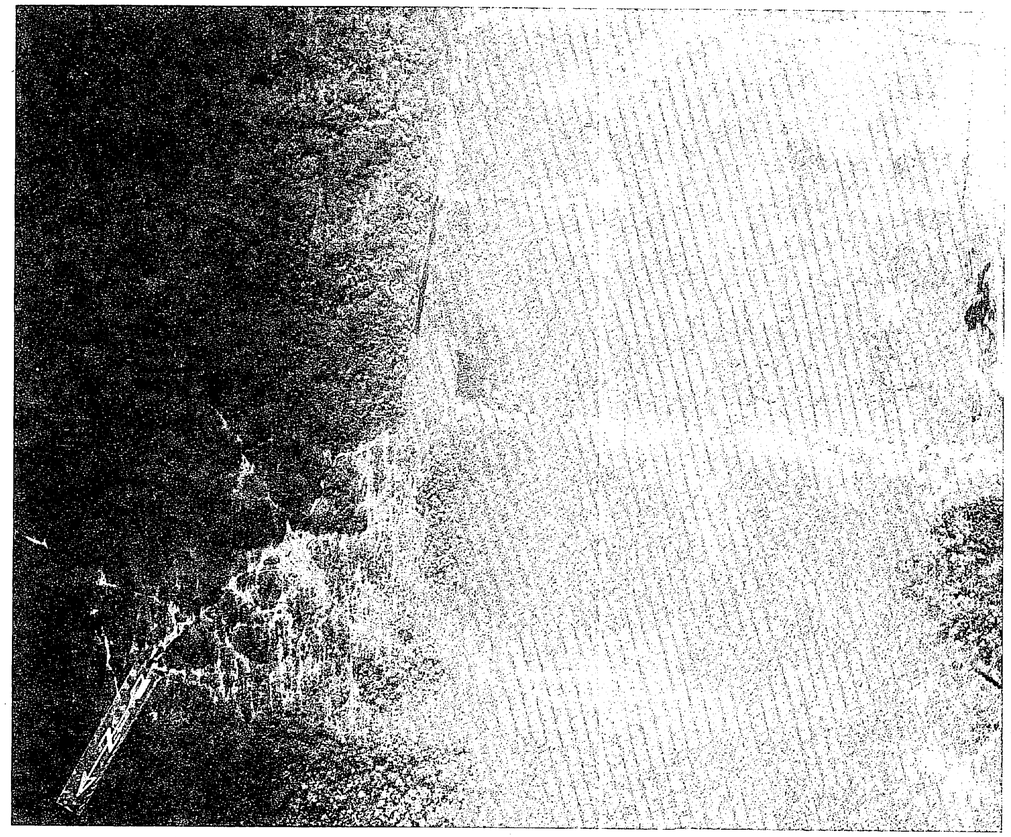
SLOPE: SLOPE WITHIN THE TLZ IS NEGLIGIBLE AND THE GROUND IN THE SURROUNDING AREA IS FLAT.

LANDING OBSTRUCTIONS: THE TREES SURROUNDING THE ZONE RANGE IN HEIGHT UP TO 15 METERS.

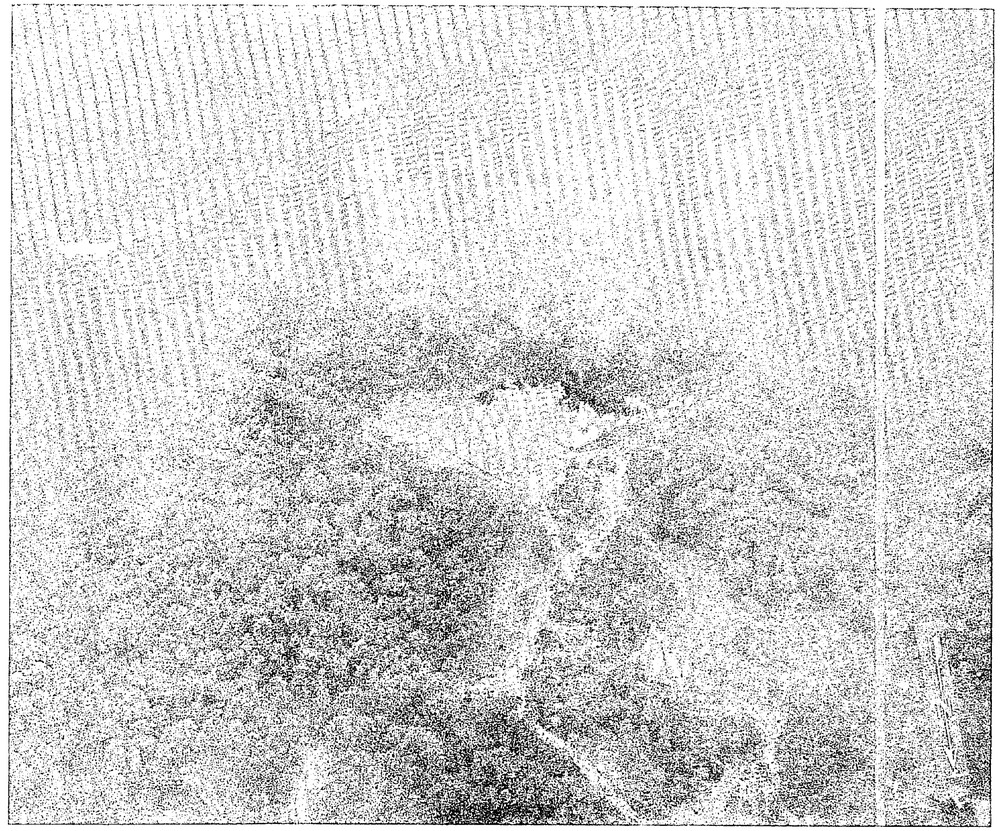
LANDING APPROACHES: ALL APPROACHES MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE GANDER



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE GOOSE

LOCATION: THE CENTER OF TLZ GOOSE IS AT UTM COORDINATES TP9197-3090 APPROXIMATELY 200 METERS SOUTHEAST OF HWY 172.

SHAPE AND SIZE: THE ZONE IS ROUGHLY OVAL IN SHAPE. IT IS APPROXIMATELY 381 METERS LONG AND 229 METERS WIDE.

TERRAIN: THE TLZ IS COMPOSED OF SANDY SOIL AND IS RELATIVELY LEVEL. THE AREA SURROUNDING THE TLZ IS WOODED. A STREAM IS LOCATED APPROXIMATELY 152 METERS NORTHEAST OF THE TLZ.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND OF A COARSE TEXTURE WHICH WILL SUPPORT WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: WITH THE EXCEPTION OF SCATTERED BRUSH ON THE EDGES OF THE TLZ THERE ARE NO OBSTACLES TO GROUND MOVEMENT WITHIN THE TLZ. CROSS COUNTRY MOVEMENT OF VEHICLES IS SERIOUSLY RESTRICTED BECAUSE OF THE FOREST WHICH SURROUNDS THE TLZ. A SWAMP AREA AND FREEMAN CREEK WHICH ARE APPROXIMATELY 300 METERS NORTHEAST OF THE TLZ WOULD MAKE VEHICLE TRAFFIC IMPOSSIBLE IN THAT AREA.

COVER AND CONCEALMENT: THERE IS NO IMMEDIATE COVER OR CONCEALMENT WITHIN THE TLZ. COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE HEAVILY WOODED TERRAIN IMMEDIATELY SURROUNDING THE TLZ.

EXITS AND COMMUNICATIONS: THERE IS AN OLD ROAD WHICH IS PAVED IN SOME PLACES, WHICH LIES ADJACENT TO THE TLZ. THERE ARE SEVEN DIRT ROADS WHICH CONNECT THE ZONE TO THIS OLD PAVED ROAD AND THEY ARE EVENLY SPACED ALONG AN ABANDONED AIRSTRIP WHICH BISECTS THE LANDING AREA. THE OLD PAVED ROAD LEADS NORTHEAST TO HWY 172, AND SOUTHWEST TO SNEADS FERRY ROAD.

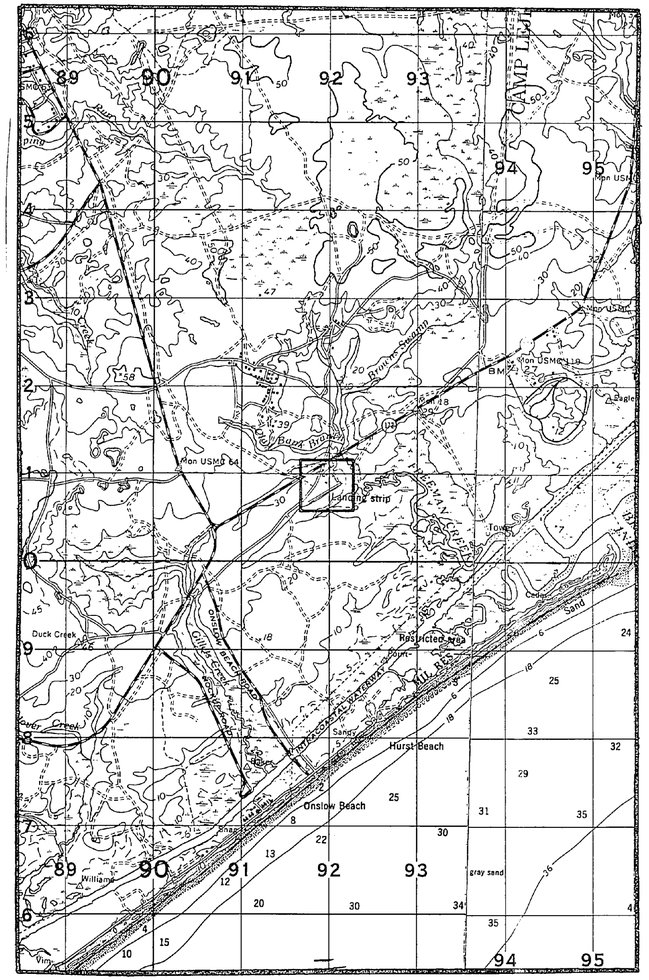
LANDMARKS: THE MOST CONSPICUOUS LANDMARK IS THE ABANDONED AIRSTRIP WITHIN THE TLZ. FREEMANS CREEK IS ALSO EASILY IDENTIFIED WITH THE TLZ.

ELEVATION: THE TLZ IS LOCATED IN A SPOT APPROXIMATELY 8 METERS ABOVE SEA LEVEL.

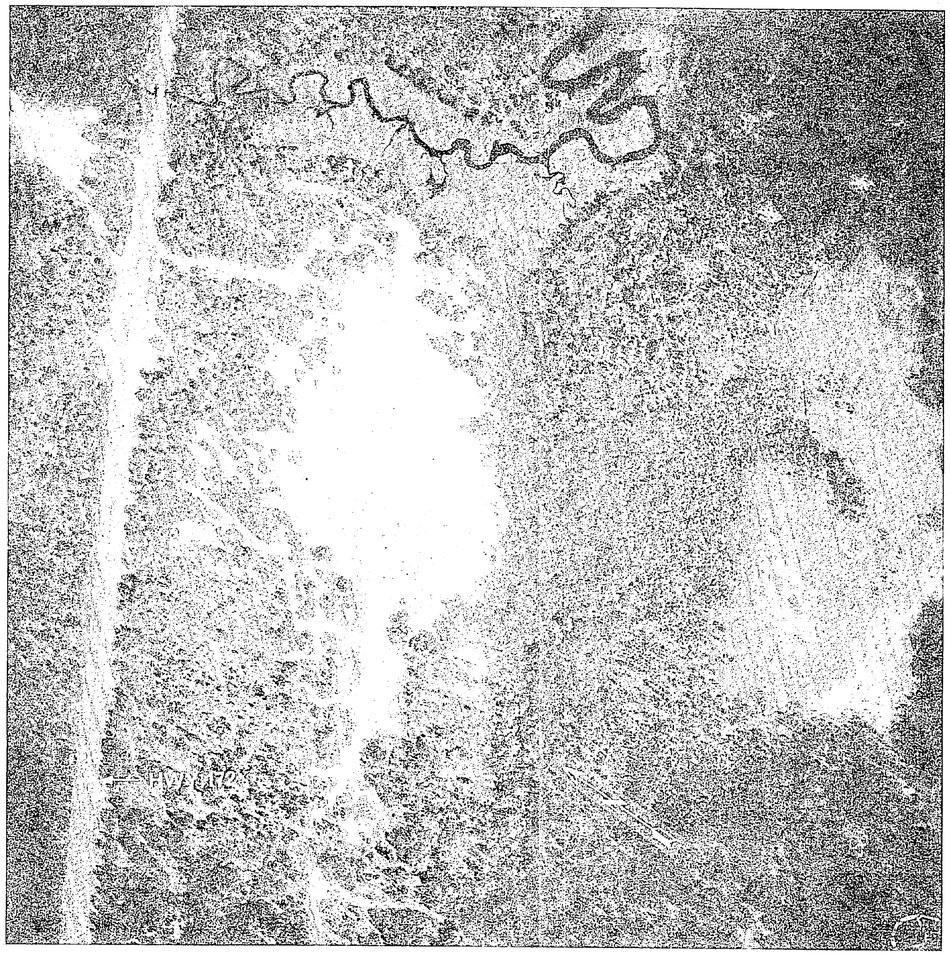
SLOPE: SLOPE IN THE TLZ IS NEGLIGIBLE AND THE SURROUNDING AREAS ARE FLAT.

LANDING OBSTRUCTIONS: THERE ARE NO LANDING OBSTRUCTIONS WITHIN THE TLZ, HOWEVER, THE AREA IS SURROUNDED BY TREES ATTAINING HEIGHTS RANGING UP TO 15 METERS.

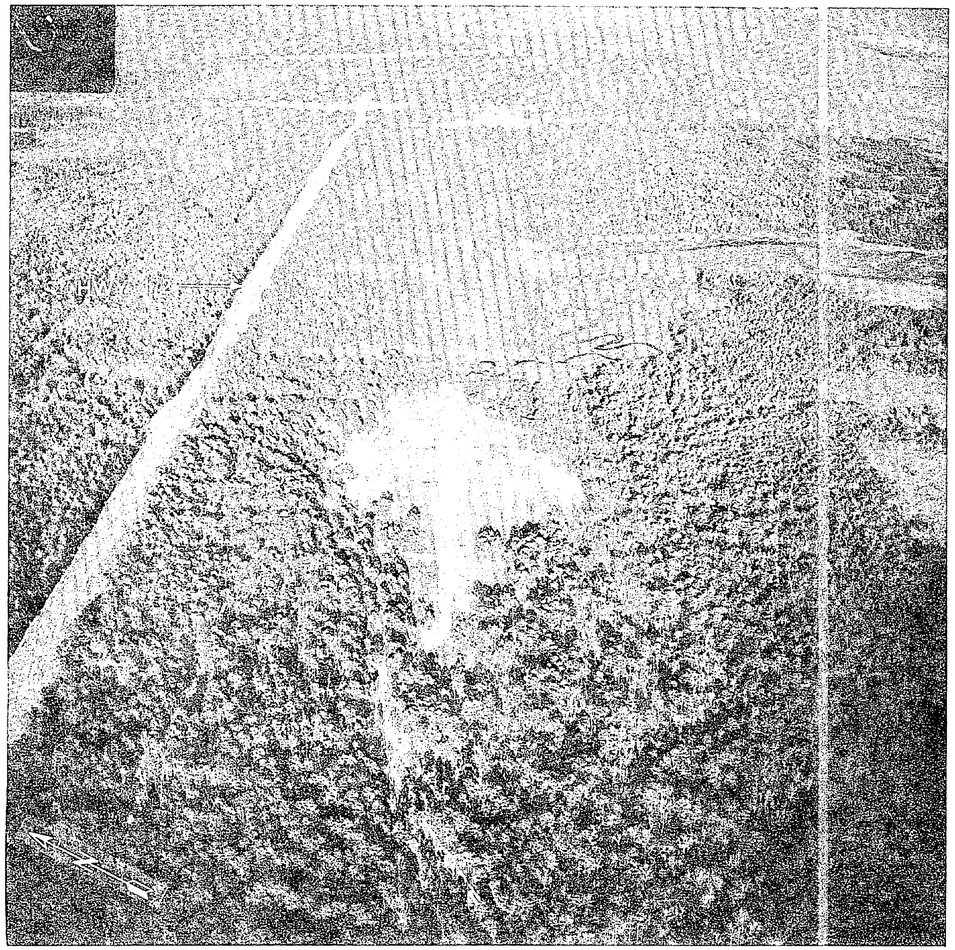
LANDING APPROACHES: ALL APPROACHES TO THE LANDING ZONE MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE GOOSE



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE HAWK

LOCATION: TLZ HAWK IS LOCATED APPROXIMATELY 380 METERS WEST OF SNEADS FERRY ROAD AT GRID COORDINATES TP896532O8.

SHAPE AND SIZE: TLZ HAWK IS IRREGULAR IN SHAPE AND EXTENDS APPROXIMATELY 230 METERS NORTH-SOUTH. IT IS APPROXIMATELY 185 METERS WIDE AT THE WIDEST POINT.

TERRAIN: THE TERRAIN WITHIN THE TLZ IS RELATIVELY FLAT WITH LOW IRREGULAR SAND RIDGES THROUGHOUT THE ENTIRE ZONE. A LONG LOW SAND DUNE RUNNING NORTHEAST TO SOUTHWEST IS LOCATED IN THE NORTHERN HALF OF THE ZONE. THIS DUNE IS APPROXIMATELY 1 TO 2 METERS HIGH AND DROPS OFF SHARPLY TO THE SOUTH. THE TERRAIN SURROUNDING THE ZONE IS RELATIVELY FLAT WITH LOW IRREGULAR SAND RIDGES SCATTERED AROUND THE ENTIRE AREA. A SPARSE GROWTH OF SCRUB BRUSH AND TREES IS FOUND SURROUNDING THE ZONE WITH DENSE VEGETATION IMMEDIATELY BEHIND IT.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL WITHIN THE TLZ IS A LIGHT COLORED SAND AND WILL SUPPORT VEHICLE AND TROOP TRAFFIC WITH LITTLE OR NO DIFFICULTY.

OBSTACLES TO GROUND MOVEMENT: THE SAND DUNE LOCATED IN THE NORTHERN PORTION OF THE TLZ PRESENTS THE ONLY RESTRICTION TO MOVEMENT WITHIN THE TLZ. THE VEGETATION SURROUNDING THE TLZ, WHILE NOT RESTRICTING MOVEMENT, DOES CHANNELIZE THE DIRECTION OF MOVEMENT FOR VEHICLE TRAFFIC.

COVER AND CONCEALMENT: COVER AND CONCEALMENT WITHIN THE TLZ IS LIMITED TO THE SAND DUNE LOCATED IN THE NORTHERN PART OF THE ZONE. THIS DUNE OFFERS PROTECTION FROM DIRECT FIRE FROM THE NORTH AND PROVIDES A PARTIALLY PROTECTED AVENUE OF MOVEMENT TO THE WESTERN EDGE OF THE ZONE. FAIR TO GOOD COVER AND CONCEALMENT IS PROVIDED BY THE DENSE VEGETATION SURROUNDING THE ZONE AND BY THE NUMEROUS LOW DUNES SCATTERED THROUGHOUT THE AREA.

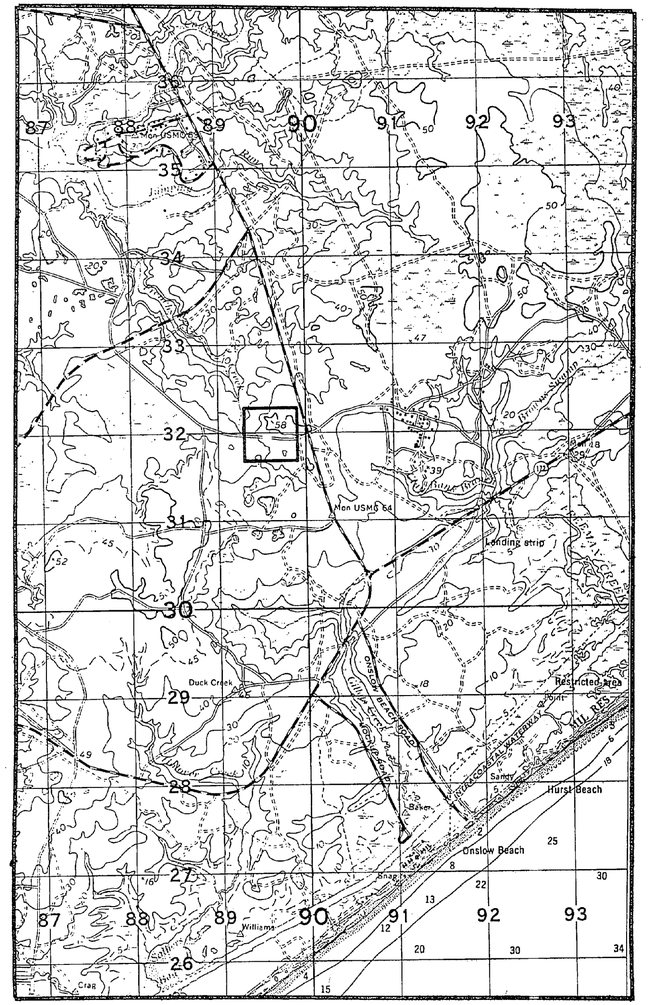
EXITS AND COMMUNICATIONS: MOVEMENT OF TROOPS IN ANY DIRECTION FROM THE TLZ IS POSSIBLE. THREE GOOD EXITS TO THE SOUTH PROVIDE ACCESS TO THE 12 METER WIDE DIRT ROAD IMMEDIATELY TO THE SOUTH. THIS ROAD OFFERS ACCESS TO COMBAT TOWN LOCATED 600 METERS TO THE WEST, AND TO THE TWO LANE HARD SURFACE SNEADS FERRY ROAD LOCATED 380 METERS TO THE EAST. A 6 METER WIDE DIRT ROAD PROVIDES AN EXIT FROM THE NORTHERN END OF THE TLZ AND ACCESS TO SNEADS FERRY ROAD.

ELEVATION: THE TLZ IS APPROXIMATELY 15 METERS ABOVE SEA LEVEL.

SLOPE: THE SLOPE WITHIN THE TLZ IS NEGLIGIBLE.

LANDING OBSTRUCTIONS: THE TLZ IS SURROUNDED ALMOST ENTIRELY BY TREES RANGING IN HEIGHT UP TO 18 METERS. THERE IS A TELEPHONE LINE APPROXIMATELY 12 METERS HIGH WHICH RUNS ALONG THE DIRT ROAD FORMING THE NORTHERN BORDER OF THE TLZ.

HELICOPTER APPROACHES: ALL APPROACHES TO THE TLZ MUST BE MADE OVER THE SURROUNDING TREES AND TELEPHONE LINE.



TACTICAL LANDING ZONE HAWK

LOCATION: TLZ HAWK IS LOCATED APPROXIMATELY 360 METERS WEST OF SNEAKS FERRY ROAD AT GRID COORDINATES TP6952926.

SHAPE AND SIZE: TLZ HAWK IS IRREGULAR IN SHAPE AND EXTENDS AP-PROXIMATELY 250 METERS NORTH-SOUTH. IT IS APPROXIMATELY 145 METERS WIDE AT THE WIDEST POINT.

TERRAIN: THE TERRAIN WITHIN THE TLZ IS RELATIVELY FLAT WITH LOW IRREGULAR SAND RIDGES THROUGHOUT THE ENTIRE ZONE. A LONG LOW SAND DUNE RUNNING NORTHEAST TO SOUTHWEST IS LOCATED IN THE NORTHERN HALF OF THE ZONE. THIS DUNE IS APPROXIMATELY 5 TO 5 METERS HIGH AND DROPS OFF ABRUPTLY TO THE SOUTH. THE TERRAIN SURROUNDING THE ZONE IS RELATIVELY FLAT WITH LOW IRREGULAR SAND RIDGES SCATTERED AROUND THE ENTIRE AREA. A SPARSE GROWTH OF SCRUB BRUSH AND TREES IS FOUND SURROUNDING THE ZONE WITH DENSE VEGETATION IMMEDIATELY BEHIND IT.

MATERIAL, FIRM[illegible]SS, AND TRAFFICABILITY: THE SOIL WITHIN THE TLZ IS A LIGHT COL[illegible]ED SAND AND WILL SUPPORT VEHICLE AND FOOT TRAFFIC WITH LITTLE OR NO DIFFICULTY.

OBSTACLES TO GROUND MOVEMENT: THE SAND DUNE LOCATED IN THE NORTH-ERN PORTION OF THE TLZ PRESENTS THE ONLY RESTRICTION TO MOVEMENT WITHIN THE TLZ. THE VEGETATION SURROUNDING THE TLZ, WHILE NOT RE-STRICTING MOVEMENT, DOES CHANNELIZE THE DIRECTION OF MOVEMENT FOR VEHICLE TRAFFIC.

COVER AND CONCEALMENT: COVER AND CONCEALMENT WITHIN THE TLZ IS LIMITED TO THE SAND DUNE LOCATED IN THE NORTHERN PART OF THE ZONE. THIS DUNE OFFERS PROTECTION FROM DIRECT FIRE FROM THE NORTH AND PROVIDES A PARTIALLY PROTECTED AVENUE OF MOVEMENT TO THE WESTERN EDGE OF THE TLZ. FAIR TO GOOD COVER AND CONCEALMENT IS PROVIDED BY THE DENSE VEGETATION SURROUNDING THE ZONE AND BY THE NUMEROUS LOW DUNES SCATTERED THROUGHOUT THE AREA.

EXITS AND COMMUNICATIONS: MOVEMENT OF TROOPS IN ANY DIRECTION FROM THE TLZ IS POSSIBLE. THREE GOOD EXITS TO THE SOUTH PROVIDE ACCESS TO THE 12 METER WIDE DIRT ROAD IMMEDIATELY TO THE SOUTH. THIS ROAD OFFERS ACCESS TO COMBAT TOWN LOCATED 600 METERS TO THE WEST. AND TO THE TWO LANE HARD SURFACE SNEAKS FERRY ROAD LOCATED 360 METERS TO THE EAST. A 6 METER WIDE DIRT ROAD PROVIDES AN EXIT FROM THE NORTHERN END OF THE TLZ AND ACCESS TO SNEAKS FERRY ROAD.

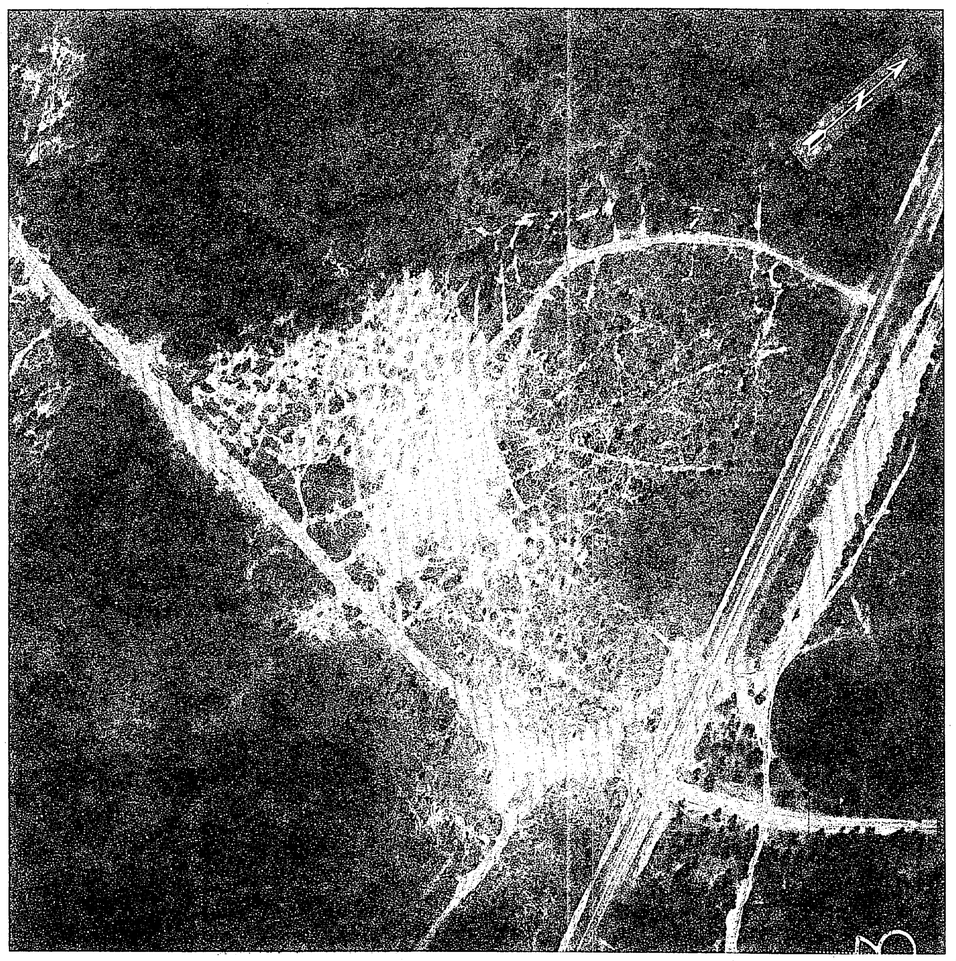
ELEVATION: THE TLZ IS APPROXIMATELY 35 METERS ABOVE SEA LEVEL.

SLOPE: THE SLOPE WITHIN THE TLZ IS NEGLIGIBLE

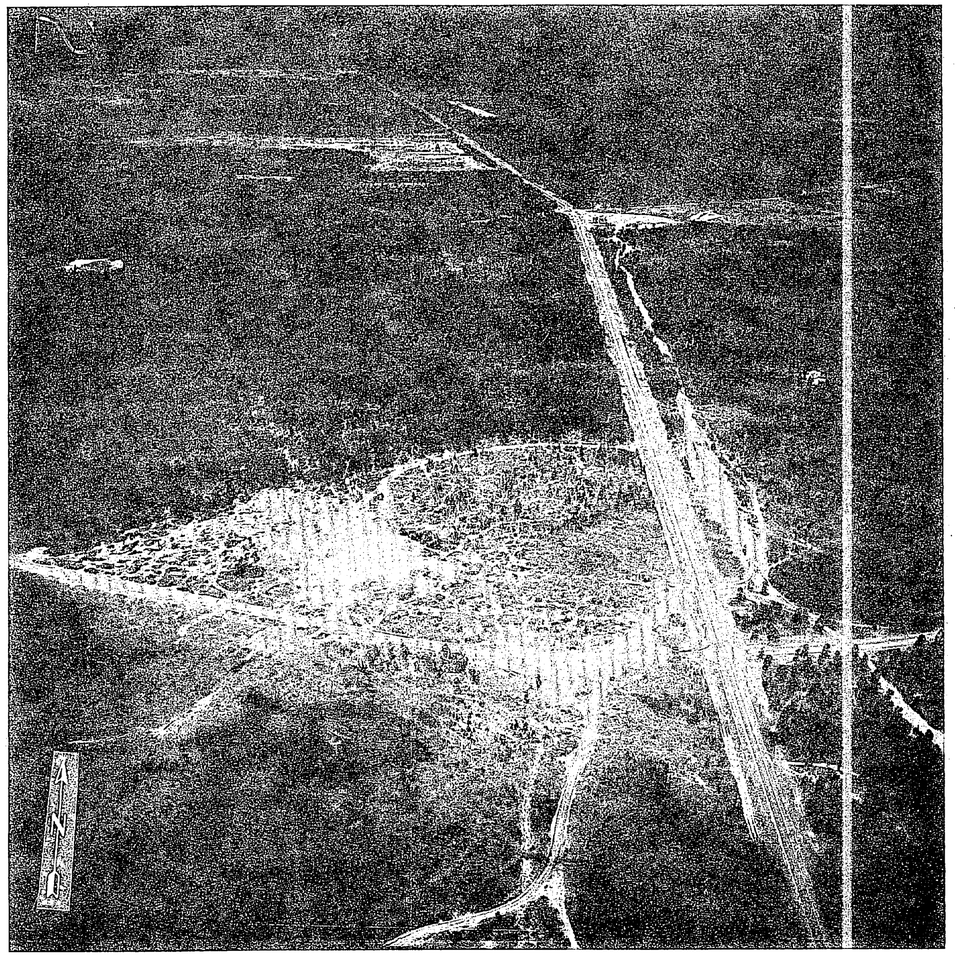
LANDING OBSTRUCTIONS: THE TLZ IS SURROUNDED ALMOST ENTIRELY BY TREES RANGING IN HEIGHT UP TO 30 METERS. THERE IS A TELEPHONE LINE APPROXIMATELY 35 METERS HIGH WHICH RUNS ALONG THE DIRT ROAD FORMING THE NORTHERN BORDER OF THE TLZ.

HELICOPTER APPROACHES: ALL APPROACHES TO THE TLZ MUST BE MADE OVER THE SURROUNDING TREES AND TELEPHONE LINE.

TACTICAL LANDING ZONE HAWK



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE JAYBIRD

LOCATION: THE CENTER OF TLZ JAYBIRD IS LOCATED AT UTM COORDINATES TP87953375. THIS POINT IS APPROXIMATELY 1500 METERS SOUTHEAST OF THE JUNCTION OF MARINES ROAD AND SNEADS FERRY ROAD (TP8943431).

SHAPE AND SIZE: THE TLZ IS "V"-SHAPED AND IS 137 METERS LONG ON EACH SIDE OF THE "V" AND IS 76 METERS WIDE AT ITS WIDEST POINT.

TERRAIN: THE TLZ IS COMPOSED OF SANDY SOIL AND IS RELATIVELY LEVEL. THE AREA SURROUNDING THE ZONE IS WOODED. THERE IS A STREAM AND A SWAMP AREA APPROXIMATELY 200 METERS TO THE EAST OF THE TLZ.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND OF COARSE TEXTURE WHICH WILL ACCOMMODATE WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: WITHIN THE ZONE THERE ARE NO RESTRICTIONS TO TROOP OR VEHICLE MOVEMENT. HOWEVER THE DENSE GROWTH OF TREES SURROUNDING THE ZONE AND THE CONDITION OF THE SURROUNDING TERRAIN WILL LIMIT THE MOVEMENT OF VEHICLES TO THE DIRT ROAD ADJACENT TO THE ZONE.

COVER AND CONCEALMENT: THERE IS NO COVER OR CONCEALMENT WITHIN THE TLZ. HOWEVER THE HEAVILY WOODED AREA SURROUNDING THE AREA ON ITS NORTHERN, SOUTHERN, AND WESTERN BOUNDARIES AND THE ERODED CONDITION OF THE LAND IMMEDIATELY TO THE EAST OF THE ZONE PROVIDE EXCELLENT COVER AND CONCEALMENT.

EXITS AND COMMUNICATIONS: THERE IS A 6 METER WIDE DIRT ROAD WHICH PROVIDES DOUBLE ACCESS TO THE TWO LANE, HARD SURFACE MARINES ROAD. ONE OTHER 6 METER WIDE DIRT ROAD 50 METERS SOUTH OF THE ZONE EXTENDS WEST TO NEW RIVER AND PROVIDES ACCESS TO WEIL POINT AND FRENCHS CREEK.

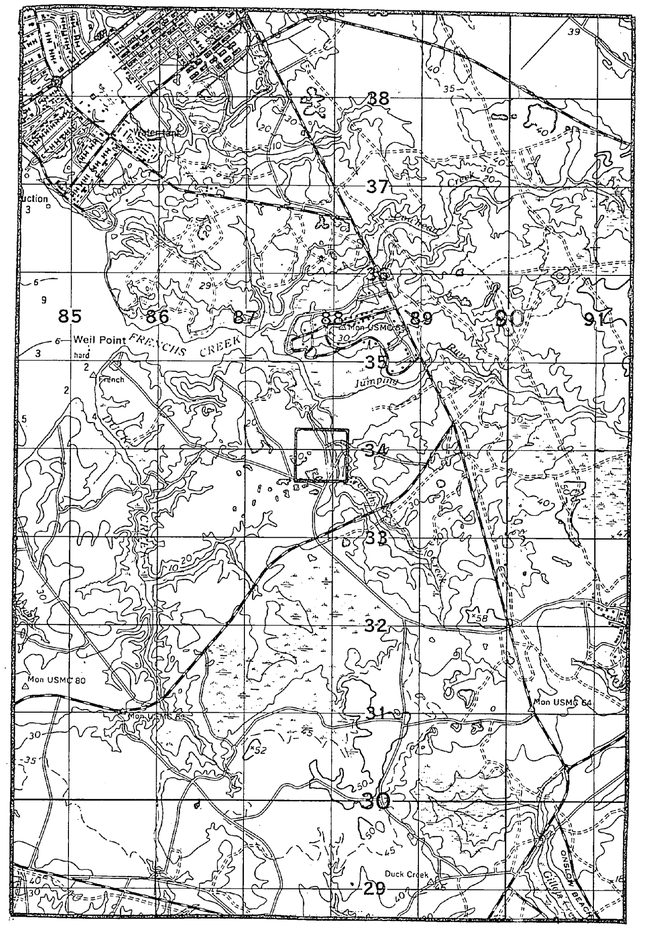
LANDMARKS: A MAGAZINE AREA CENTERED AT TP885355 IS APPROXIMATELY 1.5 KILOMETERS NORTH OF THE ZONE AND OP-5 TP LOCATED AT THE INTERSECTION OF MARINES ROAD AND SNEADS FERRY ROAD LIES APPROXIMATELY 1.3 KILOMETERS DUE EAST.

ELEVATION: THE ELEVATION OF TLZ JAYBIRD IS APPROXIMATELY 9 METERS ABOVE SEA LEVEL.

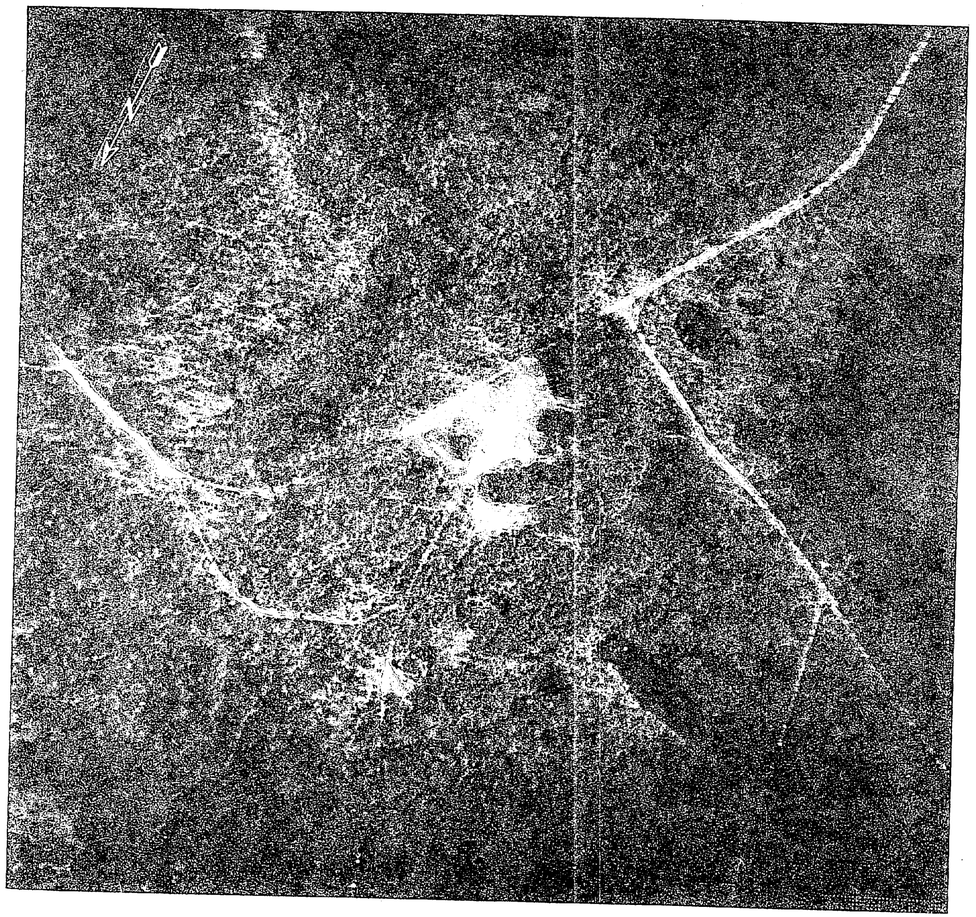
SLOPE: SLOPE WITHIN THE ZONE IS NEGLIGIBLE.

LANDING OBSTRUCTIONS: THERE ARE NO LANDING OBSTRUCTIONS WITHIN THE TLZ, HOWEVER THE SURROUNDING AREA HAS TREES RANGING IN SIZE FROM 9 TO 18 METERS, THE TALLER OF WHICH ARE LOCATED AT THE SOUTHERN EDGE OF THE ZONE.

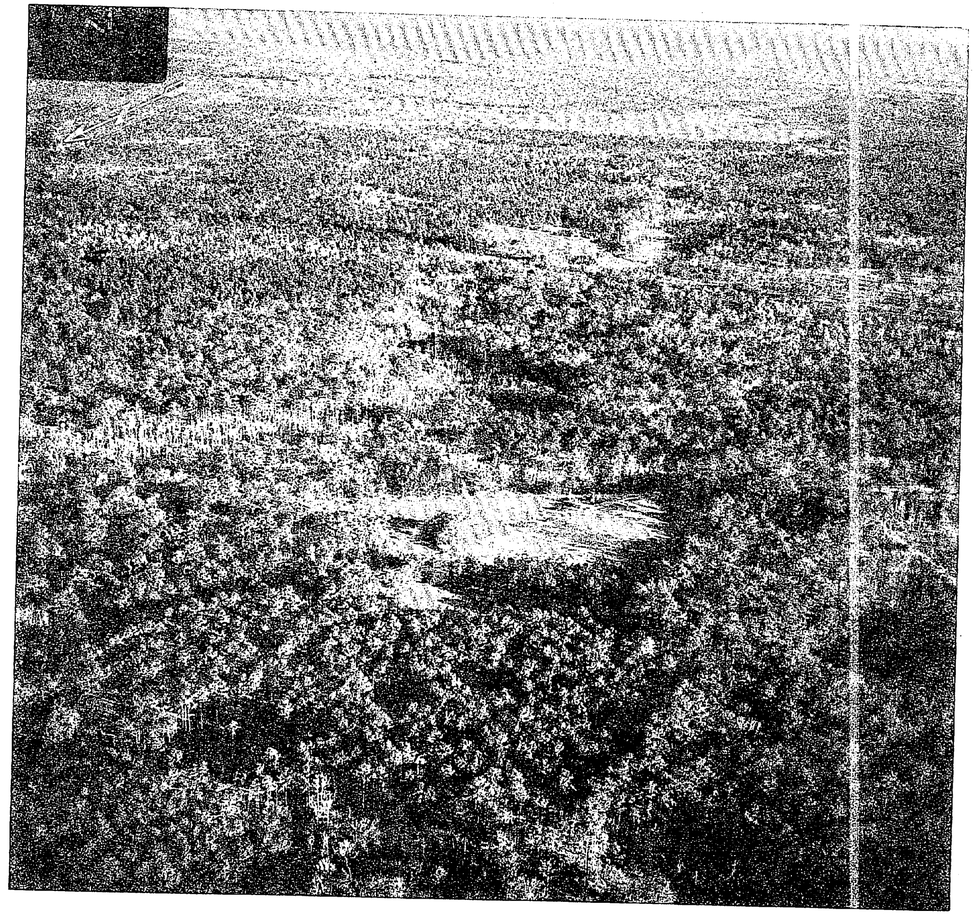
HELICOPTER APPROACHES: APPROACHES CAN BE MADE FROM ANY DIRECTION, BUT DUE TO THE LOCATION AND DENSITY OF TREES SURROUNDING THE ZONE, THE BEST APPROACH APPEARS TO BE FROM THE NORTHEAST.



TACTICAL LANDING ZONE JAYBIRD



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE LARK

LOCATION: THE CENTER OF TLZ LARK IS AT UTM GRID COORDINATES TP94703860 APPROXIMATELY 30 METERS FROM HWY 172 WHICH PARALLELS THE LANDING ZONE.

SHAPE AND SIZE: TLZ LARK IS RECTANGULAR IN SHAPE. IT IS 792 METERS IN LENGTH AND 228 METERS IN WIDTH.

TERRAIN: THE TERRAIN WITHIN THE TLZ IS FLAT. THE AREA SURROUNDING THE ZONE IS RELATIVELY FLAT AND IS COVERED WITH A HEAVY GROWTH OF TREES.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND OF A COARSE TEXTURE WHICH WILL ACCOMODATE WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: THERE ARE NO RESTRICTIONS TO MOVEMENT WITHIN THE ZONE. THE DENSE GROWTH OF TREES SURROUNDING THE ZONE RESTRICTS VEHICULAR TRAFFIC TO ROUTE 172, A TWO LANE, HARD SURFACED ROAD, LEADING ALONG THE EASTERN EDGE OF THE ZONE AND THE TWO 10 METER WIDE DIRT ROADS, EXTENDING FROM ROUTE 172 THROUGH THE LANDING ZONE.

COVER AND CONCEALMENT: SEVERAL HOLES SCATTERED AROUND THE LANDING ZONE AND ALONG ITS EASTERN EDGE COULD PROVIDE LIMITED COVER AND CONCEALMENT FOR A FEW TROOPS WITHIN THE ZONE. THE LARGE GROWTH OF TREES SURROUNDING THE ZONE WOULD PROVIDE EXCELLENT COVER AND CONCEALMENT.

EXITS AND COMMUNICATIONS: TROOPS CAN DISPERSE IN ANY DIRECTION. VEHICLE MOVEMENT WITHIN THE ZONE IS UNRESTRICTED AND THERE ARE THREE GOOD VEHICLE EXITS TO HWY 172. THE FIRST IS A 6 METER WIDE DIRT ROAD WHICH BISECTS THE LANDING ZONE AT THE CENTER. THE SECOND IS A 3 METER WIDE DIRT ROAD LEADING TO ROUTE 172 TO THE NORTHEAST. THE THIRD IS A 6 METER WIDE DIRT ROAD LEADING OUT OF THE LANDING ZONE TO THE NORTH.

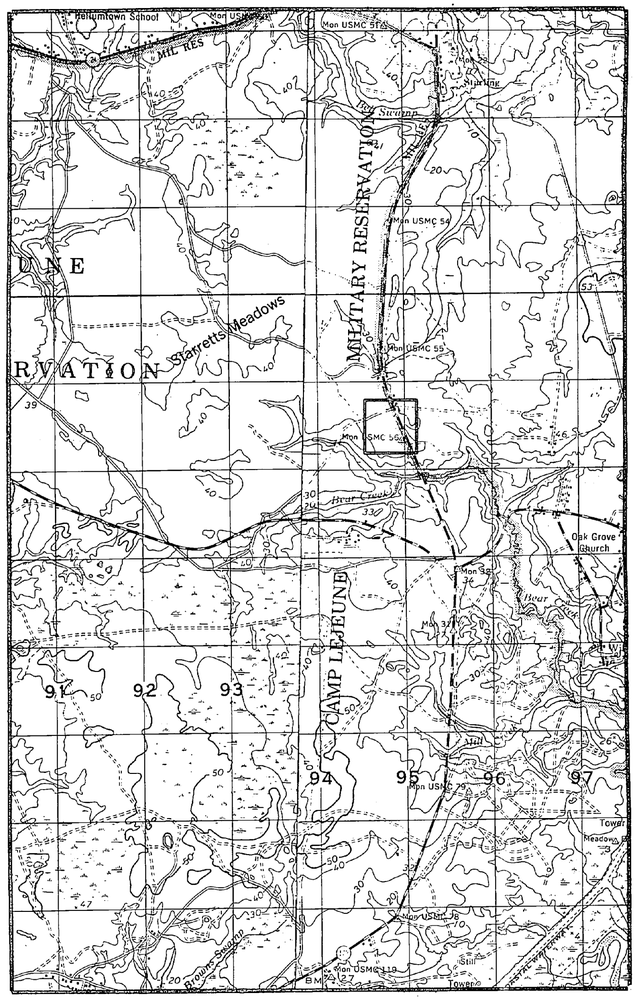
LANDMARKS: HWY 172 WHICH PARALLELS THE LANDING ZONE FROM THE NORTH TO SOUTH IS THE MOST PROMINENT LANDMARK.

ELEVATION: THE LANDING ZONE IS APPROXIMATELY 10 METERS ABOVE SEA LEVEL.

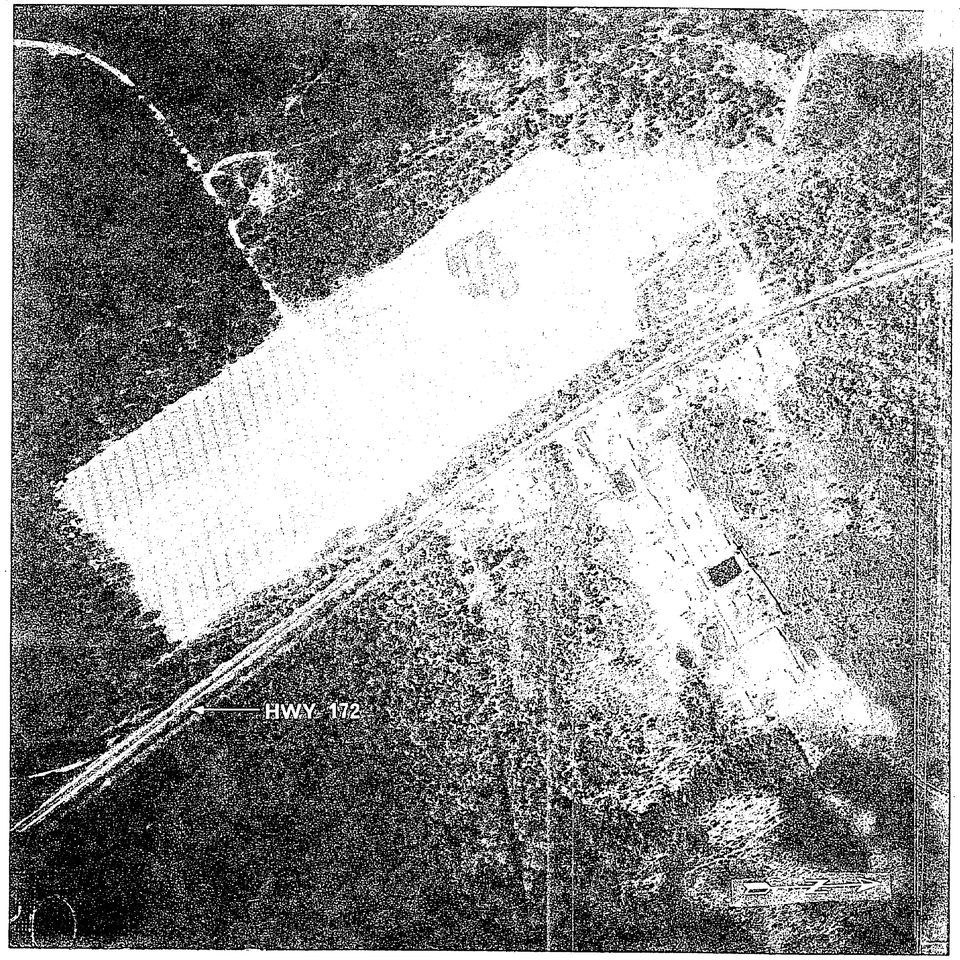
SLOPE: THE SLOPE IN THE TLZ IS NEGLIGIBLE AND LAND SURROUNDING THE TLZ IS FLAT.

LANDING OBSTRUCTIONS: THERE ARE NO OBSTRUCTIONS WITHIN THE TLZ. THE ZONE IS SURROUNDED BY A HEAVILY WOODED AREA WITH TREES ATTAINING HEIGHTS RANGING UP TO 15 METERS.

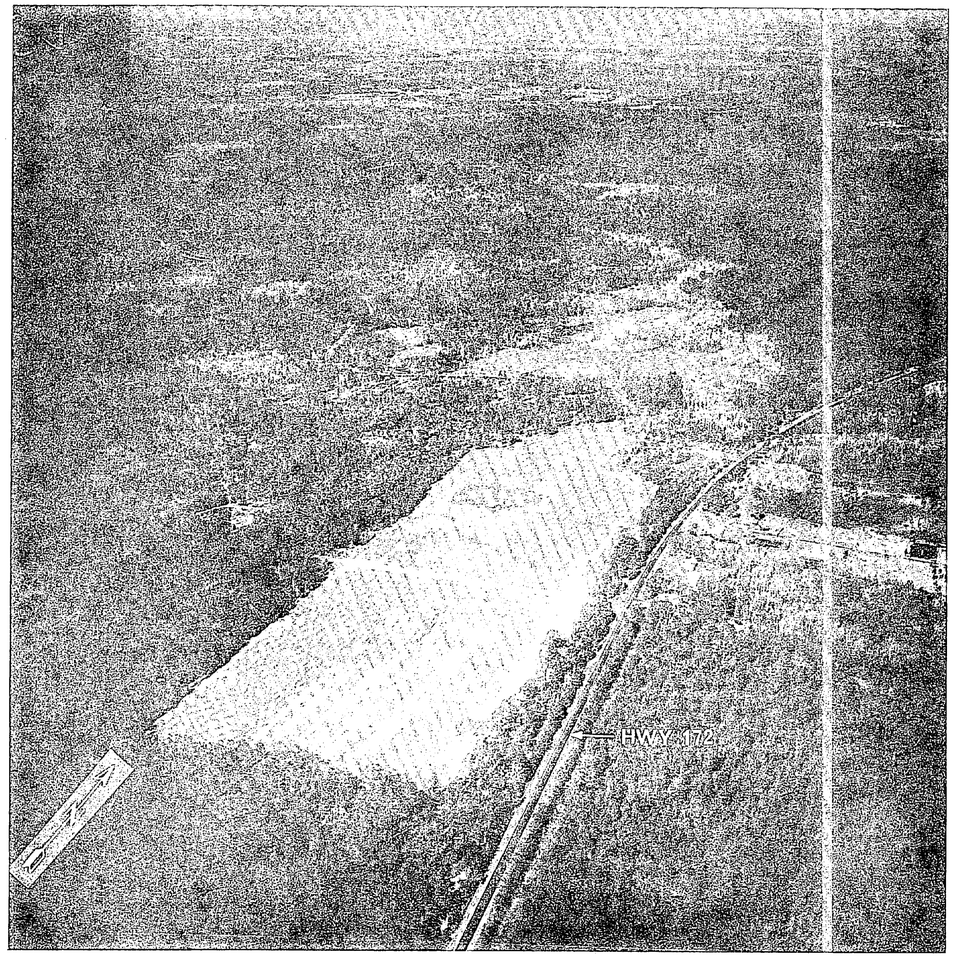
HELICOPTER APPROACHES: ALL APPROACHES TO THE LANDING ZONE MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE LARK



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE PENGUIN

LOCATION: THE CENTER OF TLZ PENGUIN IS LOCATED AT UTM GRID CO-ORDINATES TP900375.

SHAPE AND SIZE: THE TLZ IS RECTANGULAR IN SHAPE. IT IS APPROXIMATELY 450 METERS IN LENGTH AND 265 METERS IN WIDTH.

TERRAIN: THE TLZ IS COMPOSED OF SANDY SOIL AND IS RELATIVELY LEVEL. THE AREA SURROUNDING THE TLZ IS WOODED WITH SCATTERED OPEN AREAS. LYMAN ROAD IS LOCATED APPROXIMATELY 600 METERS TO THE NORTH OF THE TLZ.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL CONSISTS OF PRIMARILY LIGHT COLORED SAND OF A COURSE TEXTURE WHICH WILL ACCOMODATE WHEELED VEHICLES.

OBSTACLES TO GROUND MOVEMENT: WITH THE EXCEPTION OF SCATTERED BRUSH THROUGHOUT THE TLZ, THERE ARE NO OBSTACLES TO GROUND MOVEMENT WITHIN THE TLZ. CROSS COUNTRY MOVEMENT OF VEHICLES IS SERIOUSLY RESTRICTED BECAUSE OF THE FOREST WHICH SURROUNDS THE TLZ.

COVER AND CONCEALMENT: THERE IS NO IMMEDIATE COVER OR CONCEALMENT WITHIN THE TLZ. COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE WOODED TERRAIN IMMEDIATELY SURROUNDING THE TLZ.

EXITS AND COMMUNICATIONS: THERE IS A 6 METER WIDE DIRT ROAD WHICH PARALLELS THE SOUTHERN SIDE OF THE TLZ WHICH LEADS TO THE SNEADS FERRY ROAD TO THE SOUTHWEST AND TO LYMAN ROAD TO THE NORTHEAST. EXITS FOR FOOT TROOPS ARE UNLIMITED.

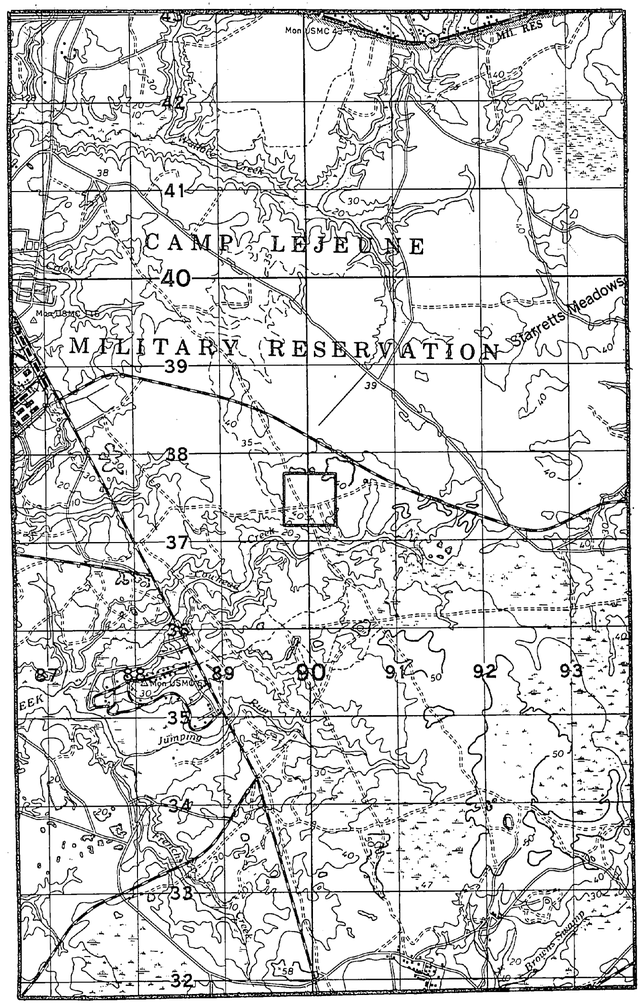
LANDMARKS: LYMAN ROAD LIES APPROXIMATELY 600 METERS NORTH OF THE CENTER OF THE TLZ.

ELEVATION: THE LANDING ZONE IS APPROXIMATELY 6 METERS ABOVE SEA LEVEL.

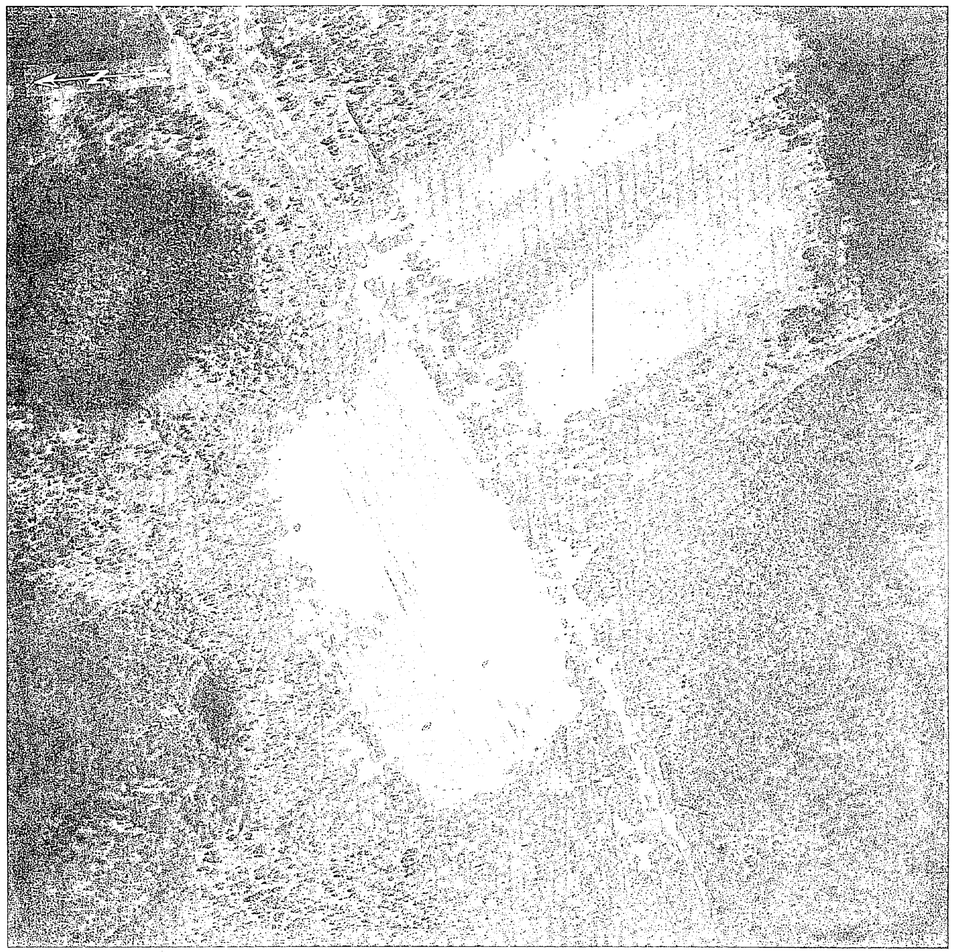
SLOPE: THE SLOPE OF THE LANDING ZONE IS NEGLIGIBLE.

LANDING OBSTRUCTIONS: THE LANDING ZONE IS SURROUNDED BY A HEAVILY WOODED AREA WITH TREES ATTAINING HEIGHTS RANGING UP TO 15 METERS. THERE IS A FIRE TOWER AT THE EAST SIDE OF THE TLZ APPROXIMATELY 24 METERS IN HEIGHT.

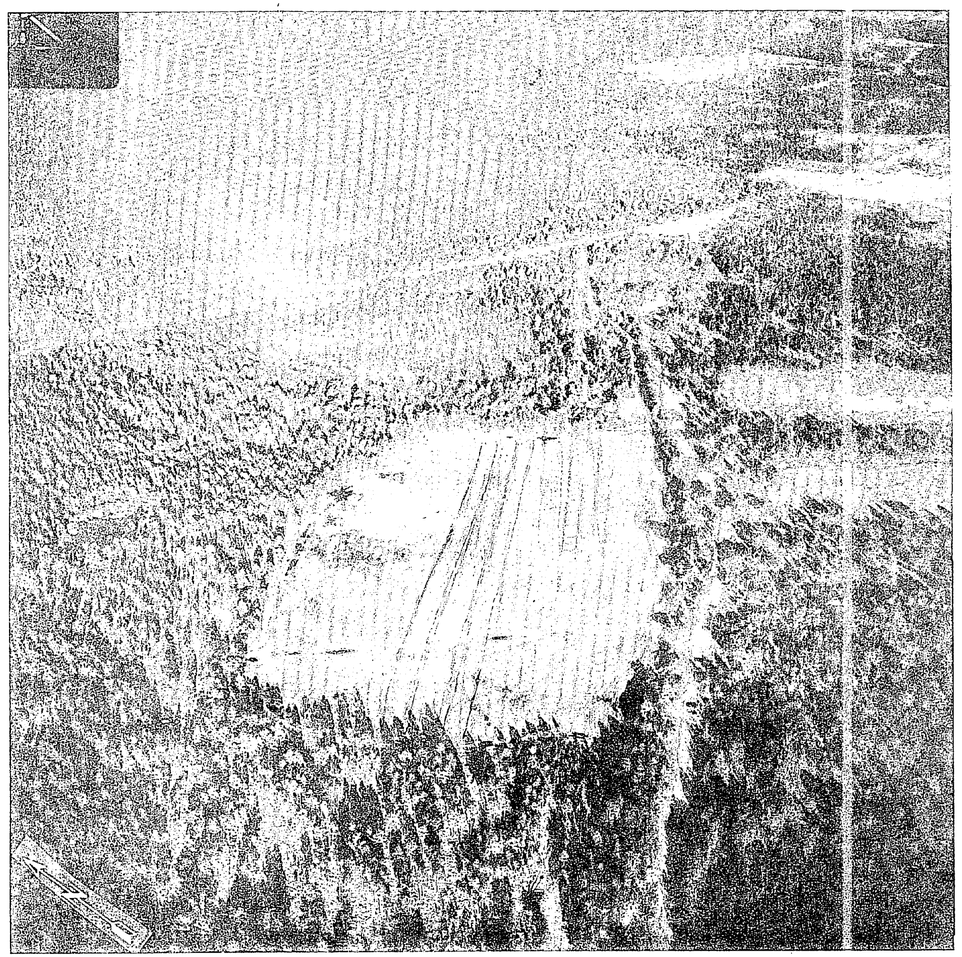
HELICOPTER APPROACHES: ALL APPROACHES TO THE LANDING ZONE MUST BE MADE OVER THE SURROUNDING TREES.



TACTICAL LANDING ZONE PENGUIN



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE ROBIN

LOCATION: THE CENTER OF TLZ ROBIN IS LOCATED AT UTM COORDINATES TP95004260 APPROXIMATELY 450 METERS EAST OF HIGHWAY 172.

SHAPE AND SIZE: THE SHAPE OF THE TLZ IS RECTANGULAR. THE LANDING ZONE IS APPROXIMATELY 343 METERS IN LENGTH AND 244 METERS IN WIDTH.

TERRAIN: THE TLZ IS RELATIVELY LEVEL AS IS THE HEAVILY WOODED AREA WHICH SURROUNDS IT. APPROXIMATELY 500 METERS TO THE SOUTH AND WEST THERE IS A SWAMP AREA WHICH FORMS AN L-SHAPED BARRIER TO EGRESSION IN THOSE DIRECTIONS.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE SOIL IN THE TLZ AND SURROUNDING AREAS IS SANDY. THE TLZ IS COVERED WITH GRASS, WEEDS, AND SMALL SHRUBBERY. THE GROUND IS FIRM AND LEVEL. WHEELED VEHICLES CAN NEGOTIATE THE AREA WITHOUT DIFFICULTY.

OBSTACLES TO GROUND MOVEMENT: THERE ARE NO OBSTACLES TO GROUND MOVEMENT WITHIN THE TLZ. CROSS COUNTRY MOVEMENT OF VEHICLES IS SERIOUSLY RESTRICTED BECAUSE OF THE WOODED AREA WHICH ENCLOSES THREE SIDES OF THE TLZ. BELL SWAMP CUTS OFF TROOP MOVEMENT TO THE WEST AND SOUTH APPROXIMATELY 500 METERS FROM THE TLZ.

COVER AND CONCEALMENT: THERE IS NO IMMEDIATE COVER OR CONCEALMENT WITHIN THE TLZ. COVER AND CONCEALMENT IS AFFORDED TO VEHICLES AND TROOPS IN THE WOODED TERRAIN WHICH BORDERS THE TLZ.

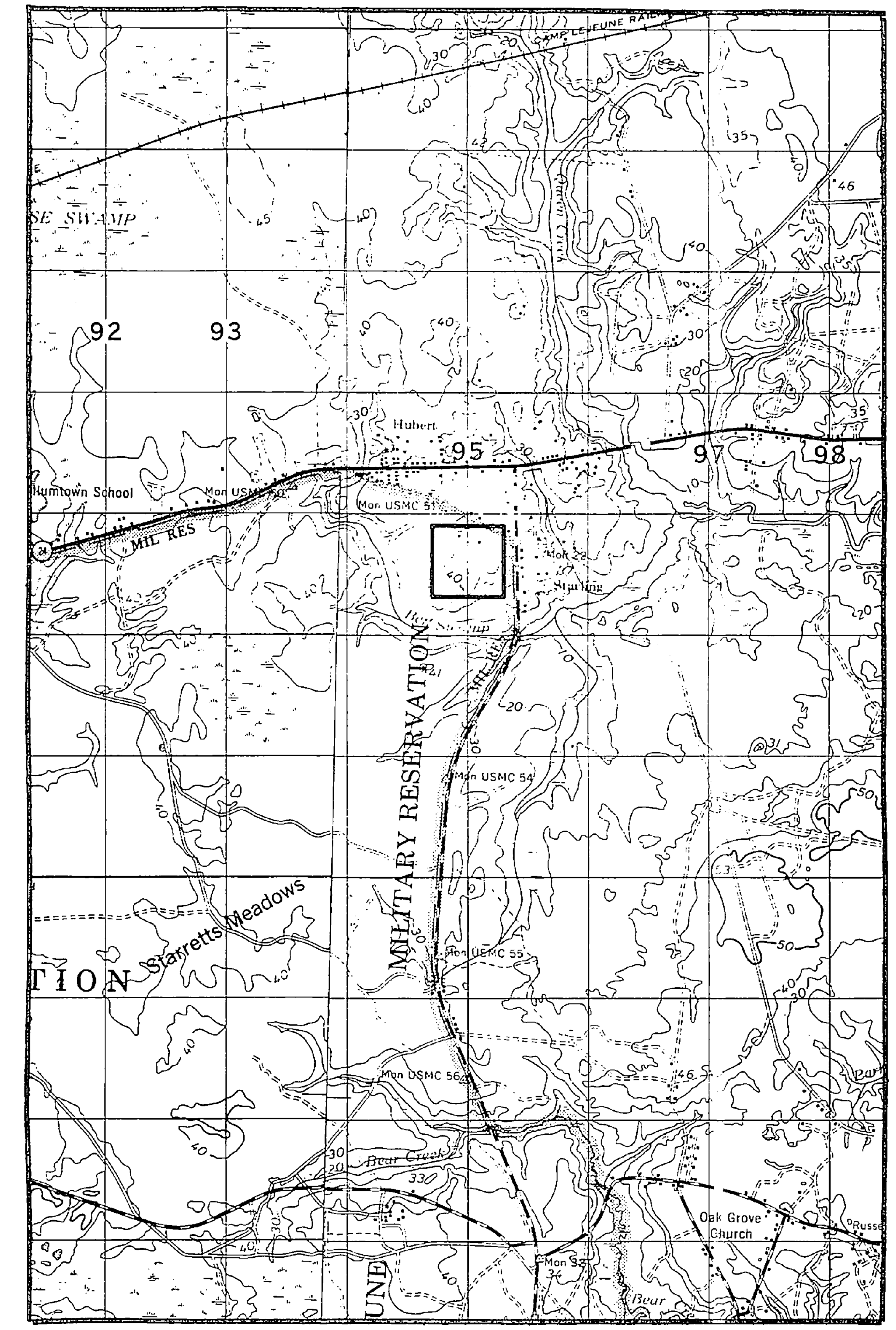
EXITS AND COMMUNICATIONS: THE NORTH SIDE OF THE TLZ BORDERS A DIRT ROAD WHICH LEADS SOUTHEAST TO HWY 172 AND NORTHWEST TO HWY 24.

LANDMARKS: THE MOST PROMINENT LANDMARK IN THE TLZ AREA IS THE JUNCTION OF HWY 172 WITH HWY 24 900 METERS NORTHEAST OF THE LANDING ZONE. (TP95404340).

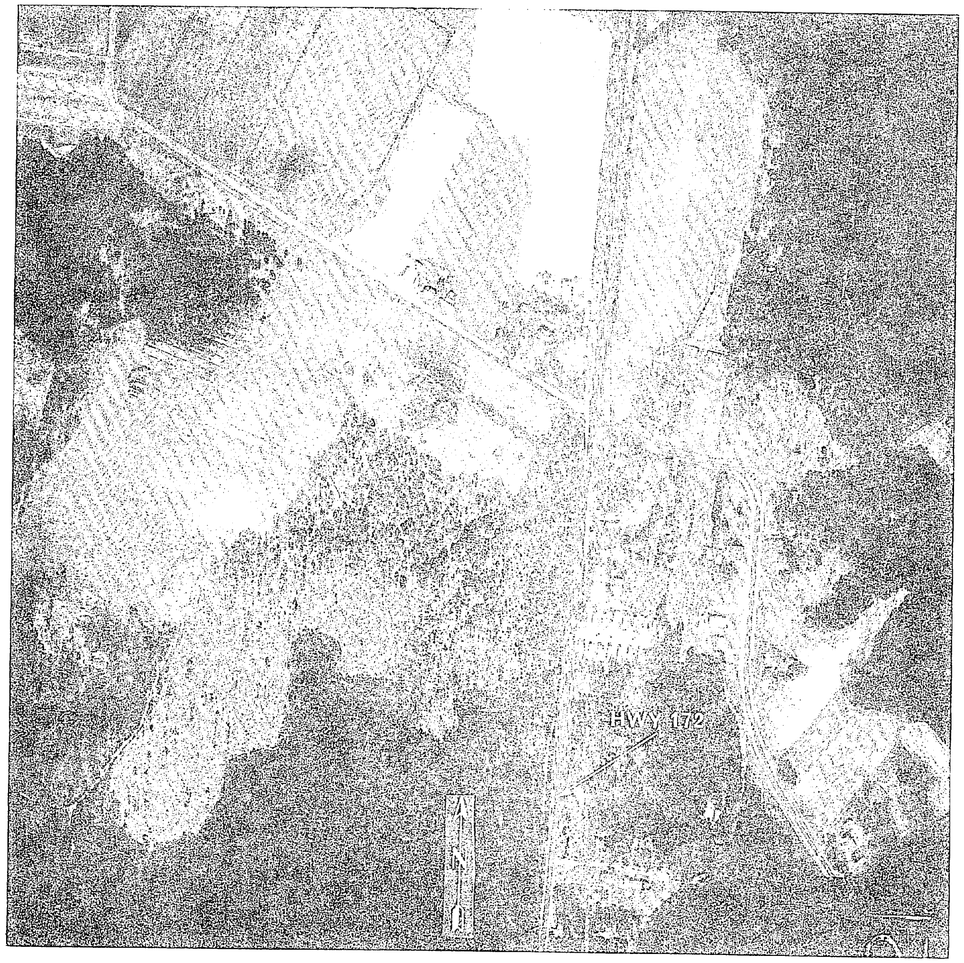
SLOPE: THE SLOPE OF THE TLZ IS NEGLIGIBLE.

LANDING OBSTRUCTIONS: THERE ARE NO LANDING OBSTRUCTIONS WITHIN THE LANDING ZONE. THE TLZ IS BORDERED ON THREE SIDES BY TREES ATTAINING HEIGHTS UP TO 18 METERS.

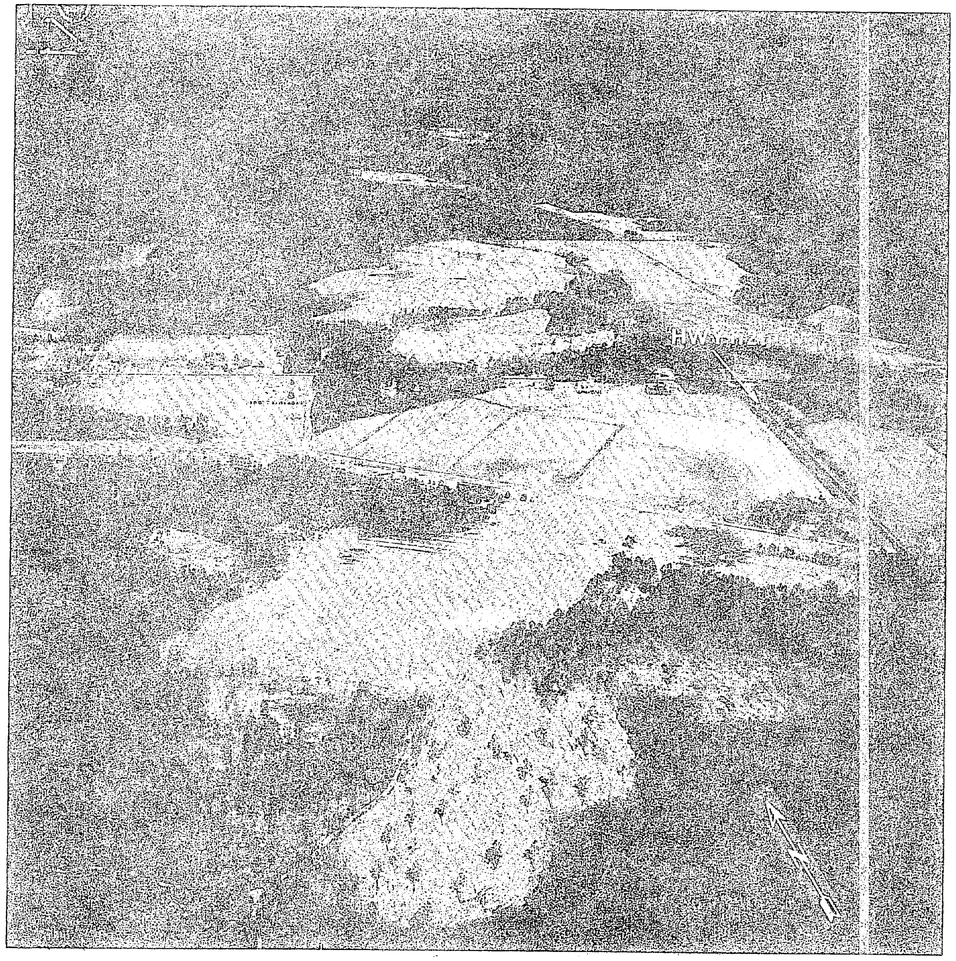
HELICOPTER APPROACHES: APPROACHES SHOULD BE MADE FROM THE NORTH SIDE OF THE ZONE WHICH IS CLEAR OF TREES.



TACTICAL LANDING ZONE ROBIN



DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:50,000



DATE OF PHOTO 12 APRIL 1973

TACTICAL LANDING ZONE SPARROW

LOCATION: THE CENTER OF TLZ SPARROW IS LOCATED AT UTM COORDINATES TP85553980 APPROXIMATELY 900 METERS WEST OF HOLCOMBE BLVD. THE BASE DRIVE-IN-THEATER IS LOCATED 600 METERS EAST OF THE TLZ (TP8620-3970).

SHAPE AND SIZE: THE TLZ IS IRREGULAR IN SHAPE. IT IS 427 METERS LONG AND 244 METERS ACROSS AT ITS WIDEST POINT.

TERRAIN: THE GROUND WITHIN THE TLZ AND IN THE SURROUNDING AREA IS RELATIVELY FLAT. THE TLZ IS SURROUNDED BY A HEAVY GROWTH OF TREES. THERE IS A CREEK APPROXIMATELY 200 METERS SOUTH OF THE TLZ AND ANOTHER CREEK WITH SWAMP AREAS APPROXIMATELY 300 METERS NORTH OF THE TLZ.

MATERIAL, FIRMNESS, AND TRAFFICABILITY: THE TLZ IS COMPOSED OF SANDY SOIL COVERED WITH GRASS. THE GROUND WILL SUPPORT WHEELED VEHICLES IN WET OR DRY WEATHER.

OBSTACLES TO GROUND MOVEMENT: THERE ARE 21 TELEPHONE POLES RANGING IN HEIGHT FROM 6 TO 18 METERS WITHIN THE TLZ. THESE ARE CONNECTED BY CABLES AND RADIO WIRES AND ARE USED IN CONNECTION WITH THE CONCRETE BUILDING ON THE NORTH EDGE OF THE TLZ. TWO OF THESE POLES SUPPORT AN ANTENNA 6 METERS LONG AND 3 METERS WIDE. THE BASE SKEET RANGE IS SITUATED IN THE CENTER OF THE TLZ. IT CONSISTS OF 5 CONCRETE TOWERS WITH CONCRETE WALLS ATTACHED TO EACH TOWER. THE TOWERS ARE APPROXIMATELY 2X2X5 METERS IN SIZE. THE WALLS ARE MADE OF BLOCKS AND ARE APPROXIMATELY .3X6X2 METERS IN SIZE. THE SKEET RANGE ALSO INCLUDES A RANGE HOUSE OF WOOD CONSTRUCTION AND AN AMMO HOUSE OF CONCRETE CONSTRUCTION. THE RANGE HOUSE IS APPROXIMATELY 5 METERS HIGH FROM THE PEAK OF ITS ROOF TO THE GROUND. THE AMMO HOUSE IS APPROXIMATELY 3X3X4 METERS. THERE IS A CABLE SUPPORTED BY 1 METER POLES RUNNING FROM THE NORTHERN MOST SKEET TOWER TO THE RANGE HOUSE WHICH SERVES AS A BARRIER TO VEHICLES DRIVING UP TO THE SKEET RANGE.

COVER AND CONCEALMENT: THE OBSTACLES MENTIONED IN THE PRECEDING PARAGRAPH WILL PROVIDE COVER FOR SMALL VEHICLES AND TROOPS FROM DIRECT FIRE. THE WOODED AREA WHICH SURROUNDS THE TLZ AFFORDS BOTH COVER AND CONCEALMENT TO VEHICLES AND TROOPS.

EXITS AND COMMUNICATIONS: THERE ARE THREE DIRT ROADS LEADING OUT OF THE TLZ. THE TWO WHICH GO OUT TO THE NORTHWEST ARE ACTUALLY THE TWO ENDS OF A LOOP ROAD. THE DIRT ROAD WHICH GOES OUT TO THE NORTHEAST BECOMES A PAVED ROAD WHICH LEADS TO HOLCOMBE BLVD.

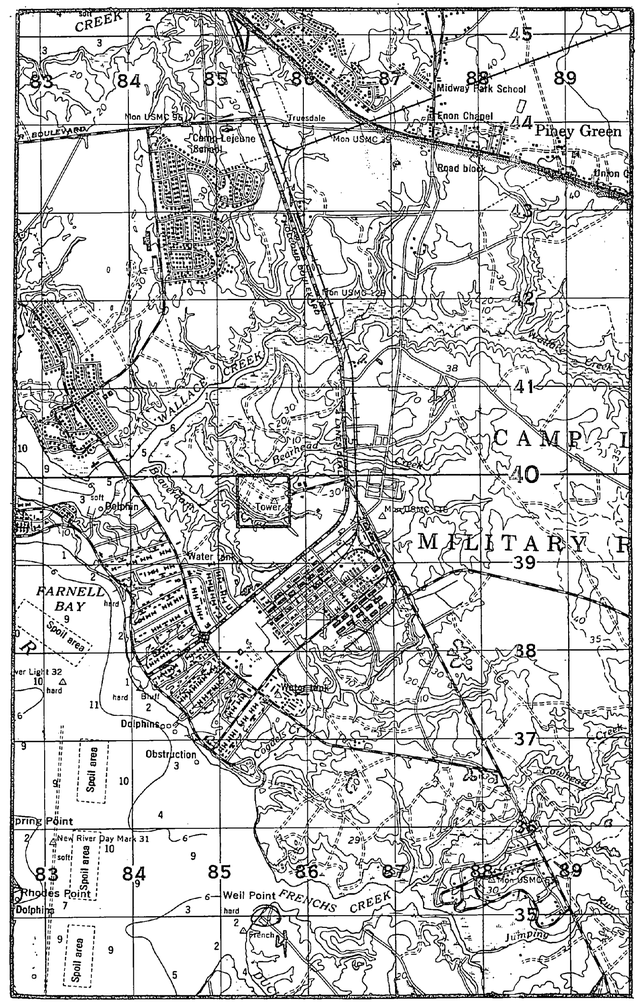
LANDMARKS: THE MOST PROMINENT LANDMARKS ARE HOLCOMBE BLVD AND THE BASE DRIVE-IN-THEATER.

ELEVATION: THE TLZ IS APPROXIMATELY 8 METERS ABOVE SEA LEVEL.

SLOPE: SLOPE WITHIN THE TLZ IS NEGLIGABLE.

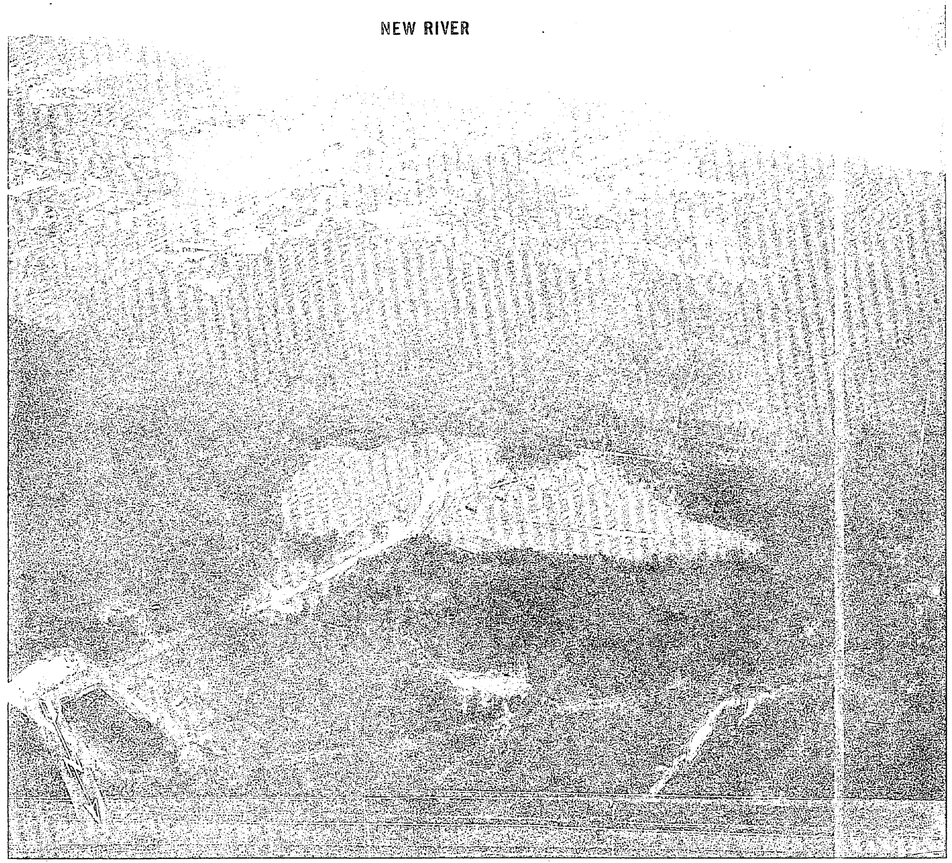
LANDING OBSTRUCTIONS: THE OBSTACLES DESCRIBED UNDER GROUND OBSTACLES WILL HINDER ALL LANDING OPERATIONS. THE TREES SURROUNDING THE TLZ HAVE HEIGHTS RANGING FROM 12 TO 18 METERS.

HELICOPTER APPROACHES: ALL APPROACHES AND LANDINGS SHOULD BE MADE IN THE NORTHWEST SECTOR OF THE TLZ WHICH IS FREE FROM OBSTRUCTIONS.



TACTICAL LANDING ZONE SPARROW

DATE OF PHOTO 10 FEBRUARY 1972
SCALE 1:5,000



DATE OF PHOTO 12 APRIL 1973

ALTERNATE HELICOPTER LANDING AREAS

HLA #1

LOCATION: TP749467, BASE BALL FIELD NE OF TRAFFIC CIRCLE.

SIZE: LENGTH 400 METERS, WIDTH 400 METERS.

OBSTACLES: TO THE EAST AND NORTH ARE TWO LARGE BUILDINGS AND A STAND OF LARGE TREES TO THE EAST.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SOD

ADJACENT TERRAIN: OPEN FIELD WITH CAMP GIEGER TO EAST.

EXITS: CROSS-COUNTRY TO HARD SURFACED ROAD ON EAST THAT WILL LEAD TO ROAD CONNECTING HLA WITH N.C. 17 AND MCAS, NEW RIVER.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: 9 CH-53 OR 11 CH-46.

HLA #2

LOCATION: TP794460, ADJACENT NORTH SIDE OF MONTFORD POINT CAMP.

SIZE: LENGTH 185 METERS, WIDTH 76 METERS.

OBSTACLES: TALL TREES SURROUNDING AREA APPROX. 60FT. HIGH.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: BORDERED ON THE NORTH, EAST, AND SOUTH BY DENSE TREES, SCATTERED GROUPS OF TREES ON THE WEST.

EXITS: MONTFORD LANDING ROAD.

HELICOPTER APPROACHES: FROM THE WEST.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 5 CH-46.

HLA #3

LOCATION: TP797454, 150 METERS SOUTH OF MONTFORD POINT.

SIZE: LENGTH 230 METERS, WIDTH 200 METERS.

OBSTACLES: TWO BASEBALL BACKSTOPS ON THE SOUTH SIDE, AND POWER LINE ALONG BORDER.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: BUILDINGS ON THE NORTH AND WEST. TREES ON THE EAST AND SOUTH BORDERS.

EXITS: MONTFORD LANDING ROAD.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: 9 CH-53 OR 11 CH-46.

HLA #4

LOCATION: TP794449, 4 KM NNE OF NEW RIVER AIR STATION.

SIZE: LENGTH 305 METERS, WIDTH 213 METERS.

OBSTACLES: BASEBALL BACKSTOP NEAR SOUTH EDGE, GROUP OF PRIMARY GROWTH TREES IN NW CORNER.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: WOODED AREA ON THE NORTH, EAST, AND WEST; BUILDING ON THE SOUTH.

EXITS: MONTFORD LANDING ROAD BISECTS ZONE.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: 16 CH-53 OR 18 CH-46.

HLA #5

LOCATION: TP764436, RUNWAY AREA AT NEW RIVER AIR STATION.

SIZE: LENGTH 3.2 KM, WIDTH 2.3 KM.

OBSTACLES: WATER TOWER, TWO HANGERS, BARRACKS AND VARIOUS BUILDINGS NORTH. SMALL HANGER EAST WITH VARIOUS REPAIR SHOPS NEARBY, NUMEROUS DRAINAGE DITCHES THROUGHOUT.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIALS: CONCRETE RUNWAYS; CONCRETE AND ASPHALT PARKING APRONS AND DIRT.

ADJACENT TERRAIN: DENSE TREES SURROUND THE AREA WITH THE EXCEPTION OF OPEN APPROACHES FROM NEW RIVER.

EXITS: EXCELLENT EXITS IN ALL DIRECTIONS.

HELICOPTER APPROACHES: FROM THE EAST.

MAXIMUM ABSORPTION OF AIRCRAFT: UNLIMITED.

HLA #6

LOCATION: TP878436, 274 METERS WEST OF THE COMMUNITY OF PINEY GREEN, ON SOUTH SIDE OF N.C. 24.

SIZE: LENGTH 217 METERS, WIDTH 189 METERS.

OBSTACLES: AREA BORDERED BY TREES ON THE SOUTH AND EAST, POWER LINE BORDERING N.C. 24 TO THE NORTH, CULTIVATED FIELD TO THE WEST.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: TREES TO THE EAST AND SOUTH, CULTIVATED FIELD TO THE WEST.

EXITS: ACCESS TO N.C. 24 TO THE NORTH.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR POWER LINE THAT PARALLELS N.C. 24.

MAXIMUM ABSORPTION OF AIRCRAFT: 10 CH-53 OR 12 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #7

LOCATION: TP873427, 1.3 KM SW OF THE COMMUNITY OF PINEY GREEN.

SIZE: LENGTH 98.5 METERS, WIDTH 98.5 METERS.

OBSTACLES: AREA SURROUNDED BY TREES. A BUILDING IS LOCATED WITHIN THE AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: THE AREA SURROUNDING THE HLA CONSISTS OF HIGH TREES.

EXITS: A DIRT ROAD EXTENDS TO THE WEST TOWARD HOLCOMB BOULEVARD.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR HIGH TREES SURROUNDING THE LANDING AREA. PRECAUTION SHOULD ALSO BE TAKEN FOR THE BUILDING WHICH IS LOCATED WITHIN THE LANDING AREA WHICH COULD BE AN OBSTACLE.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #8

LOCATION: TP913416, EAST SIDE OF SMITH ROAD.

SIZE: LENGTH 591 METERS, WIDTH 328 METERS.

OBSTACLES: SCATTERED TREES, 60FT. CRATER HOLES THROUGHOUT SOUTHWEST SECTION.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: SURROUNDED BY TREES.

EXITS: TRAIL AND ROAD EXTEND TO N.C. 24 ON NORTH.

HELICOPTER APPROACHES: HIGH TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 4 CH-53 OR 6 CH-46.

HLA #9

LOCATION: TP739413, 2 KM NE OF VERONA.

SIZE: LENGTH 565 METERS, WIDTH 78 METERS.

OBSTACLES: HAVE TO BE CLEARED OF BRUSH.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: THIS AREA IS SURROUNDED BY DENSE TREES.

EXITS: A DIRT ROAD 850 METERS IN LENGTH EXTENDS FROM THE SOUTH OF THE HLA TO JOIN N.C. 17.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: 11 CH-53 OR 13 CH-46.

HLA #10

LOCATION: TP752410, IN THE CENTER OF RACE TRACK ROAD.

SIZE: LENGTH 914 METERS, WIDTH 426 METERS.

OBSTACLES: SCATTERED TREES WOULD NEED TO BE CLEARED PRIOR TO EXTENSIVE HELICOPTER OPERATIONS.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: SURROUNDED BY DENSE TREES.

EXITS: DIRT ROAD EXTENDS FROM THE SW CORNER 1.3 KM SW TO JOIN N.C. 17.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: UNLIMITED.

HLA #11

LOCATION: TP877403, 1.3 KM NE OF ROAD JUNCTION OF SNEADS FERRY ROAD AND HOLCOMB BLVD.

SIZE: LENGTH 745 METERS, WIDTH 244 METERS.

OBSTACLES: TREES IN AND AROUND AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST.

EXITS: DIRT ROAD LEADS WEST TO SNEADS FERRY ROAD.

HELICOPTER APPROACHES: TREES AROUND AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 30 CH-53 OR 24 CH-46.

HLA #12

LOCATION: TP873394, 730 METERS NORTH OF ROAD JUNCTION OF LYMAN ROAD AND SNEADS FERRY ROAD.

SIZE: LENGTH 1 KM, WIDTH 400 METERS.

OBSTACLES: TREES THROUGHOUT AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIALS. SANDY LOAM.

ADJACENT TERRAIN: FLAT WITH TREES AND BRUSH.

EXITS: DIRT ROADS TO SW LEAD TO SNEADS FERRY ROAD.

HELICOPTER APPROACHES: TREES AROUND AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 30 CH-53 OR 42 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #13

LOCATION: TP879394, 1.1 KM NE OF ROAD JUNCTION OF LYMAN ROAD AND SNEADS FERRY ROAD.

SIZE: LENGTH 180 METERS, WIDTH 123 METERS.

OBSTACLES: TREES SURROUND AREA, IN THE EAST SECTION OF THE AREA THERE IS A WATER HOLE 8 METERS IN DIAMETER.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST.

EXITS: A DIRT ROAD LEADS WEST TO SNEADS FERRY ROAD WITH ANOTHER LEADING SOUTH TO LYMAN ROAD.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #14

LOCATION: TP909390, 1.3 KM NORTH OF LYMAN ROAD.

SIZE: LENGTH 584 METERS, WIDTH 114.3 METERS.

OBSTACLES: AREA SURROUNDED BY TREES OF VARYING HEIGHTS.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: SURROUNDED BY HEAVY TREE GROWTH.

EXITS: ROAD LEADING TO LYMAN ROAD TO THE SOUTH.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 20 CH-53 OR 24 CH-46.

HLA #15

LOCATION: TP802387, 1.3 KM WEST OF TOWN POINT.

SIZE: LENGTH 60 METERS, WIDTH 41 METERS.

OBSTACLES: THE AREA IS SURROUNDED BY SECONDARY AND PRIMARY GROWTH TO THE SOUTH, WEST, AND EAST. NEW RIVER IS ON THE NORTHERN BOUNDARY OF THE HLA.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST TO THE WEST AND NEW RIVER TO THE EAST.

EXITS: ROAD EXTENDING SW TO VERONA LOOP ROAD.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #16

LOCATION: TP896385, 4.4 KM EAST OF JUNCTION OF LYMAN ROAD AND SNEADS FERRY ROAD.

SIZE: LENGTH 204 METERS, WIDTH 57.4 METERS.

OBSTACLES: ON THE NORTH, EAST AND WEST OF AREA IS PRIMARY AND SECONDARY TREE GROWTH. POWER LINES PARALLEL TO LYMAN ROAD.

SLOPE: LESS THAN 1%.

ELEVATION: 25FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: FLAT WITH DENSE TREES.

EXITS: LYMAN ROAD BORDERS THE AREA TO THE SOUTH.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 5 CH-53 OR 7 CH-46.

HLA #17

LOCATION: TP799381, BORDERED BY N.C. 172.

SIZE: LENGTH 113 METERS, WIDTH 62 METERS.

OBSTACLES: WOODED AREA ON THE EAST, WEST AND SOUTH.

SLOPE: LESS THAN 1%.

ELEVATION: 35FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: WOODED AREA ON THREE SIDES AND OPEN FIELDS ON THE NORTH.

EXITS: DIRT ROAD LEADS WEST TO BEACH AND N.C. 172 AND BORDERING ON THE NORTH.

HELICOPTER APPROACHES: FROM THE NORTH.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #18

LOCATION: TP935379, NW OF JUNCTION OF N.C. 172 AND LYMAN ROAD.

SIZE: LENGTH 990 METERS, WIDTH 640 METERS.

OBSTACLES: AREA SURROUNDED BY TREES.

SLOPE: LESS THAN 1%.

ELEVATION: 40FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: DENSE WOODS IN ALL DIRECTIONS.

EXITS: N.C. 172 TO THE EAST.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT BY TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 15 CH-53 OR 17 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #19

LOCATION: TP914373, 8 KM WEST OF TRIANGLE OUTPOST.

SIZE: LENGTH 298 METERS, WIDTH 209 METERS.

OBSTACLES: THERE IS A MOUND WITH A SMALL BUILDING ON IT, AND A FEW SCATTERED TREES IN THE AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 35FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: SCATTERED TREES AND VEGETATION.

EXITS: LYMAN ROAD BORDERS AREA ON THE SOUTH.

HELICOPTER APPROACHES: UNHAMPERED.

MAXIMUM ABSORPTION OF AIRCRAFT: 18 CH-53 OR 22 CH-46.

HLA #20

LOCATION: TP919372, 8 KM WEST OF TRIANGLE OUTPOST.

SIZE: LENGTH 212 METERS, WIDTH 112.5 METERS.

OBSTACLES: SCATTERED TREE GROWTH WOULD REQUIRE CLEARING TO MAKE SUITABLE FOR HELICOPTER OPERATIONS.

SLOPE: LESS THAN 1%.

ELEVATION: 35FT. ABOVE MSL.

SURFACE MATERIAL: SOD

ADJACENT TERRAIN: AREA SURROUNDED BY TREES UP TO 40 FEET IN HEIGHT.

EXITS: LYMAN ROAD BORDERS AREA ON SOUTH.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR SCATTERED TREES IN AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 5 CH-53 OR 7 CH-46.

HLA #21

LOCATION: TP865369, 1.5 KM WEST OF THE ROAD JUNCTION OF SNEADS FERRY ROAD AND MAIN SERVICE ROAD.

SIZE: LENGTH 210 METERS, WIDTH 246 METERS.

OBSTACLES: THIS AREA IS A TANK PARKING AREA. IN THE NORTH SECTION THERE ARE SOME LARGE BUILDINGS.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST.

EXITS: MAIN SERVICE ROAD BISECTS AREA. TANK TRAILS LEAD FROM AREA IN ALL DIRECTIONS.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 2 CH-53 OR 3 CH-46.

HLA #22

LOCATION: TP876369, NORTH OF MAIN SERVICE ROAD.

SIZE: LENGTH 590 METERS, WIDTH 61 METERS.

OBSTACLES: TREES SURROUND AREA, IN THE EAST SECTION OF THE AREA THERE IS A WATER HOLE 8 METERS IN DIAMETER.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST SURROUNDING AREA.

EXITS: MAIN SERVICE ROAD EXTENDS SOUTH OF THE AREA.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 5 CH-46.

HLA #23

LOCATION: TP805359, 2 KM WEST OF SPRING POINT.

SIZE: LENGTH 498 METERS, WIDTH 273 METERS.

OBSTACLES: SCATTERED TREES AND EARTH MOUNDS MUST BE CLEARED BEFORE EXTENSIVE HELICOPTER OPERATIONS.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: TALL TREES SURROUND THE AREA.

EXITS: VERONA LOOP ROAD.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 17 CH-53 OR 19 CH-46.

HLA #24

LOCATION: TP788358, ON THE EAST PORTION OF VERONA LOOP ROAD.

SIZE: LENGTH 1 KM, WIDTH 823 METERS.

OBSTACLES: TALL TREES SCATTERED THROUGHOUT AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 25FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: HIGH TREES SURROUNDING AREA.

EXITS: ACCESS TO VERONA LOOP ROAD ON THE WEST.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR HIGH TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: UNLIMITED.

ALTERNATE HELICOPTER LANDING AREAS

HLA #25

LOCATION: TP800358, 2.5 KM WEST OF SPRING POINT.

SIZE: LENGTH 182 METERS, WIDTH 137 METERS.

OBSTACLES: SMALL BUILDING IN CENTER OF HLA

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: PRIMARY AND SECONDARY TREES SURROUND THE AREA.

EXITS: VERONA LOOP ROAD.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 12 CH-53 OR 14 CH-46.

HLA #26

LOCATION: TP753354, 400 METERS NORTH OF SOUTHERN PORTION OF VERONA LOOP ROAD.

SIZE: LENGTH 111 METERS, WIDTH 108 METERS.

OBSTACLES: UNUSABLE WITHOUT EXTENSIVE ENGINEER CLEARING.

SLOPE: LESS THAN 1%.

ELEVATION: 50FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST SURROUND AREA.

EXITS: DIRT ROAD IN NORTH SECTION OF AREA EXTENDING SOUTHEAST AND SOUTHWEST TO CONNECT WITH VERONA LOOP ROAD.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR HIGH TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 2 CH-53 OR 3 CH-46.

HLA #27

LOCATION: TP819355, LOCATED 150 METERS WEST OF RHODES POINT.

SIZE: LENGTH 426 METERS, WIDTH 304 METERS.

OBSTACLES: PRIMARY AND SECONDARY TREE GROWTH TO ALL SIDES EXCEPT TO THE EAST WHERE NEW RIVER BORDERS THE HLA.

SLOPE: LESS THAN 1%.

ELEVATION: 25FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE TREES AND NEW RIVER.

EXITS: DIRT ROAD EXTENDS TO THE VERONA LOOP ROAD.

HELICOPTER APPROACHES: PRIMARY AND SECONDARY TREE GROWTH ON ALL SIDES EXCEPT TO THE EAST WHERE NEW RIVER BORDERS THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: UNLIMITED.

HLA #28

LOCATION: TP778353, BORDERED ON SOUTH SIDE BY VERONA LOOP ROAD.

SIZE: LENGTH 91 METERS, WIDTH 91 METERS.

OBSTACLES: SMALL HILL, SCATTERED SECONDARY GROWTH IN NORTHERN SECTION OF AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 15FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: HIGH TREES SURROUNDING AREA.

EXITS: ACCESS TO VERONA LOOP ROAD ON THE NORTH.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR HIGH TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 5 CH-46.

HLA #29

LOCATION: TP783352, BORDERS EAST SIDE OF VERONA LOOP ROAD NEAR BEGINNING OF MILL CREEK.

SIZE: LENGTH 426 METERS, WIDTH 365 METERS.

OBSTACLES: SEVERAL LARGE EMPLACEMENTS, WITH SCATTERED BRUSH THROUGHOUT.

SLOPE: LESS THAN 1%.

ELEVATION: 15FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: HIGH TREES SURROUNDING AREA.

EXITS: ACCESS TO VERONA LOOP ROAD ON THE NORTH.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 42 CH-53 OR 44 CH-46.

HLA #30

LOCATION: TP937305, 91.5 METERS NNW OF TOWER.

SIZE: LENGTH 824 METERS, WIDTH 640 METERS.

OBSTACLES: SCATTERED TREES AND BRUSH.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: TREES SURROUND HLA.

EXITS: DIRT ROAD EXTENDS THROUGH CENTER OF AREA CONNECTING WITH N.C. 172, 1.1 KM TO THE NW.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES 75FT. IN HEIGHT AND 100FT. TOWER TO THE SOUTH OF THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 4 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #31

LOCATION: TP783342, 1 KM NORTHEAST OF FOY'S LANDING ON MILL CREEK AND SOUTH OF THE EAST SIDE OF VERONA LOOP ROAD.

SIZE: LENGTH 330 METERS, WIDTH 170 METERS.

OBSTACLES: SCATTERED TREES AND BRUSH.

SLOPE: LESS THAN 1%.

ELEVATION: 15FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: TALL TREES SURROUNDING AREA.

EXITS: DIRT ROAD EXTENDS FROM EASTERN PORTION OF ZONE TO VERONA LOOP ROAD.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR TALL TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 15 CH-53 OR 17 CH-46.

HLA #32

LOCATION: TP788338, 1.7 KM NORTHEAST OF FOY'S LANDING.

SIZE: LENGTH 914 METERS, WIDTH 800 METERS.

OBSTACLES: SCATTERED BRUSH AND TREES.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: FLAT WITH TREES SURROUNDING AREA.

EXITS: DIRT ROAD TO VERONA LOOP ROAD EXTENDS NORTH FROM CENTER OF AREA.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: UNLIMITED.

HLA #33

LOCATION: TP919329, 1.9 KM EAST OF SNEADS FERRY ROAD.

SIZE: LENGTH 229 METERS, WIDTH 122 METERS.

OBSTACLES: PILES OF DIRT WILL HINDER HELICOPTER OPERATIONS.

SLOPE: LESS THAN 1%.

ELEVATION: 40FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: SCATTERED GROUPS OF TREES.

EXITS: DIRT ROAD EXTENDS 1.9 KM TO N.C. 172.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR SCATTERED GROUPS OF TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 2 CH-53 OR 4 CH-46.

HLA #34

LOCATION: TP920323, 918 METERS NORTH OF N.C. 172.

SIZE: LENGTH 688 METERS, WIDTH 504 METERS.

OBSTACLES: NONE.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE METERIALS: SOD.

ADJACENT TERRAIN: SURROUNDED BY TALL TREES.

EXITS: DIRT ROAD LEADS 1.1 KM SSW TO N.C. 172 FROM AREA.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 10 CH-53 OR 12 CH-46.

HLA #35

LOCATION: TP902321, 276 METERS EAST OF SNEADS FERRY ROAD.

SIZE: LENGTH 113 METERS, WIDTH 66 METERS.

OBSTACLES: THERE IS A SCATTERED GROUP OF TREES ON THE NORTH SIDE OF THE AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 40FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: FLAT WITH SCATTERED STANDS OF TREES.

EXITS: DIRT ROAD EXTENDS 276 METERS EAST TO SNEADS FERRY ROAD.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #36

LOCATION: TP905302, SNEADS FERRY ROAD CROSSES THE ZONE IN THE NORTH SECTOR.

SIZE: LENGTH 122 METERS, WIDTH 490 METERS.

OBSTACLES: HEAVY TREE GROWTH THROUGHOUT THE AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 20 FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST AND VEGETATION.

EXITS: JUNCTION OF SNEADS FERRY ROAD AND N.C. 172.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #37

LOCATION: TP927300, 1.5 KM SOUTH OF N.C. 172.

SIZE: LENGTH 824 METERS, WIDTH 256 METERS.

OBSTACLES: SCATTERED TREES THROUGHOUT AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIAL: SOD.

ADJACENT TERRAIN: ENTIRE AREA SURROUNDED BY TREES.

EXITS: DIRT TRAIL THAT WILL PERMIT VEHICLE TRAFFIC LEADS NORTH FOR 1.5 KM TO N.C. 172.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 6 CH-53 OR 8 CH-46.

HLA #38

LOCATION: TP796300, 46 METERS FROM N.C. 172.

SIZE: LENGTH 82 METERS, WIDTH 82 METERS.

OBSTACLES: NONE.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIAL: SOD.

ADJACENT TERRAIN: SURROUNDED BY TREES.

EXITS: A DIRT ROAD EXTENDS 137 METERS TO N.C. 172.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #39

LOCATION: TP901296, 870 METERS SOUTHWEST OF ROAD JUNCTION OF N.C. 172 AND SNEADS FERRY ROAD.

SIZE: LENGTH 275 METERS, WIDTH 90 METERS.

OBSTACLES: SCATTERED BRUSH AND TREES.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: SURROUNDED BY DENSE TREES AND VEGETATION.

EXITS: SNEADS FERRY ROAD 64 METERS SOUTHEAST.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #40

LOCATION: TP799294, 400 METERS NORTH OF SNEADS FERRY BRIDGE. HIGHWAY 172 EXTENDS NORTH AND SOUTH THROUGHOUT THE AREA.

SIZE: LENGTH 207 METERS, WIDTH 35 METERS.

OBSTACLES: POWER LINE PARALLEL TO HIGHWAY 172, AND ROW OF TREES BISECTS AREA EAST TO WEST.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: HIGH TREES SURROUND AREA EXCEPT FOR SWAMPY AREA TO THE EAST.

HELICOPTER APPROACHES: CLEAR EXCEPT FOR HIGH TREES SURROUNDING AREA.

EXITS: ACCESS TO HIGHWAY 172 EXTENDING NORTH TO SOUTH.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 2 CH-46.

HLA #41

LOCATION: TP862291, 229 METERS NORTH OF N.C. 172.

SIZE: LENGTH 290 METERS, WIDTH 122 METERS.

OBSTACLES: AREA LIMITED DUE TO SCATTERED STRANDS OF TREES.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: SCATTERED STRANDS OF TREES.

EXITS: A DIRT ROAD BORDERS AREA ON WEST AND CONNECTS WITH SNEADS FERRY ROAD ON SOUTH.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #42

LOCATION: TP863291, 14 METERS EAST OF ROAD JUNCTION OF N.C. 172 AND MARINE ROAD.

SIZE: LENGTH 180 METERS, WIDTH 500 METERS.

OBSTACLES: SCATTERED TREES.

SLOPE: LESS THAN 1%.

ELEVATION: 40FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: TREES SURROUND THE AREA.

EXITS: ACCESS IS EASILY GAINED TO SNEADS FERRY ROAD WHICH BORDERS AREA ON THE SOUTH.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 2 CH-53 OR 3 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #43

LOCATION: TP859289, 274 METERS NORTH OF TRAP CREEK.

SIZE: LENGTH 156 METERS, WIDTH 82 METERS.

OBSTACLES: A FINGER OF TREES EXTEND INTO THE EAST SECTOR OF THE AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 25FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST ON ALL SIDES OF THE ZONE BUT ON THE SOUTH TREES ARE SCATTERED.

EXITS: ON THE SOUTH A DIRT ROAD LEADS TO N.C. 172, THERE IS ALSO A DIRT ROAD LEADING NORTH, EAST AND WEST.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES SURROUNDING AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 5 CH-46.

HLA #44

LOCATION: TP865286, N.C. 172 BOUNDS AREA ON NORTH SIDE.

SIZE: LENGTH 107 METERS, WIDTH 65 METERS.

OBSTACLES: TREES AND VEGETATION MAKE THIS AREA UNSUITABLE FOR HELICOPTER OPERATIONS UNLESS CLEARED.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE FOREST.

EXITS: DIRECT ACCESS TO N.C. 172.

HELICOPTER APPROACHES: TREES SURROUNDING AREA MAY HAMPER APPROACH.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #45

LOCATION: TP914284, 119 METERS SOUTH OF ROAD JUNCTION OF N.C. 172 AND BEACH ROAD.

SIZE: LENGTH 274 METERS, WIDTH 101 METERS.

OBSTACLES: SMALL TREES IN CENTER OF AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: SURROUNDED BY TREES.

EXITS: ACCESS BY DIRT ROADS TO MOCKUP ROAD TO NORTH OF THE AREA.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT TREES IN AND AROUND AREA.

MAXIMUM ABSORPTION OF AIRCRAFT: 10 CH-53 OR 12 CH-46.

HLA #46

LOCATION: TP883283, 228 METERS NORTH N.C. 172.

SIZE: LENGTH 98 METERS, WIDTH 79 METERS.

OBSTACLES: DUE TO RECENT EXCAVATION THIS AREA IS UNSUITABLE FOR HELICOPTER OPERATIONS.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: TREES OF VARIOUS HEIGHTS SURROUND THE AREA.

EXITS: A DIRT ROAD LEADS 160 METERS SW TO SNEADS FERRY ROAD.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #47

LOCATION: TP843283, 700 METERS EAST OF CREELS POINT.

SIZE: LENGTH 170 METERS, WIDTH 110 METERS.

OBSTACLES: TREES SURROUND AREA, SMALL BUILDING CENTERED IN AREA.

SLOPE: LESS THAN 1%.

ELEVATION: 15FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: DENSE TREES SURROUNDING AREA.

EXITS: IMPROVED DIRT ROADS LEADING IN ALL DIRECTIONS.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 5 CH-53 OR 7 CH-46.

HLA #48

LOCATION: TP906281, 918 METERS NW OF MOCKUP ROAD.

SIZE: LENGTH 122 METERS, WIDTH 98 METERS.

OBSTACLES: NONE.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIALS: SANDY LOAM.

ADJACENT TERRAIN: DENSE TREES OF VARYING HEIGHT.

EXITS: DIRT ROAD EXTENDS FROM NE SECTOR OF AREA TO MOCKUP ROAD.

HELICOPTER APPROACHES: CLEAR.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 5 CH-46.

ALTERNATE HELICOPTER LANDING AREAS

HLA #49

LOCATION: TP842280, 548 METERS SOUTH OF N.C. 172.

SIZE: LENGTH 360 METERS, WIDTH 250 METERS.

OBSTACLES: NONE.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM.

ADJACENT TERRAIN: SWAMP TO EAST AND WOODED AREAS ON ALL OTHER SIDES.

EXITS: DIRT ROAD EXTENDS NORTH TO N.C. 172 ANOTHER TO THE BEACH.

HELICOPTER APPROACHES: FROM THE EAST.

MAXIMUM ABSORPTION OF AIRCRAFT: 10 CH-53 OR 12 CH-46.

HLA #50

LOCATION: TP897269, 1.9 KM SW OF ROAD JUNCTION N.C. 172 AND MOCKUP ROAD.

SIZE: LENGTH 137 METERS, WIDTH 65.5 METERS.

OBSTACLES: SEVERAL SMALL GROUPS OF TREES IN EAST OF AREA. SIZE AND SHAPE LIMIT AREA TO EMERGENCY USE ONLY.

SLOPE: LESS THAN 1%.

ELEVATION: 10FT. ABOVE MSL.

SURFACE MATERIAL: SANDY LOAM

ADJACENT TERRAIN: SURROUNDED BY TREES.

EXITS: TANK TRAIL ON EAST OF ZONE CONNECTS WITH A SECOND ROAD THAT LEADS TO SNEADS FERRY ROAD 1 KM TO THE NORTH.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 1 CH-53 OR 1 CH-46.

HLA #51

LOCATION: TP967349, 1.3 KM EAST OF N.C. 172 BETWEEN BROWNS CREEK AND BEAR CREEK.

SIZE: LENGTH 1.6 KM, WIDTH 732 METERS.

OBSTACLES: HEAVILY WOODED, WOULD REQUIRE SOME CLEARING.

SLOPE: LESS THAN 1%.

ELEVATION: 36FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: FLAT AND HEAVILY WOODED.

EXITS: TRAILS TO N.C. 172 WHICH ARE LARGE ENOUGH FOR VEHICLES.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT FOR TREES AROUND AND IN THE AREA.

MAXIMUM ABSORPTION OF AIRCRAFT. 3 CH-53 OR 5 CH-46.

HLA #52

LOCATION: TP961345, 211 METERS EAST OF HIGHWAY N.C. 172, 686 METERS, SSW OF JUNCTION OF HIGHWAY N.C. 172 AND LYMAN ROAD.

SIZE: LENGTH 366 METERS, WIDTH 200 METERS.

OBSTACLES: BRUSH WHICH WILL REQUIRE CLEARING.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIAL: SOD.

ADJACENT TERRAIN: AREA SURROUNDED BY TREES RANGING IN HEIGHT TO 75FT.

EXITS: ACCESS TO N.C. 172 BY SEVERAL TRAILS WHICH ARE LARGE ENOUGH FOR VEHICLES.

HELICOPTER APPROACHES: UNHAMPERED EXCEPT BY TREES.

MAXIMUM ABSORPTION OF AIRCRAFT: 3 CH-53 OR 5 CH-46.

HLA #53

LOCATION: TP964337, 1.2 KM SE OF N.C. 172 BETWEEN BROWNS CREEK AND BEAR CREEK.

SIZE: LENGTH 410 METERS, WIDTH 152.3 METERS.

OBSTACLES: SCATTERED TREES AND BRUSH.

SLOPE: LESS THAN 1%.

ELEVATION: 30FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: SURROUNDED ON THREE SIDES BY TREES AND VEGETATION.

EXITS: TWO DIRT ROADS EXIT FROM NE SIDE CONNECTING WITH N.C. 172 1.2 KM TO THE WEST.

HELICOPTER APPROACHES: UNHAMPERED FROM THE SE.

MAXIMUM ABSORPTION OF AIRCRAFT: 20 CH-53 OR 24 CH-46.

HLA #54

LOCATION: TP942323, ON N.C. 172.

SIZE: LENGTH 2.1 KM, WIDTH 328 METERS.

OBSTACLES: SEVERAL LARGE EARTH EMBANKMENTS.

SLOPE: LESS THAN 1%.

ELEVATION: 20FT. ABOVE MSL.

SURFACE MATERIALS: SOD.

ADJACENT TERRAIN: TREES ON NORTH, WEST, AND EAST.

EXITS: ON N.C. 172.

HELICOPTER APPROACHES: OPEN ON SOUTH SIDE.

MAXIMUM ABSORPTION OF AIRCRAFT: 15 CH-53 OR 18 CH-46.

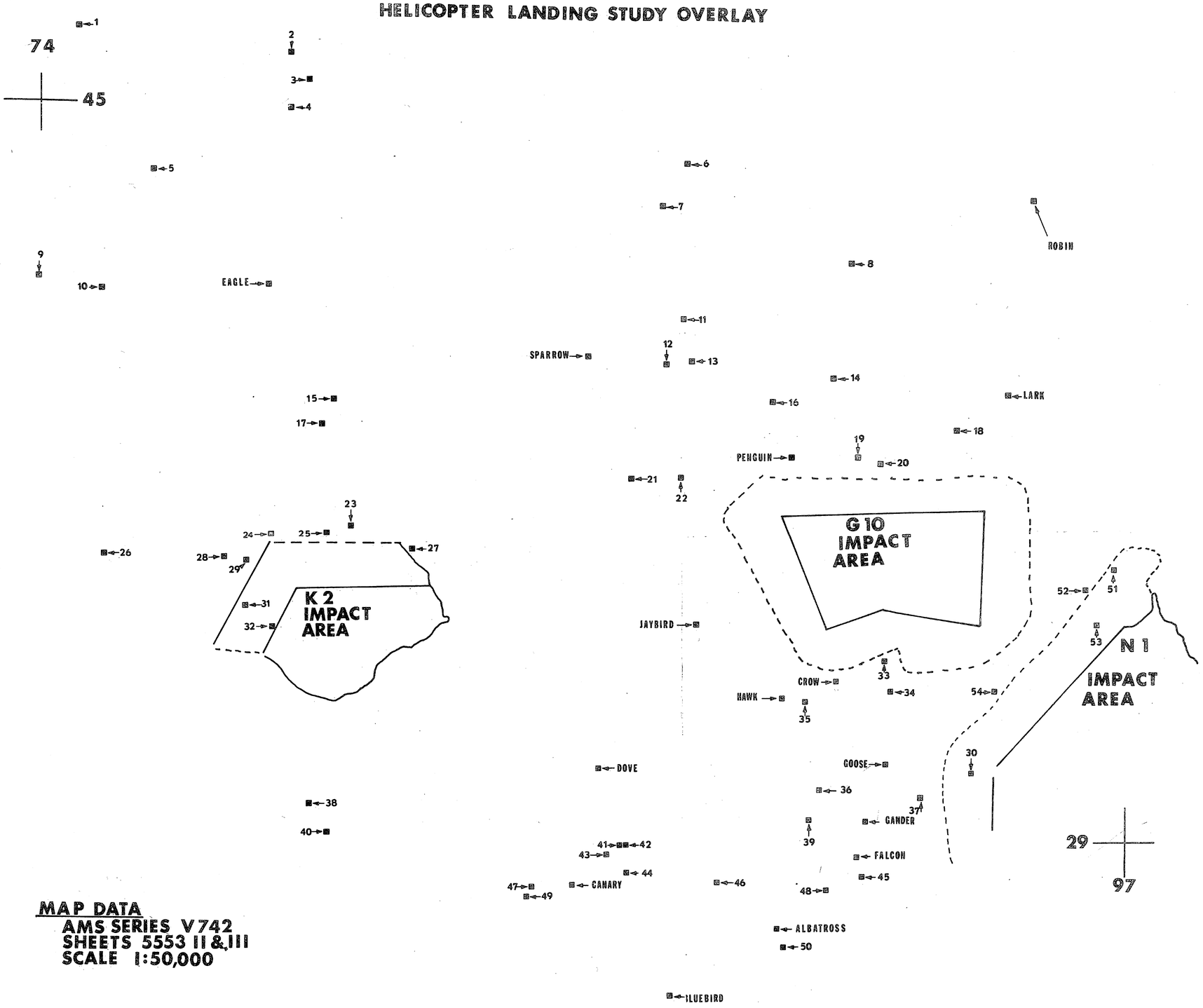
ADDITIONAL HELICOPTER LANDING AREAS

ADDITIONAL HELICOPTER LANDING AREAS

HLA	COORDINATE	LENGTH/WIDTH (METERS)	ELEVATION (FT)	MAX A/C CH-53	ABSORPTION CH-46
(1)	TP290575	700/700	45	8	10
(2)	TP857534	500/200	25	4	6
(3)	TP854496	604/100	20	5	7
(4)	TP849495	732/274	25	10	12
(5)	TP970593	300/300	25	2	4
(6)	UP001575	457/457	20	4	6
(7)	UP065570	274/274	25	2	4
(8)	UP102560	824/732	25	5	7
(9)	TP975537	500/500	25	4	6
(10)	UP095518	229/90	35	1	1
(11)	UP088513	367/90	35	1	3
(12)	UP113482	137/90	35	1	1
(13)	UP190480	457/137	35	1	3
(14)	TP668253	367/183	35	6	8
(15)	TP643208	732/274	50	11	14
(16)	TP722410	908/421	30	12	14
(17)	TP935379	990/450	40	12	14
(18)	TP871341	384/156	20	1	2
(19)	TP757306	824/457	20	12	14
(20)	TP761267	274/183	55	2	4
(21)	TP764262	183/183	50	1	3
(22)	TP755244	200/200	30	1	3

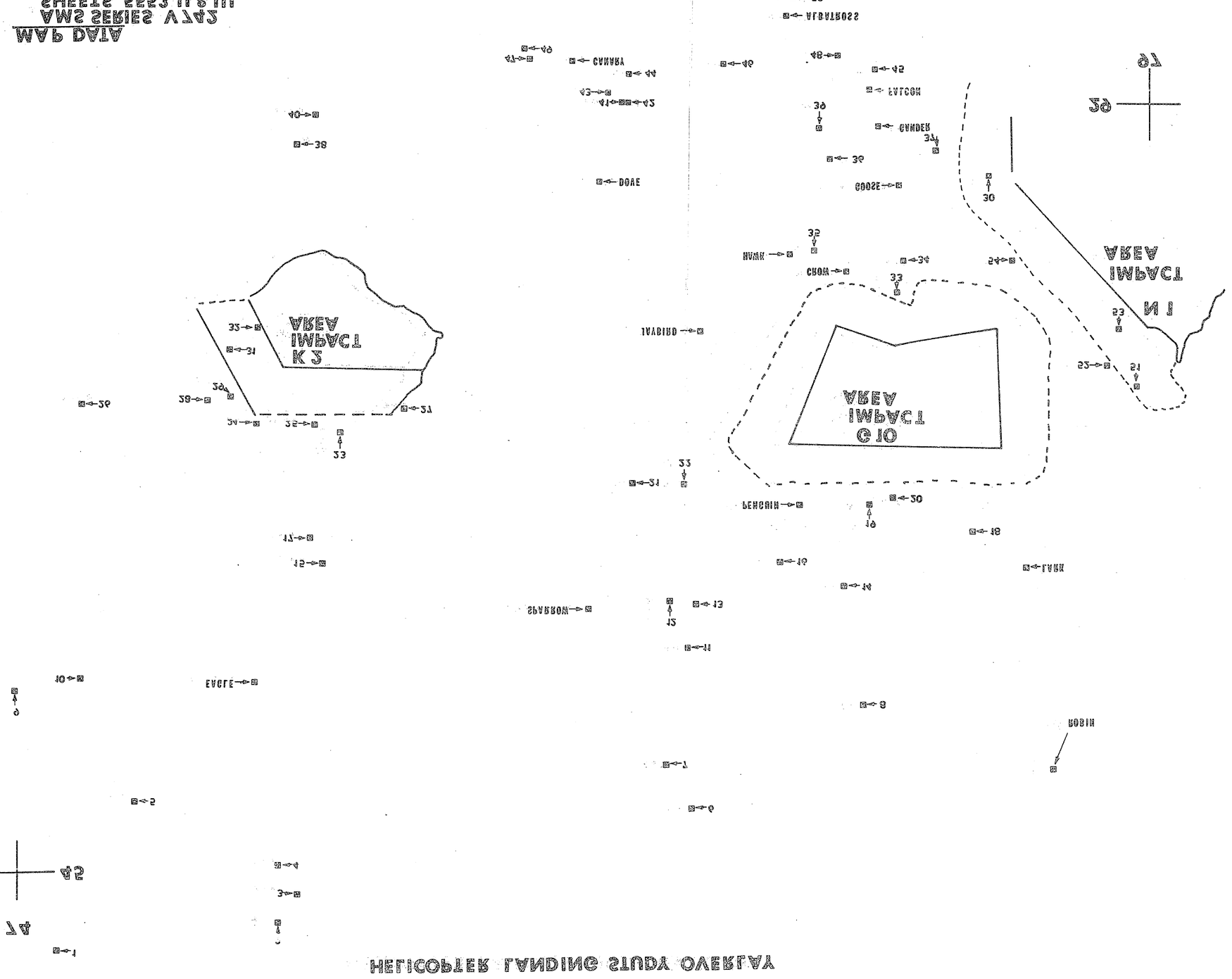
HELICOPTER LANDING STUDIES OVERLAY

HELICOPTER LANDING STUDY OVERLAY



MAP DATA
AMS SERIES V742
SHEETS 5553 II & III
SCALE 1:50,000

HELICOPTER LANDING STUDY OVERLAY



CHAPTER 4

LINES OF COMMUNICATION

1. GENERAL
2. MAJOR ROADS
3. BRIDGES
4. RAILROADS
5. INTRACOASTAL WATERWAY
6. INLET WATERWAYS
7. RIVER CROSSING SITES

LINES OF COMMUNICATION

1. GENERAL

MOVING INLAND FROM THE INTRACOASTAL WATERWAY, THE SOIL IS SUFFICIENTLY FIRM TO PERMIT WHEELED AND TRACKED VEHICLES TO NEGOTIATE ALL PARTS OF THE AREA EXCEPT THE SWAMPS, WHICH ARE IMPASSABLE TO WHEELED VEHICLES AND AFFORD VERY POOR TRAFFICABILITY FOR TRACKED VEHICLES. CERTAIN SWAMPS ARE KNOWN AND ARE INDICATED ON AVAILABLE MAPS, HOWEVER, THE INTERVENING GROUND IS OFTEN LOW AND MAY INCLUDE SMALL SWAMPY AREAS NOT SHOWN. CROSS-COUNTRY TANK MOVEMENT WILL BE RESTRICTED TO MOVEMENT AROUND THE LARGE SWAMPS VIA INTERVENING HARD GROUND. SUCH MOVEMENT IS EVEN THEN DEPENDENT ON CAREFUL SELECTION OF ROUTES ON FOOT TO AVOID SCATTERED SMALL SWAMPY AREAS. SUCH CROSS-COUNTRY TRAIL BREAKING IS LIMITED TO A RATE OF APPROXIMATELY ONE-HALF MPH. MOREOVER, HEAVY RAINS WILL RENDER THE ENTIRE AREA IMPASSABLE TO TANKS EXCEPT VIA ROADS AND TRAILS. EVEN AFTER THE TOP SOIL HAS DRIED IN SOME PARTS OF THE AREA CONTINUOUS TRAFFIC BY HEAVY WHEELED VEHICLES MAY RESULT IN BREAKING THROUGH THE UPPER CRUST INTO A LOWER STRATA OF SOFT MUD AND SAND, MAKING IT ADVISABLE TO RESTRICT VEHICULAR TRAFFIC TO EXISTING ROADS AND TRAILS, WHENEVER POSSIBLE.

2. MAJOR ROADS

(A) CAMP LEJEUNE RESERVATION: THE PRINCIPAL ROADS SHOWN ON THE MAPS OF THIS AREA ARE TWO OR MORE LANES WIDE, HARD SURFACE, ALL-WEATHER TYPE AND ARE IN EXCELLENT CONDITION. THE SECONDARY ROADS ARE OF LOOSE GRAVEL AND ASPHALT CONSTRUCTION WHILE THE UNIMPROVED ROADS ARE GENERALLY NARROW, SANDY TRACKS. ROADS AND TRAILS ARE GENERALLY PASSABLE TO TANKS AND HEAVY WHEELED VEHICLES. THE UNIMPROVED ROADS INDICATED ON THE 1:50,000 MAP OF CAMP LEJEUNE ARE TWO LANE MACADAM HIGHWAYS IN EXCELLENT CONDITION. THE ROADS ARE WELL DRAINED WITH WIDE SHOULDERS AND CAN SUPPORT ALL TYPES OF TRAFFIC. THE SHOULDERS, HOWEVER, ARE SOFT AND TRAFFIC SHOULD BE RESTRICTED TO THE PAVEMENT. THE UNIMPROVED ROADS ARE GENERALLY NARROW, SANDY TRACKS OR TRAILS WHICH WERE ORGINALLY CUT AS LOGGING ROADS. WHEELED VEHICLES WILL BE ABLE TO TRAVEL THESE ROADS EXCEPT IN AREAS OF PARTICULARLY SOFT SAND. ROADS AND TRAILS ARE PASSABLE TO TANKS. SEE CHAPTER 4, LINES OF COMMUNICATION (OVERLAYS).

3. BRIDGES

A. WITHIN THE CAMP LEJEUNE AREA THERE ARE 5 MAJOR BRIDGES AND TWO RAILROAD BRIDGES THAT ARE PARALLEL TO THE MAJOR ROADS.

(1) HIGHWAY BRIDGE #1 TP839401

(A) TYPE - DECK

(B) LENGTH - 295.8 METERS

(C) DECK MATERIAL - CONCRETE

(D) ROADWAY WIDTH - 7.2 METERS

(E) CONDITION - GOOD

(2) HIGHWAY BRIDGE #2 TP863416

(A) TYPE - DECK

(B) LENGTH - 120.2 METERS

(C) DECK MATERIAL - REINFORCED CONCRETE

(D) ROADWAY WIDTH - 9.5 METERS

(E) CONDITION - GOOD

(3) HIGHWAY BRIDGE #3 TP922312

(A) TYPE - DECK

(B) LENGTH - 76.2 METERS

(C) DECK MATERIAL - CONCRETE

(D) ROADWAY WIDTH - 7.2 METERS

(E) CONDITION - GOOD

(4) HIGHWAY BRIDGE #4 TP916278

(A) TYPE - MOVABLE SPAN (SWING)

(B) LENGTH - 105.4 METERS

(C) DECK MATERIAL - REINFORCED CONCRETE

(D) ROADWAY WIDTH - 7.3 METERS

(E) CONDITION - GOOD

(5) HIGHWAY BRIDGE #5 TP801456

(A) TYPE - DECK

(B) LENGTH - 85.4 METERS

1. GENERAL

MOVING INLAND FROM THE INTRACOASTAL WATERWAY, THE TRAIL IS SUFFICIENTLY FLAT TO PERMIT WHEELED AND TRACKED VEHICLES TO NEGOTIATE ALL PARTS OF THE AREA EXCEPT THE SWAMPS. WHICH ARE IMPASSABLE TO UNBELTED VEHICLES AND APPROACH VERY POOR TRAFFICABILITY FOR TRACKED VEHICLES. CERTAIN SWAMPY ARC TRAILS ARE INDICATED ON AVAILABLE MAPS. HOWEVER, THE INTERVENING GROUND IS OFTEN LOW AND MAY INCLUDE SMALL SWAMPY AREAS NOT SHOWN. CROSS-COUNTRY TANK MOVEMENT WILL BE RESTRICTED TO MOVEMENT AROUND THE LARGE SWAMPS VIA INTERVENING HARD GROUND. SUCH MOVEMENT IS EVEN THEN DEPENDENT ON CAREFUL SELECTION OF ROUTES ON FOOT TO AVOID SCATTERED SMALL SWAMPY AREAS. SUCH CROSS-COUNTRY TRAIL BREAKING IS LIMITED TO A RATE OF APPROXIMATELY ONE-HALF MPH. MOTOR, HEAVY RAINS WILL MEMBER THE ENTIRE AREA IMPASSABLE TO TANKS EXCEPT VIA ROADS AND TRAILS. EVEN AFTER THE TOP SOIL HAS DRIED IN SOME PARTS OF THE AREA CONTINUOUS TRAFFIC BY HEAVY WHEELED VEHICLES MAY RESULT IN BREAKING THROUGH THE UPPER CRUST INTO A LOWER STRATA OF SOFT MUD AND SAND. MAKING IT ADVISABLE TO RESTRICT VEHICULAR TRAFFIC TO EXISTING ROADS AND TRAILS. (MEMORIZE POSSIBLE).

2. MAJOR ROADS

(A) CAMP LEJEUNE RESERVATION: THE PRINCIPAL ROADS SHOWN ON THE MAPS OF THIS AREA ARE TWO OR MORE LANES WIDE, HARD SURFACE, ALL-WEATHER TYPE AND ARE IN EXCELLENT CONDITION. THE SECONDARY ROADS ARE OF LOOSE GRAVEL AND ASPHALT CONSTRUCTION UNLESS THE UNIMPROVED ROADS ARE GENERALLY NARROW, SANDY TRACKS. ROADS AND TRAILS ARE GENERALLY PASSABLE TO TANKS AND HEAVY WHEELED VEHICLES. THE UNIMPROVED ROADS INDICATED ON THE 1:50,000 MAP OF CAMP LEJEUNE ARE TWO LANE MACADAM HIGHWAYS IN EXCELLENT CONDITION. THE ROADS ARE WELL DRAINED WITH WIDE SHOULDERS AND CAN SUPPORT ALL TYPES OF TRAFFIC. THE SHOULDERS, HOWEVER, ARE SOFT AND TRAFFIC SHOULD BE RESTRICTED TO THE PAVEMENT. THE UNIMPROVED ROADS ARE GENERALLY NARROW, SANDY TRACKS OR TRAILS WHICH WERE ORIGINALLY CUT AS LOGGING ROADS. WHEELED VEHICLES WILL BE ABLE TO TRAVEL THESE ROADS EXCEPT IN AREAS OF PARTICULARLY SOFT SAND. ROADS AND TRAILS ARE PASSABLE TO TANKS. SEE CHAPTER 4, LINES OF COMMUNICATION COVERING).

3. BRIDGES

A. WITHIN THE CAMP LEJEUNE AREA THERE ARE 3 MAJOR BRIDGES AND TWO RAILROAD BRIDGES THAT ARE PARALLEL TO THE MAJOR ROADS.

(1) HIGHWAY BRIDGE #1 TABULATED

(A) TYPE - DECK

(B) LENGTH - 525.4 METERS

(C) DECK MATERIAL - CONCRETE

(D) ROADWAY WIDTH - 7.5 METERS

(E) CONDITION - GOOD

(2) HIGHWAY BRIDGE #2 TABULATED

(A) TYPE - MOVABLE SPAN CLOSED

(B) LENGTH - 305.4 METERS

(C) DECK MATERIAL - REINFORCED CONCRETE

(D) ROADWAY WIDTH - 7.3 METERS

(E) CONDITION - GOOD

(3) HIGHWAY BRIDGE #3 TABULATED

(A) TYPE - DECK

(B) LENGTH - 85.4 METERS

(C) HIGHWAY BRIDGE #1 TABULATED

(A) TYPE - DECK

(B) LENGTH - 525.5 METERS

(C) DECK MATERIAL - CONCRETE

(D) ROADWAY WIDTH - 7.5 METERS

(E) CONDITION - GOOD

(4) HIGHWAY BRIDGE #4 TABULATED

(A) TYPE - MOVABLE SPAN CLOSED

(B) LENGTH - 305.4 METERS

(C) DECK MATERIAL - REINFORCED CONCRETE

(D) ROADWAY WIDTH - 7.3 METERS

(E) CONDITION - GOOD

(5) HIGHWAY BRIDGE #5 TABULATED

(A) TYPE - DECK

(B) LENGTH - 85.4 METERS

(C) DECK MATERIAL - CONCRETE

(D) ROADWAY WIDTH - 7.4 METERS

(E) CONDITIONS - GOOD

4. RAILROADS: A STANDARD GAUGE RAILROAD RUNS PARALLEL TO THE SOUTHWEST BOUNDARIES OF THE CAMP LEJEUNE AREA. THIS RAILROAD EXTENDS IN A NORTHEASTERLY DIRECTION AND ENTERS THE STUDY AREA 700 METERS NORTH OF VERONA (TP737399). THE RAILROAD CONTINUES IN A NORTHEASTERLY DIRECTION FOR APPROX-IMATELY 14.5 KILOMETERS UNTIL IT EXITS CAMP LEJEUNE AT TP760465. ORIGINATING IN JACKSONVILLE, A SECOND RAILROAD EXTENDS IN A SOUTHEASTERLY DIRECTION TO MIDWAY PARK (TP850454) AND INTO THE CAMP LEJEUNE INDUSTRIAL AREA WHERE THE TRACK TERMINATES AND SPURS OFF INTO FOUR SPUR TRACKS AT A FREIGHT TERMINAL. A SIDING IS LOCATED AT TP857439. ANOTHER SPUR BEGINS AT TP857439 AND EXITS CAMP LEJEUNE AT TP868440. THERE ARE TWO RAILROAD BRIDGES; ONE PARALLELS HOLCOMB BOULEVARD AT TP864416, AND THE OTHER IS AT TP745426.

5. INTRACOASTAL WATERWAY: THE INTRACOASTAL WATERWAY CONNECTS WITH RIVERS AND SOUNDS ALONG THE ENTIRE LENGTH OF THE CAMP LEJEUNE COAST. NAVIGATION IS RESTRICTED BY LIMITING DEPTHS AND HORIZONTAL AND VERTICAL CLEARANCES IN THE VARIOUS SECTIONS OF THE WATERWAY. ITS DREDGED CHANNELS AND LAND CUTS RUN ROUGH-LY PARALLEL TO THE COAST. THE WATERWAY ENTERS THE CAMP LEJEUNE AREA AT THE SOUTHEASTERN PORTION OF THE BOUNDARY AT NEW RIVER INLET (TP844258) AND LEAVES THE NORTHEASTERN PORTION OF THE BOUNDARY AT BROWNS INLET (TP979343). THE PROJECT DEPTH IS 4 METERS ALTHOUGH THERE ARE A FEW SECTIONS WITH A DEPTH OF 2.3 METERS TO 3 METERS. MINIMUM CLEARANCE IS 30 METERS VERTICALLY. IT IS 91.4 METERS WIDE AT ITS WIDEST POINT. THE DISTANCE FROM THE WATERWAY TO THE COASTLINE VARIES FROM 500 METERS AT ONSLOW BEACH TO 3.0 KILOMETERS AT SHACKLEFOOT CHANNEL. IN THE ONSLOW BEACH AREA THE BANKS OF THE WATERWAY ARE STEEP AND STAND 1 TO 2 METERS ABOVE HIGH WATER. THE BOTTOM COMPOSITION OF THE WATER-WAY IS THICK AND GUMMY SILT WHICH HINDERS WADING. THE WATERWAY IS A VALUABLE TRANSPORTATION AND COMMUNICATION LINK BETWEEN COASTAL AREA WHICH IS UTILIZED EXTENSIVELY BY TUGS, BARGES, AND SMALL CRAFT.

6. MAJOR INLETS

A. NEW RIVER INLET: THIS INLET IS LOCATED ON THE SOUTHEAST BOUNDARY LINE OF THE CAMP LEJEUNE RESERVATION AT (TP852232). THE INLET IS CONSIDERED DANGEROUS BY LOCAL PILOTS AND THE ENTRANCE SHOULD NOT BE ATTEMPTED EXCEPT UNDER THE MOST FAVORABLE CONDITIONS. THERE IS A STRONG EBB CURRENT FROM THE INLET SOME-TIMES AS LONG AS THREE HOURS AFTER LOW TIDE. THIS CAUSES HEAVY SWELLS ON THE BAR WHEN THERE IS ANY SEA RUNNING OUTSIDE. THE SURF IS EQUALLY BAD WHEN THE EBB CURRENT RUNS AGAINST WINDS FROM THE SOUTH OR SOUTHWEST. ON ITS WESTERN SIDE A WOODED HILL, BARE SAND DUNES AND A NUMBER OF SHANTIES CAN BE OBSERVED FROM OFFSHORE. THE MEAN TIDEL RANGE AT THE INLET IS ABOUT 1 METER AT THE HEAD OF THE MARSHES, AND 3.2 KILOMETERS ABOVE THE ENTRANCE. A FEDERAL PROJECT PROVIDES FOR AN ENTRANCE CHANNEL 2 METERS DEEP AT NEW RIVER INLET, WITH A CONNECTING CHANNEL OF THE SAME DEPTH TO THE INTRACOASTAL WATERWAY. A LIGHTED BELL BUOY MARKS THE ENTRANCE AND LIGHTS AND BUOYS MARK THE CHANNEL.

B. BROWNS INLET: THIS INLET IS 5.5 KILOMETERS WEST OF BEAR INLET, AND HAD A DEPTH AT LOW WATER OF TWO FEET IN MARCH 1933. THIS INLET IS NOT USED BECAUSE OF ITS IRREGULAR CHANNEL. THE EAST BANK OF BROWNS INLET IS TOPPED BY STEEP DUNES AND IS MUCH HIGHER THAN THE WEST BANK.

(C2 DECK MATERIAL - CONCRETE

(D2 ROADWAY WIDTH - 7.4 METERS

(E2 CONDITIONS - GOOD

4. RAILROADS: A STANDARD GAUGE RAILROAD RUNS PARALLEL TO THE SOUTHWEST BOUNDARIES OF THE CAMP LEJEUNE AREA. THIS RAILROAD EXTENDS IN A NORTHEASTERLY DIRECTION AND ENTERS THE STUDY AREA 700 METERS NORTH OF VERONA (TP72729P). THE RAILROAD CONTINUES IN A NORTHEASTERLY DIRECTION FOR APPROXIMATELY 14.5 KILOMETERS UNTIL IT EXITS CAMP LEJEUNE AT TP75PHS. ORIGINATING IN JACKSONVILLE, A SECOND RAILROAD EXTENDS IN A SOUTHEASTERLY DIRECTION TO MIDWAY PARK (TP85SPHS) AND INTO THE CAMP LEJEUNE INDUSTRIAL AREA WHERE THE TRACK TERMINATES AND SPURS OFF INTO FOUR SPUR TRACKS AT A FREIGHT TERMINAL. A SIDING IS LOCATED AT TP85ZH3P. ANOTHER SPUR BEGINS AT TP85ZH3P AND EXITS CAMP LEJEUNE AT TP8BPPQ. THERE ARE TWO RAILROAD BRIDGES; ONE PARALLELS HOLCOMB BOULEVARD AT TP8BPPQE, AND THE OTHER IS AT TP7H5HEP.

5. INTRACOASTAL WATERWAY: THE INTRACOASTAL WATERWAY CONNECTS WITH RIVERS AND SOUNDS ALONG THE ENTIRE LENGTH OF THE CAMP LEJEUNE COAST. NAVIGATION IS RESTRICTED BY LIMITING DEPTHS AND HORIZONTAL AND VERTICAL CLEARANCES IN THE VARIOUS SECTIONS OF THE WATERWAY. ITS DREDGED CHANNELS AND LAND CUTS RUN ROUGHLY PARALLEL TO THE COAST. THE WATERWAY ENTERS THE CAMP LEJEUNE AREA AT THE SOUTHEASTERN PORTION OF THE BOUNDARY AT NEW RIVER INLET (TP8BHHS8) AND LEAVES THE NORTHEASTERN PORTION OF THE BOUNDARY AT BROWNS INLET (TP72PEN). THE PROJECT DEPTH IS 4 METERS ALTHOUGH THERE ARE A FEW SECTIONS WITH A DEPTH OF 2.3 METERS TO 3 METERS. MINIMUM CLEARANCE IS 30 METERS VERTICALLY. IT IS 91.4 METERS WIDE AT ITS WIDEST POINT. THE DISTANCE FROM THE WATERWAY TO THE COASTLINE VARIES FROM 500 METERS AT ONSLOW BEACH TO 3.0 KILOMETERS AT SHACKLEFOOT CHANNEL. IN THE ONSLOW BEACH AREA THE BANKS OF THE WATERWAY ARE STEEP AND STAND 3 TO 5 METERS ABOVE HIGH WATER. THE BOTTOM COMPOSITION OF THE WATERWAY IS A VALUABLE TRANSPORTATION AND COMMUNICATION LINK BETWEEN COASTAL AREA WHICH IS UTILIZED EXTENSIVELY BY TUGS, BARGES, AND SMALL CRAFT.

b. MAJOR INLETS

A. NEW RIVER INLET: THIS INLET IS LOCATED ON THE SOUTHEAST BOUNDARY LINE OF THE CAMP LEJEUNE RESERVATION AT (TP8S2S2E). THE INLET IS CONSIDERED DANGEROUS BY LOCAL PILOTS AND THE ENTRANCE SHOULD NOT BE ATTEMPTED EXCEPT UNDER THE MOST FAVORABLE CONDITIONS. THERE IS A STRONG EBB CURRENT FROM THE INLET SOMETIMES AS LONG AS THREE HOURS AFTER LOW TIDE. THIS CAUSES HEAVY SWELLS ON THE BAR WHEN THERE IS ANY SEA RUNNING OUTSIDE. THE SURF IS EQUALLY BAD WHEN THE EBB CURRENT RUNS AGAINST WINDS FROM THE SOUTH OR SOUTHWEST. ON ITS WESTERN SIDE A WOODED HILL, BARE SAND DUNES AND A NUMBER OF LANDMARKS CAN BE OBSERVED FROM OFFSHORE. THE MEAN TIDEL RANGE AT THE INLET IS ABOUT 1 METER AT THE HEAD OF THE MARSHES, AND 2.5 KILOMETERS ABOVE THE ENTRANCE. A FEDERAL PROJECT PROVIDES FOR AN ENTRANCE CHANNEL 5 METERS DEEP AT NEW RIVER INLET, WITH A CONNECTING CHANNEL OF THE SAME DEPTH TO THE INTRACOASTAL WATERWAY. A LIGHTED BELL BUOY MARKS THE ENTRANCE AND LIGHTS AND BUOYS MARK THE CHANNEL.

B. BROWNS INLET: THIS INLET IS 5.5 KILOMETERS WEST OF BEAR INLET, AND HAS A DEPTH AT LOW WATER OF TWO FEET IN MARCH 1982. THIS INLET IS NOT USED BECAUSE OF ITS IRREGULAR CHANNEL. THE EAST BANK OF BROWNS INLET IS TOPPED BY STEEP DUNES AND IS MUCH HIGHER THAN THE WEST BANK.

LINES OF COMMUNICATION

7. RIVER CROSSING SITES

A. RIVER CROSSING SITE #1

LOCATION: RIVER CROSSING SITE #1 IS LOCATED ON THE INTRACOASTAL WATERWAY WITH THE DEPARTURE POINT LOCATED AT UTM COORDINATES 18STP90222675, AND AN AZIMUTH OF 191°30'. THE ARRIVAL POINT IS LOCATED AT UTM COORDINATES 18STP90152660. THE BACK AZIMUTH IS 11°30'.

WIDTH: THE WIDTH FROM DEPARTURE POINT TO ARRIVAL POINT IS APPROXIMATELY 200 METERS.

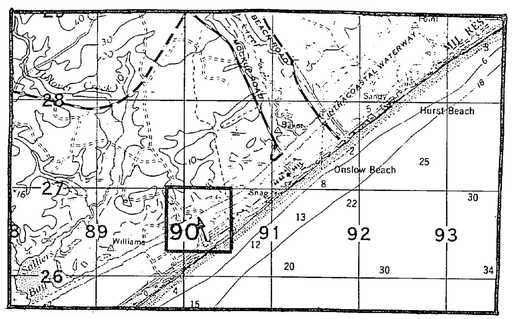
DEPTH: THE DEPTH OF THE INTRACOASTAL WATERWAY AT THIS POINT IS APPROXIMATELY 12 FEET.

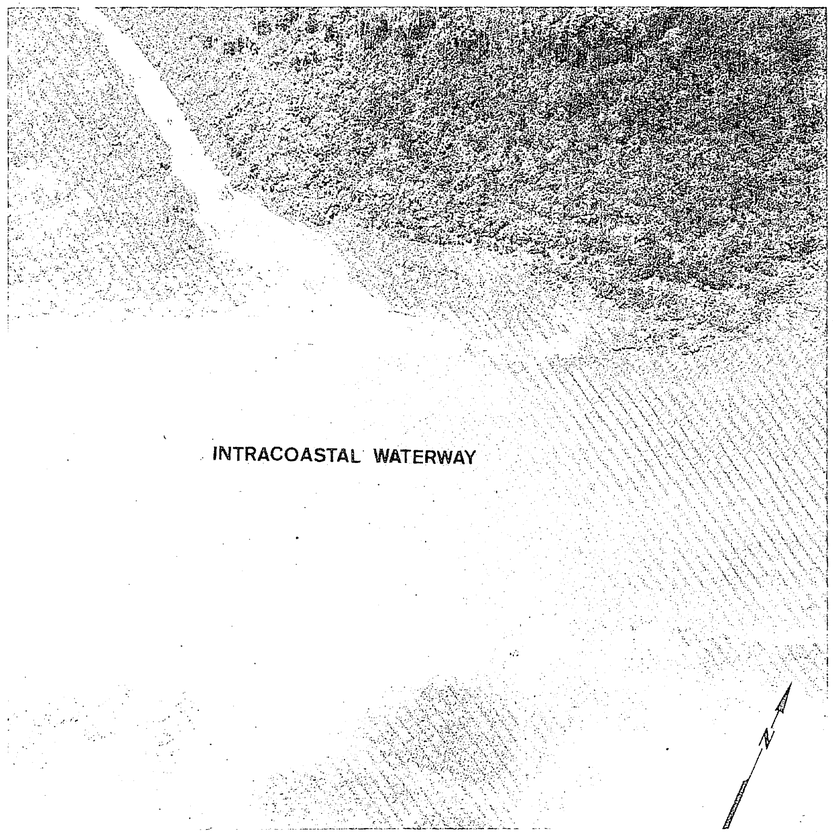
CURRENT: THE CURRENT IS NEGLIGIBLE.

CHARACTER OF BANKS: THE SLOPE OF THE BANKS ARE MILD AND ARE MADE UP OF SAND AND MUD.

OBSTACLES: NONE.

COMMUNICATIONS INLAND: FROM THE DEPARTURE POINT AN UNIMPROVED DIRT ROAD EXTENDS APPROXIMATELY 1800 METERS NORTH-NORTHWEST CONNECTING HWY 172 AT UTM COORDINATES 18STP89502820. THERE ARE NUMEROUS ROADS THROUGHOUT THE AREA WHICH PROVIDE GOOD EXITS FOR TROOPS AND VEHICLES. FROM THE ARRIVAL POINT AN UNIMPROVED DIRT ROAD EXTENDS APPROXIMATELY 200 METERS SOUTH-SOUTHEAST CONNECTING WITH AN IMPROVED DIRT ROAD AT UTM COORDINATES 18STP90252635 WHICH PARALLELS ONSLOW BEACH AND HURST BEACH.





DATE OF PHOTO 12 APRIL 73

B. RIVER CROSSING SITE #2

LOCATION: RIVER CROSSING SITE #2 IS LOCATED ON THE INTRACOASTAL WATERWAY WITH THE DEPARTURE POINT LOCATED AT UTM COORDINATES 18STP87652525, AND AN AZIMUTH OF 299°30'. THE ARRIVAL POINT IS LOCATED AT UTM COORDINATES 18STP87752518. THE BACK AZIMUTH IS 119°30'.

WIDTH: THE WIDTH BETWEEN DEPARTURE POINT AND ARRIVAL POINT IS APPROXIMATELY 200 METERS.

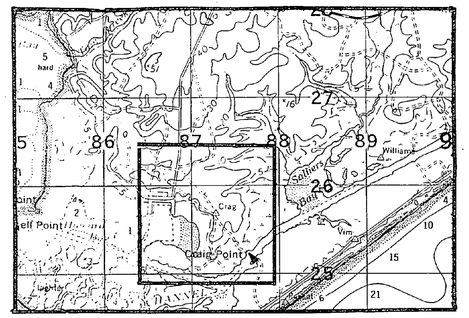
DEPTH: THE DEPTH OF THE INTRACOASTAL WATERWAY AT THIS POINT IS APPROXIMATELY 12 FEET.

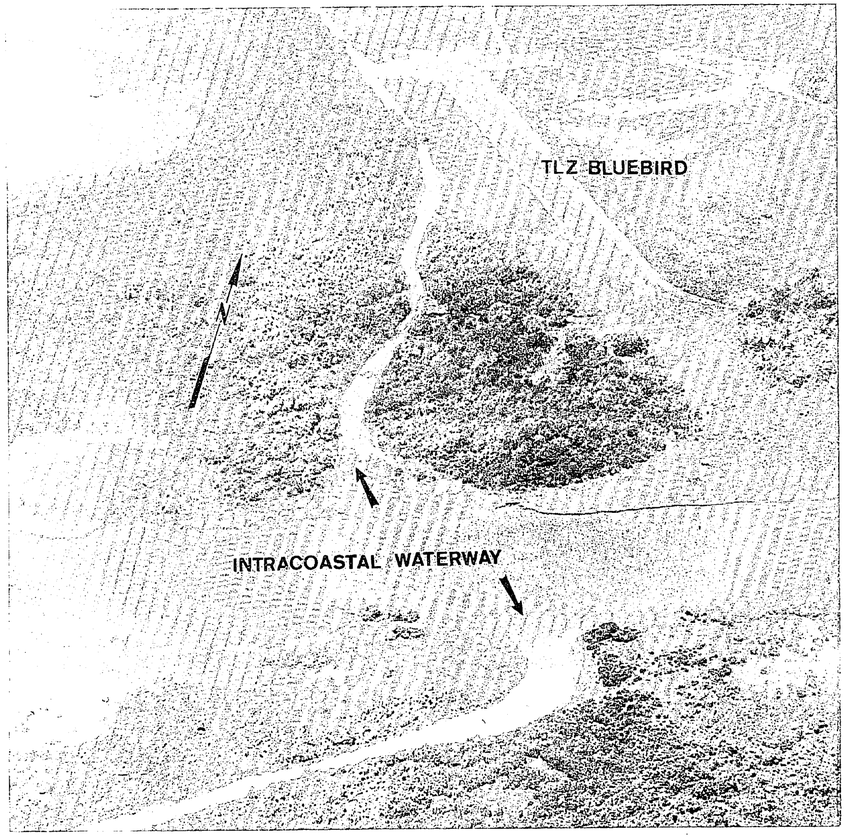
CURRENT: THE CURRENT IS NEGLIGIBLE.

CHARACTER OF BANKS: THE BANKS HAVE A MILD SLOPE AND ARE MADE UP OF SAND AND MUD.

OBSTACLES: NONE.

COMMUNICATIONS INLAND: AN UNIMPROVED DIRT ROAD EXTENDS APPROXIMATELY 1100 METERS NORTHWEST FROM THE DEPARTURE POINT WHERE IT CONNECTS MILE HAMMOND ROAD AT UTM COORDINATES 18STP86802600. THIS ROAD PROVIDES GOOD EXITS FOR TROOPS AND VEHICLES. AN UNIMPROVED DIRT ROAD EXTENDS FROM THE ARRIVAL POINT FOR APPROXIMATELY 600 METERS CONNECTING WITH AN IMPROVED DIRT ROAD AT UTM COORDINATES 18STP87802460. THIS ROAD PARALLELS ONSLOW BEACH AND HURST BEACH.





DATE OF PHOTO 12 APRIL 73

C. RIVER CROSSING SITE #3

LOCATION: RIVER CROSSING SITE #3 IS LOCATED IN NEW RIVER BETWEEN DUCK CREEK AND GOOSE CREEK WITH THE DEPARTURE POINT LOCATED AT UTM COORDINATES 18STP8425336O, AND AN ASIMUTH OF 319°30'. THE ARRIVAL POINT IS LOCATED ACROSS NEW RIVER AT RHOD OINT AT UTM COORDINATES 18STP82603527. THE BACK AZIMUTH IS 139°30'.

WIDTH: THE WIDTH BETWEEN DEPARTURE AND ARRIVAL POINT IS APPROXIMATELY 2400 METERS.

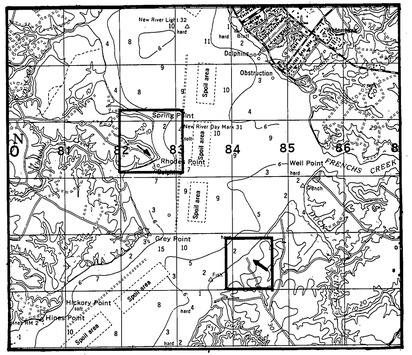
DEPTH: THE DEPTH OF NEW RIVER AT THIS POINT RANGES FROM 2 TO 9 FEET.

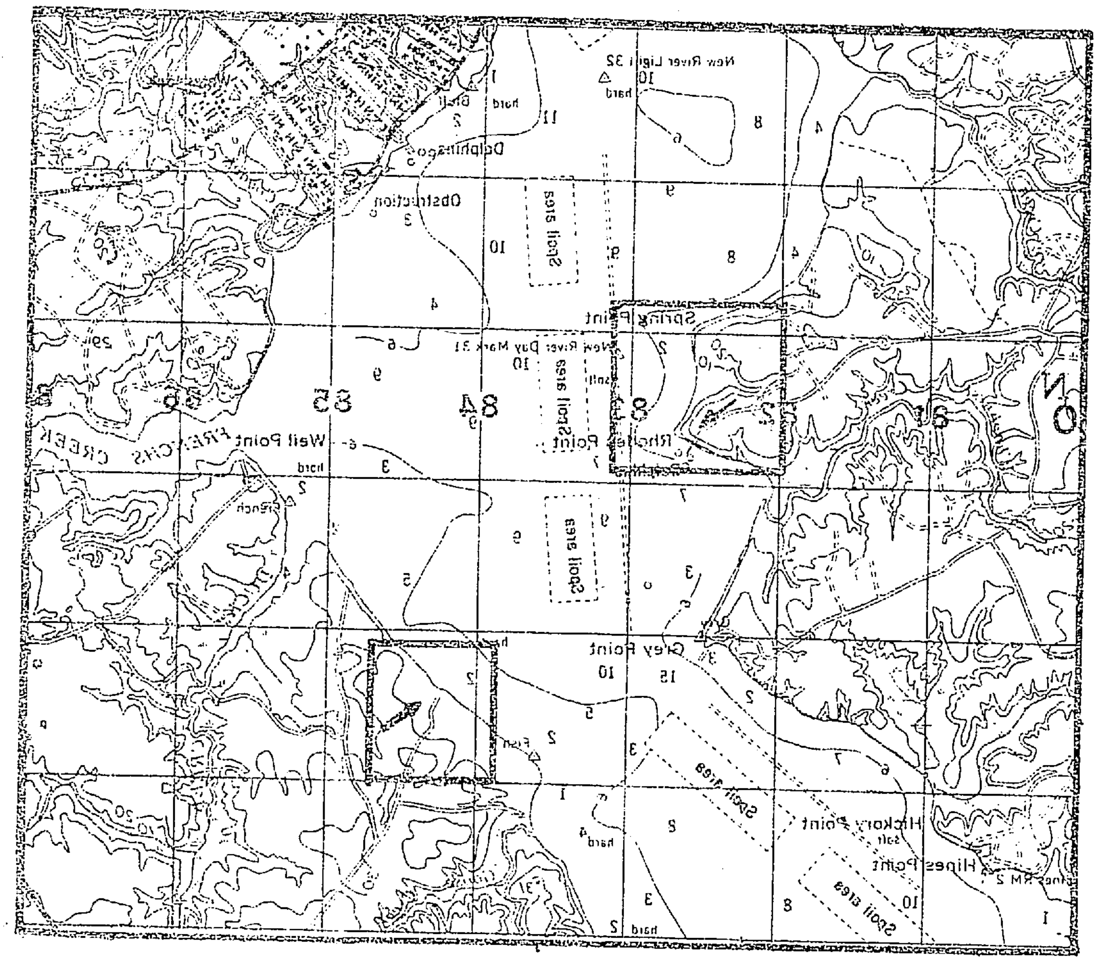
CURRENT: A STRONG EBB CURRENT FLOWS FOR AS MUCH AS 3 HOURS AFTER LOW TIDE. DURING NORMAL PERIODS THE CURRENT IS NEGLIGIBLE.

CHARACTER OF BANKS: THE BANKS HAVE A GENTLE SLOPE AND ARE MADE UP OF SAND AND DIRT.

OBSTACLES: APPROXIMATELY 150 METERS SOUTHWEST OF THE DEPARTURE POINT IS A FALLEN TREE. APPROXIMATELY 50 METERS SOUTHWEST OF THE ARRIVAL POINT IS AN ABANDONED PIER.

COMMUNICATIONS INLAND: AN IMPROVED DIRT ROAD EXTENDS APPROXIMATELY 3000 METERS SOUTHEAST FROM THE DEPARTURE POINT WHERE IT CONNECTS WITH SNEADS FERRY ROAD AT UTM COORDINATES 18STP8579O3109. THIS ROAD PROVIDES GOOD EXITS FOR TROOPS AND VEHICLES. AN IMPROVED DIRT ROAD EXTENDS FOR APPROXIMATELY 4000 METERS WEST OF THE ARRIVAL POINT WHERE IT CONNECTS WITH VERONA LOOP ROAD AT UTM COORDINATES 18STP78653605. THIS ROAD PROVIDES GOOD EXITS FOR TROOPS AND VEHICLES.





C. RIVER CROSSIN: SITE #3

LOCATION: RI ER CROSSING SITE #3 IS LOCATED IN NEW RIVER BETWEEN DUCK CR EK AND GOOSE CREEK WITH THE DEPARTURE POINT LOCATED AT UTM COORDINATES 18STP84253360, AND AN AZIMUTH OF 319°30'. THE ARRIVAL P INT IS LOCATED ACROSS NEW RIVER AT RHOD OINT AT UTM COORDINAT S 18STP82603527. THE BACK AZIMUTH IS 139°30'.

WIDTH: THE W DTH BETWEEN DEPARTURE AND ARRIVAL POINT IS APPROXIMATELY 2400 M TERS.

DEPTH: THE D PTH OF NEW RIVER AT THIS POINT RANGES FROM 2 TO 4 FEET.

CURRENT: A S RONG EBB CURRENT FLOWS FOR AS MUCH AS 3 HOURS AFTER LOW TIDE. DU ING NORMAL PERIODS THE CURRENT IS NEGLIGIBLE.

CHARACTER OF BANKS: THE BANKS HAVE A GENTLE SLOPE AND ARE MADE UP OF SAND AN DIRT.

OBSTACLES: APPROXIMATELY 150 METERS SOUTHWEST OF THE DEPARTURE POINT IS A FA LEN TREE. APPROXIMATELY 50 METERS SOUTHWEST OF THE ARRIVAL POIN IS AN ABANDONED PIER.

COMMUNICATIO S INLAND: AN IMPROVED DIRT ROAD EXTENDS APPROXIMATELY 3000 ME ERS SOUTHEAST FROM THE DEPARTURE POINT WHERE IT CONNECTS WITH SNEADS FERRY ROAD AT UTM COORDINATES 18STP85903109. THIS ROAD PRO IDES GOOD EXITS FOR TROOPS AND VEHICLES. AN IMPROVED DIRT ROAD EXTENDS FOR APPROXIMATELY 4000 METERS WEST OF THE ARRIVAL POIN WHERE IT CONNECTS WITH VERONA LOOP ROAD AT UTM COORDINATES 18STP76553605. THIS ROAD PROVIDES GOOD EXITS FOR TROOPS AND V HICLES.

RIVER CROSSING SITE #3 CONTINUED

DATE OF PHOTO 12 APRIL 73

DATE OF PHOTO 12 APRIL 73

D. RIVER CROSSING SITE #4

LOCATION: RIVER CROSSING SITE #4 IS LOCATED AT WEIL POINT AT THE MOUTH OF FRENCH CREEK AT UTM COORDINATES 18STP85603515. THERE ARE TWO ARRIVAL POINTS. THE PRIMARY ARRIVAL POINT IS LOCATED ACROSS NEW RIVER AT TOWN POINT UTM COORDINATES 18STP81823815 ON AN AZIMUTH OF 311°30'. THE BACK AZIMUTH IS 131°30'. THE ALTERNATE ARRIVAL POINT IS LOCATED ON AN AZIMUTH OF 315°30' TO NEW RIVER LIGHT #34 APPROXIMATELY 6100 METERS THEN ON AN AZIMUTH OF 335° TO NEW RIVER LIGHT #38 APPROXIMATELY 5300 METERS THEN ON AN AZIMUTH OF 179° APPROXIMATELY 1700 METERS TO RAGGED POINT UTM COORDINATES 18STP-78604220.

WIDTH: THE WIDTH FROM DEPARTURE TO PRIMARY ARRIVAL POINT IS APPROXIMATELY 4800 METERS. THE DISTANCE FROM DEPARTURE POINT TO THE ALTERNATE ARRIVAL POINT IS APPROXIMATELY 13,000 METERS.

DEPTH: THE DEPTH OF NEW RIVER FROM DEPARTURE POINT TO PRIMARY ARRIVAL POINT AND TO THE ALTERNATE ARRIVAL POINT RANGES FROM 2 TO 10 FEET.

CURRENT: A STRONG EBB CURRENT FLOWS FOR AS MUCH AS 3 HOURS AFTER LOW TIDE. DURING NORMAL PERIODS THE CURRENT IS NEGLIGIBLE.

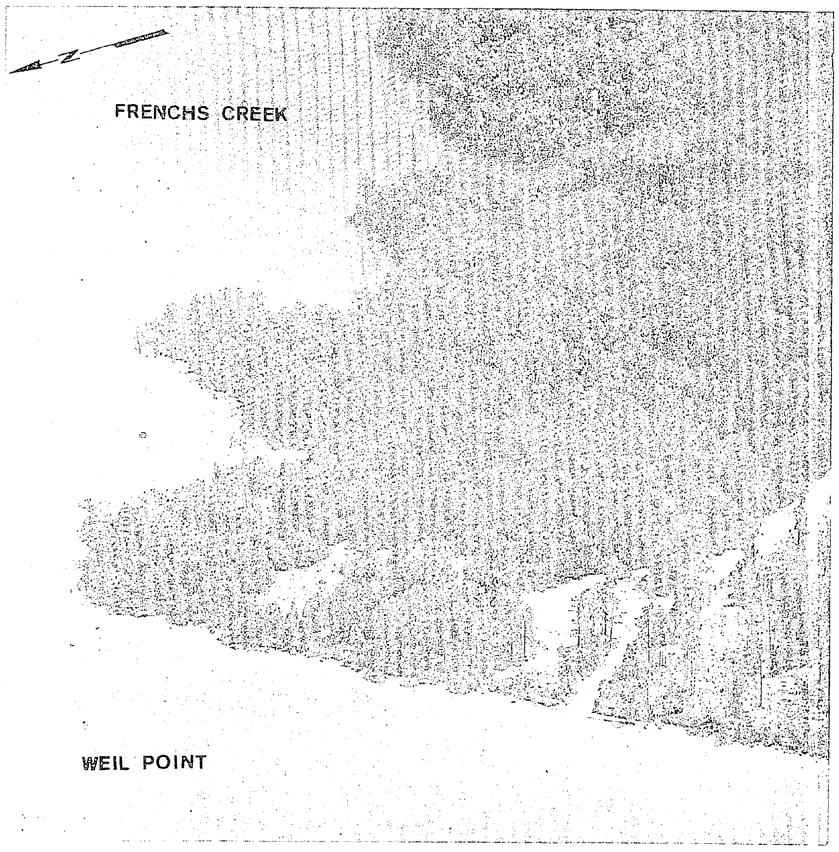
CHARACTER OF BANKS: THE BANKS OF THE DEPARTURE POINT ARE STEEP BUT ROADS HAVE BEEN CUT DOWN TO THE WATER. THE SLOPE IS GENTLE AT THE PRIMARY ARRIVAL POINT BUT BECOMES STEEPER TOWARDS HOLMES POINT. THE BANK AT THE ALTERNATE POINT IS GENTLE.

OBSTACLES: THE DEPARTURE POINT HAS NONE. THE PRIMARY ARRIVAL POINT HAS FALLEN TREES ALONG THE BANK EXTENDING TO HOLMES POINT. THERE IS A DUCK BLIND APPROXIMATELY 20 METERS FROM THE BANK AT THE ALTERNATE ARRIVAL POINT.

COMMUNICATIONS INLAND: AN IMPROVED DIRT ROAD EXTENDS FOR APPROXIMATELY 3600 METERS SOUTHEAST FROM THE DEPARTURE POINT AND CONNECTS WITH ONSLOW BEACH ROAD AT UTM COORDINATES 18STP87833300. A SECOND IMPROVED DIRT ROAD EXTENDS APPROXIMATELY 4800 METERS WEST OF THE PRIMARY ARRIVAL POINT AND CONNECTS VERONA LOOP ROAD AT UTM COORDINATES 18STP76953780. A THIRD IMPROVED DIRT ROAD EXTENDS APPROXIMATELY 5000 METERS SOUTH-SOUTHWEST FROM THE SECONDARY ARRIVAL POINT AND CONNECTS VERONA LOOP ROAD AT UTM COORDINATES 18STP7665-3855. ALL EXITS PROVIDE GOOD EGRESS FOR TROOPS AND VEHICLES.

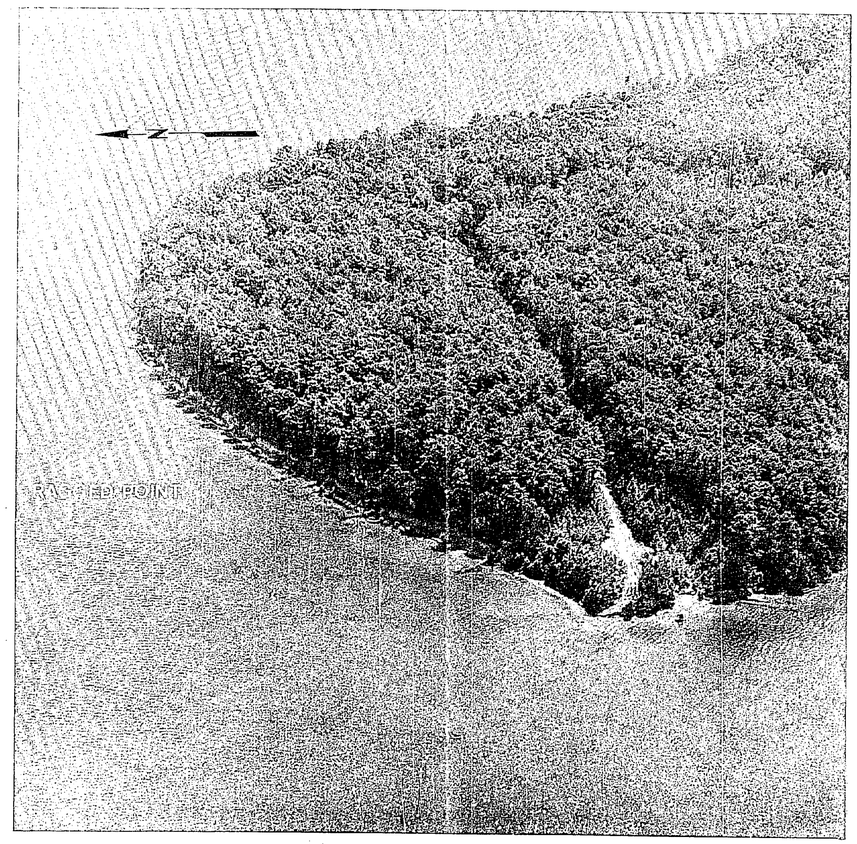
LINES OF COMMUNICATION

RIVER CROSSING SITE #4 CONTINUED

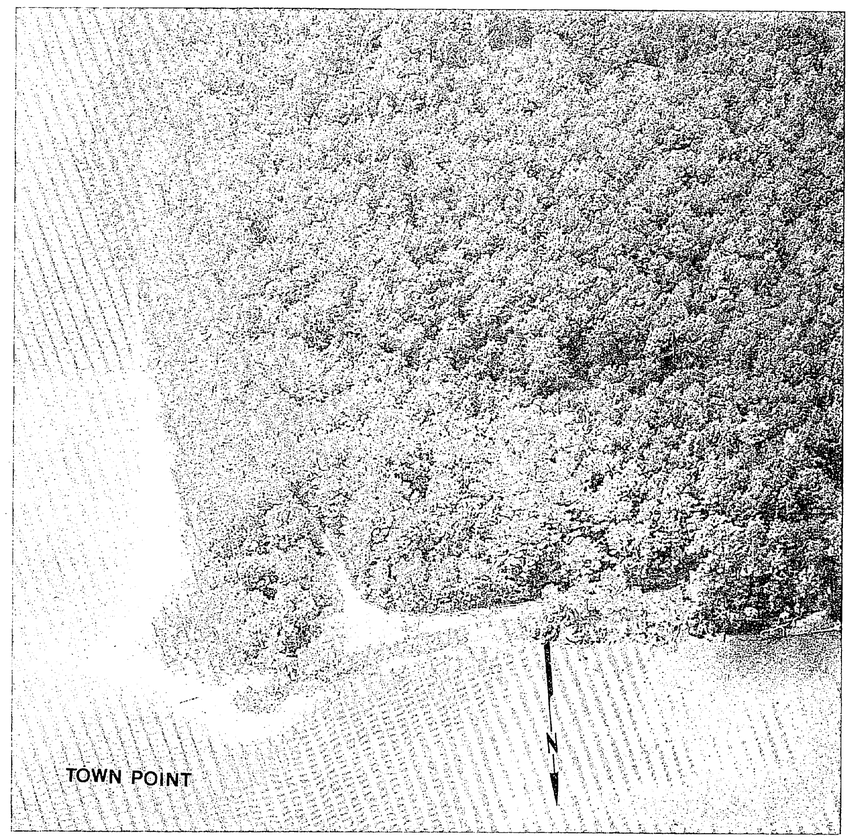


DATE OF PHOTO 12 APRIL 73

RIVER CROSSING SITE #4 CONTINUED

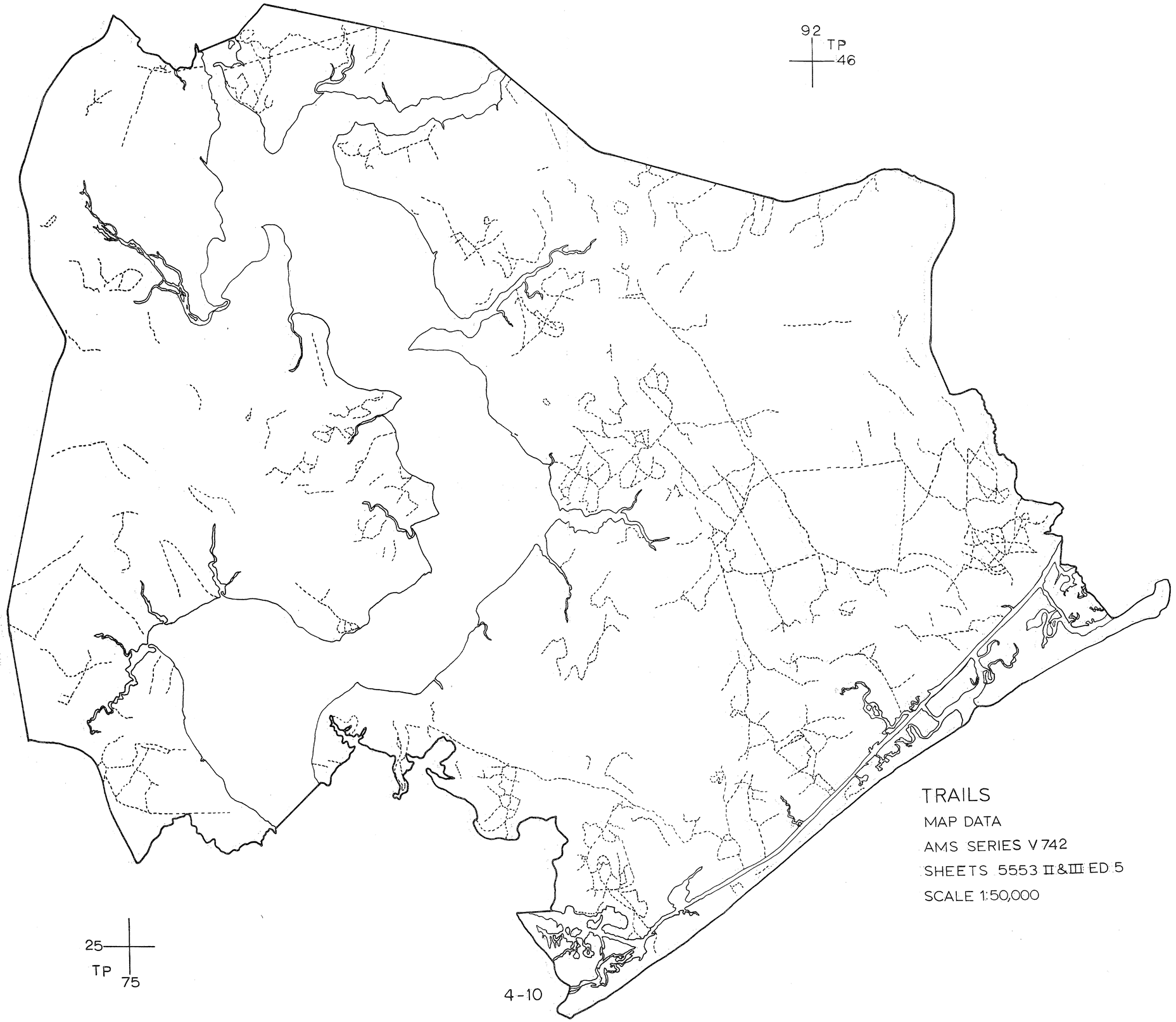


DATE OF PHOTO 12 APRIL 73



DATE OF PHOTO 12 APRIL 73

LINES OF COMMUNICATION OVERLAY



TRAILS

MAP DATA

AMS SERIES V 742

SHEETS 5553 II & III ED 5

SCALE 1:50,000

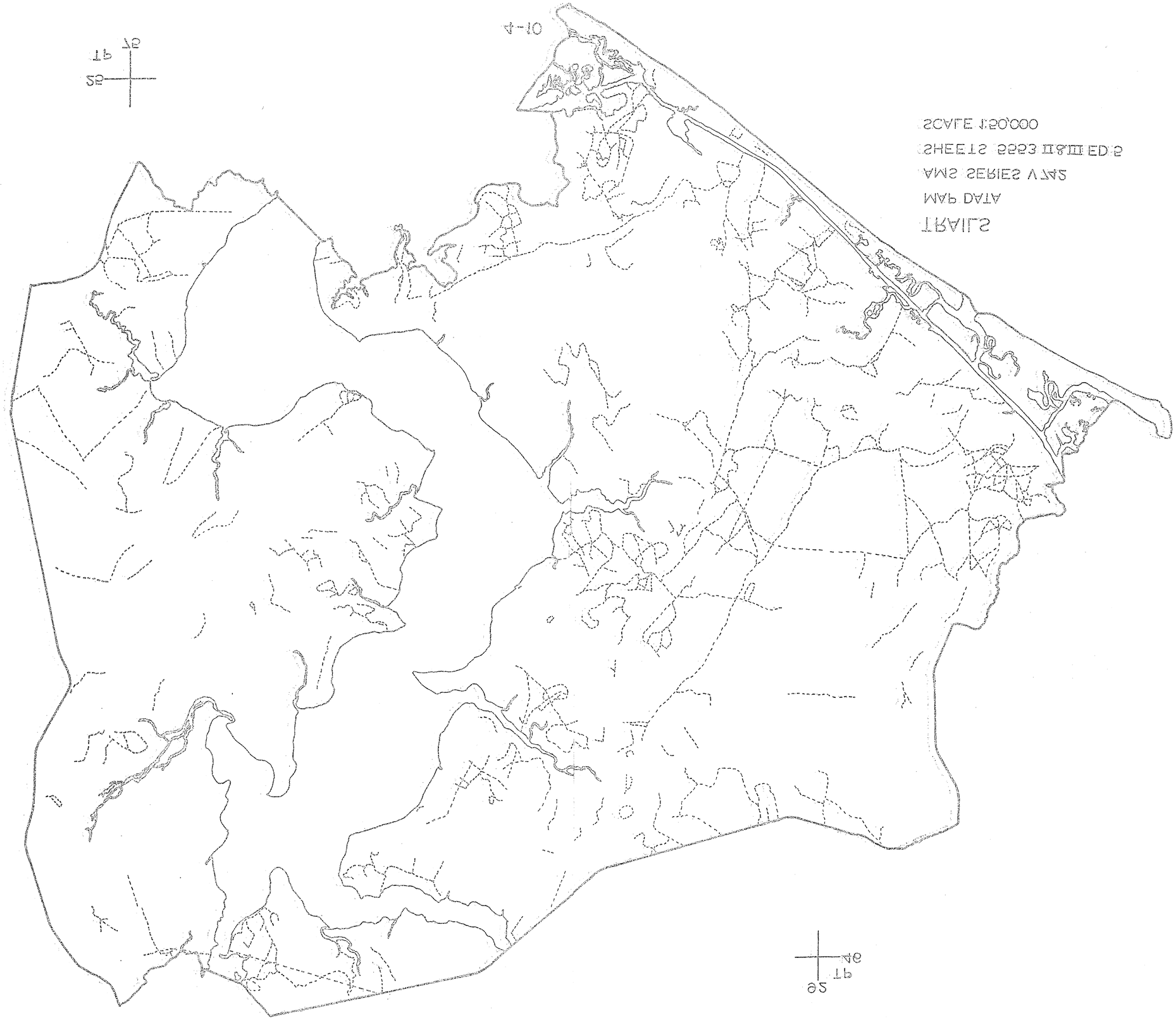
TRAILS

MAP DATA

AMS SERIES V745

SHEET 6553 II & III ED 2

SCALE 1:50,000



92 TP 46

RIVER CROSSING SITES 4 3

RIVER CROSSING SITES 1 2

TP 25 75

LINES OF COMMUNICATION

FOUR-LANE, PAVED

TWO-LANE, PAVED

UNIMPROVED, DIRT

TANK PADS

MAP DATA
AMS SERIES V742
SHEETS 5553 II &III ED5
SCALE 1:50,000

A - 10

SCALE 1:250000

SHEETS 5253 II SW ED2

AMS SERIES V745

MAP DATA

TANK PADS

UNIMPROVED DIRT

TWO-LANE PAVED

FOUR-LANE PAVED

COMMUNICATION
LINES OF

RIVER CROSSING
SITES

1

5

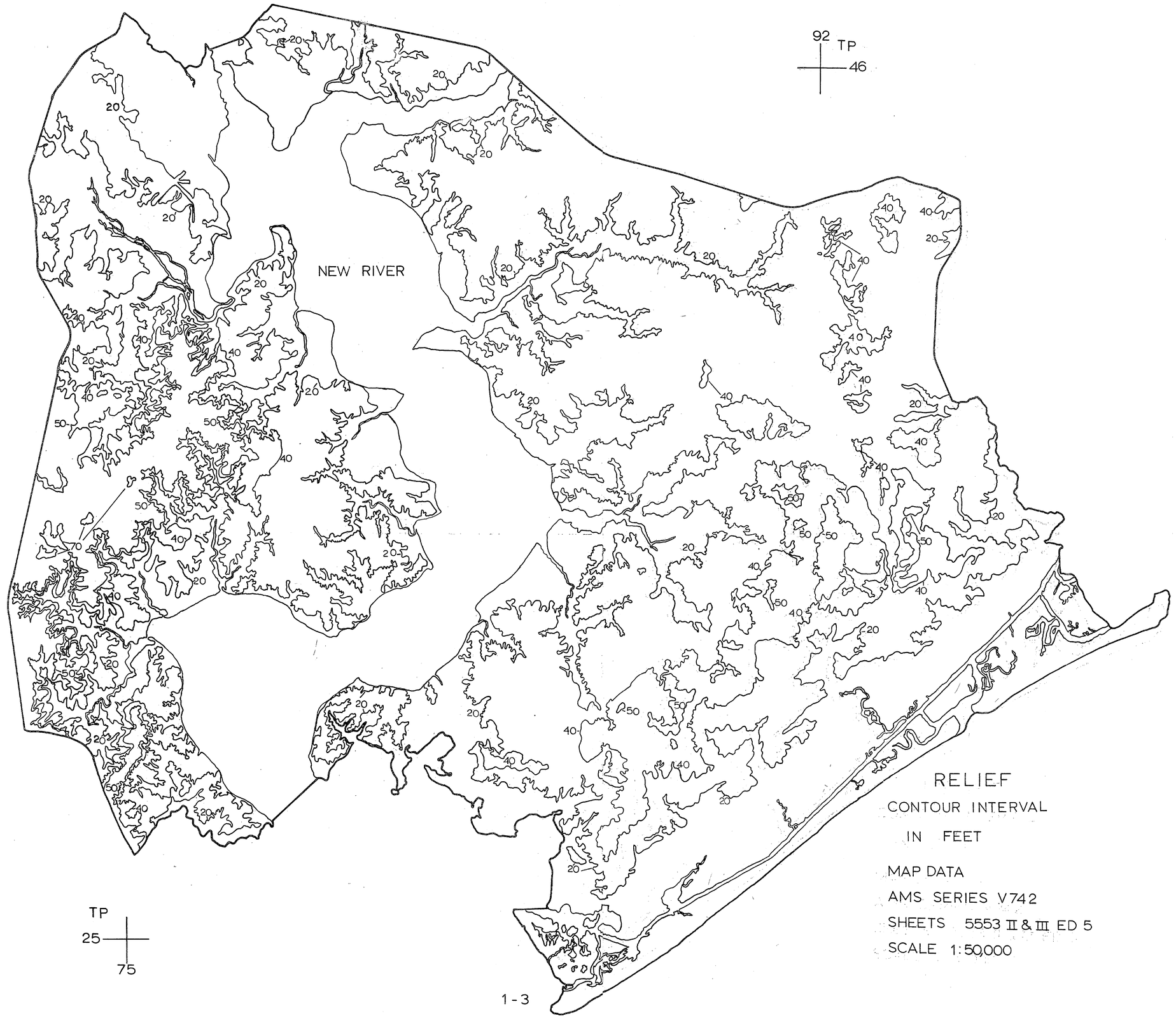
CROSSING
RIVER
SITES

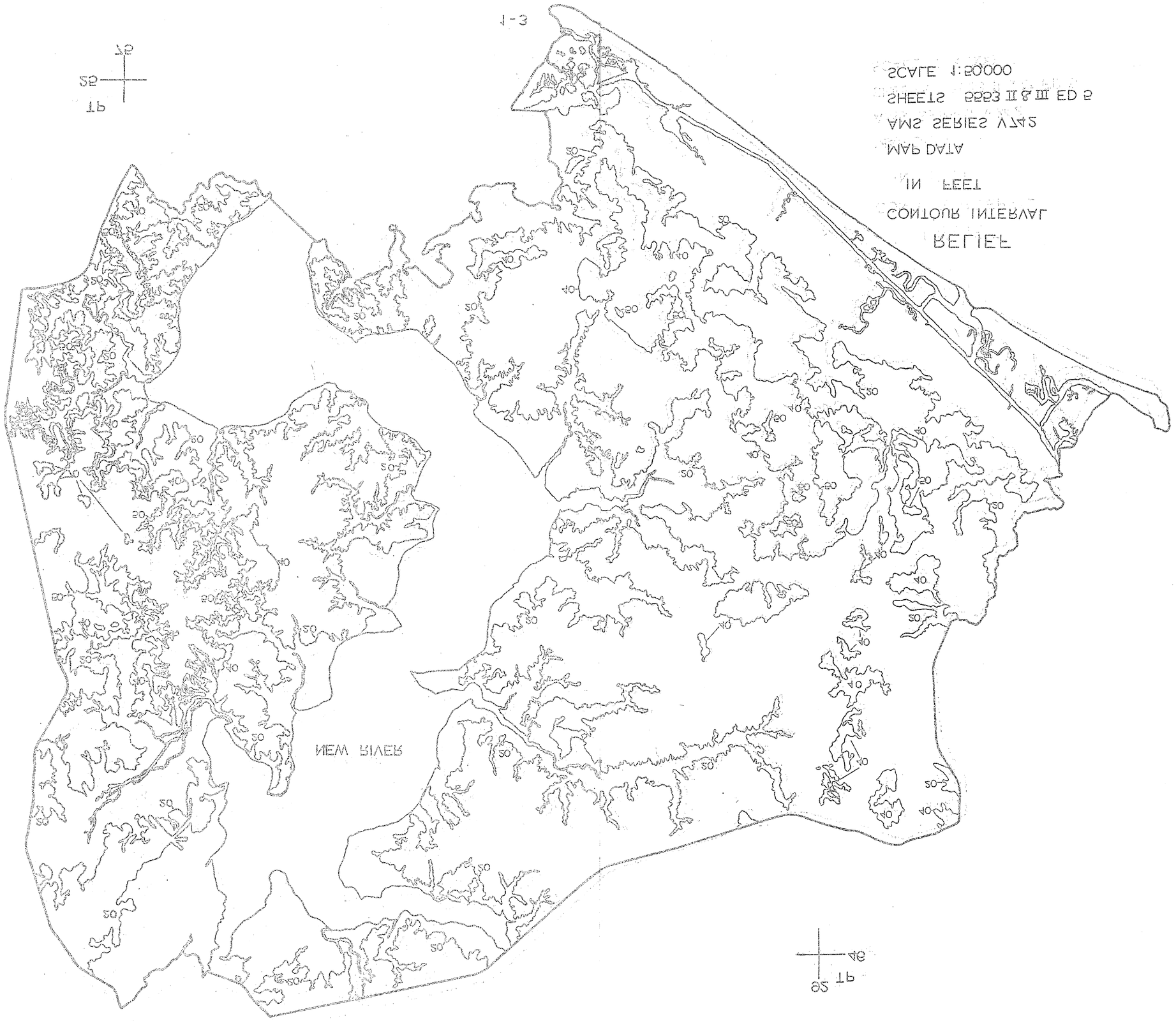
3

4

52
TP

52
TP


92 TP
46
NEW RIVER
TP
25
75
RELIEF
CONTOUR INTERVAL
IN FEET
MAP DATA
AMS SERIES V742
SHEETS 5553 II & III ED 5
SCALE 1:50,000


SCALE 1:20000
SHEETS 2223 II & III ED 2
AMS SERIES V745
MAP DATA
IN FEET
CONTOUR INTERVAL
RELIEF
NEW RIVER

92
TP
46

25
TP
75

DRAINAGE

MAP DATA

AMS SERIES V742

SHEETS 5553 II & III ED 5

SCALE 1:50,000

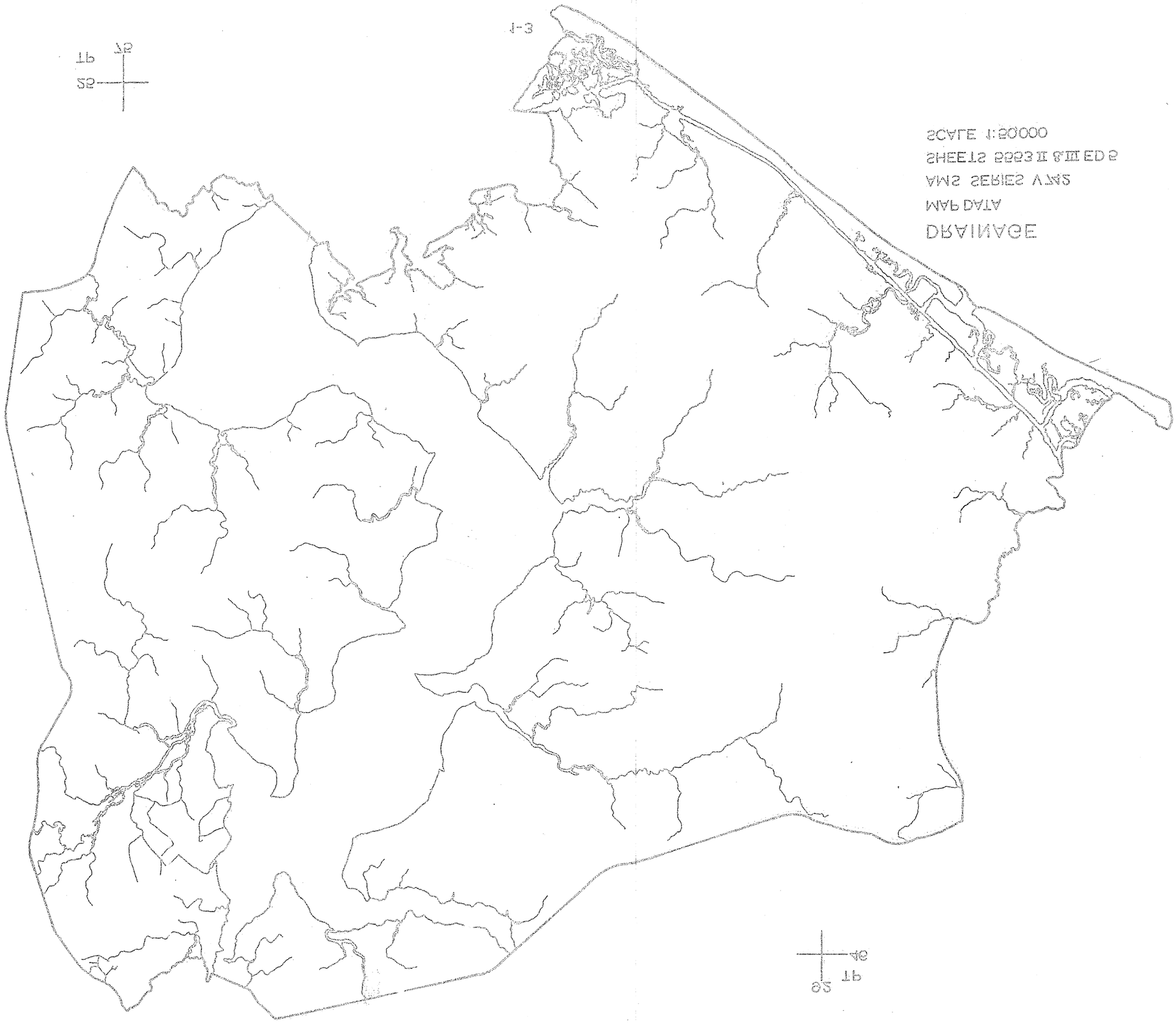
DRAINAGE

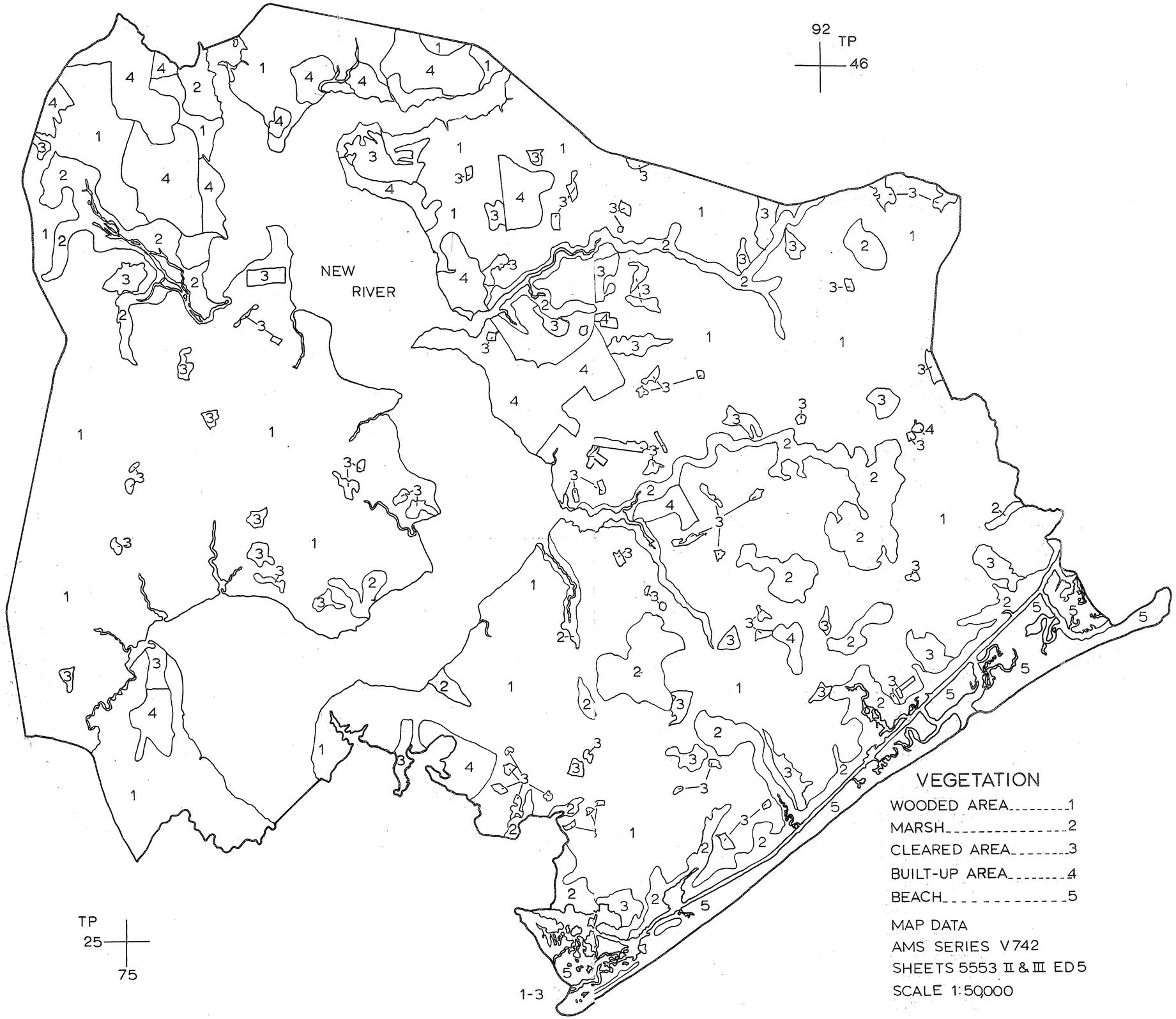
MAP DATA

AMS SERIES V.N.S

SHEETS 5553 II & III ED 2

SCALE 1:50000




92
TP
46
NEW
RIVER
TP
25
75
1-3
VEGETATION
WOODED AREA.....1
MARSH.....2
CLEARED AREA.....3
BUILT-UP AREA.....4
BEACH.....5
MAP DATA
AMS SERIES V742
SHEETS 5553 II & III ED5
SCALE 1:50,000

SCALE 1:20000

SHEETS 2553 II & III EDS

AMS SERIES V742

MAP DATA

BEACH 6

BUILT-UP AREA 4

CLEARED AREA 3

MARSH 5

WOODED AREA 1

VEGETATION

NEW

RIVER

CHAPTER 5

CLIMATOLOGY

CHAPTER 3

CLIMATOLOGY

CLIMATOLOGY

WEATHER STUDY

CAUTION

WEATHER STATISTICS OR CLIMATOLOGICAL DATA ARE STATISTICAL COMPILATIONS OF THE WEATHER THAT WERE OBSERVED AND RECORDED AT A GIVEN PLACE OVER A PERIOD OF TIME. VARIOUS WEATHER ELEMENTS ARE EXPRESSED IN TERMS OF MEANS AND EXTREMES. IN DERIVING THIS DATA THE PROCESS OF STATISTICAL AVERAGING, BY ITS VERY NATURE, SMOOTHS OUT SIGNIFICANT DEVIATIONS. FOR THIS REASON, WEATHER STATISTICS CANNOT BE ACCEPTED AS THE CONDITIONS THAT WILL ACTUALLY OCCUR AT THE TIME OF EXECUTING A PLANNED OPERATION. THE USAGE OF CLIMATOLOGY FOR PLANNING, VERSUS CURRENT WEATHER FORECASTS FOR OPERATING MUST BE FULLY APPRECIATED. LACK OF UNDERSTANDING OF THIS DIFFERENCE IS THE MAIN REASON FOR THE OFTEN HEARD REMARK AT THE CONCLUSION OF OPERATIONS; "THE WEATHER EXPERIENCED WAS NOT THAT NORMALLY TO BE EXPECTED".

THE WEATHER STATISTICS PROVIDED HEREIN GO BEYOND MEANS AND EXTREMES. GIVEN ARE PERCENTAGE OCCURRENCES OF THE OPERATIONALLY SIGNIFICANT WEATHER ELEMENTS, DURATION OF ADVERSE CONDITIONS, AND THE PROBABILITY OF A WEATHER CHANGE. THIS DATA SHOULD PROVE TO BE VALUABLE IN PLANNING AND CALCULATING THE DEGREE OF EFFICIENCY. BUT, HERE AGAIN, THEY WERE COMPUTED FROM PAST WEATHER RECORDS AND CANNOT BE SUBSTITUTED FOR THE DAILY FORECAST.

OCEANOGRAPHY

IN THE VICINITY OF ONSLOW BAY, SEAS GREATER THAN 8 FEET OCCUR 2 TO 12% OF THE TIME, WITH A MAXIMUM IN WINTER. LOW SEAS AND CALMS OCCUR FROM 25 TO 50% OF THE TIME DURING THE YEAR; MAXIMUM IN SUMMER. SURF CONDITIONS AT ONSLOW BEACH VARY FROM 3 TO 5 FEET DURING AVERAGE ON SHORE WINDS, TO NEGLIGIBLE HEIGHTS DURING PERIODS OF OFFSHORE WINDS. STORM WAVES GENERATED FAR AT SEA MAY TAKE SEVERAL DAYS TO ARRIVE; CONSEQUENTLY, HEAVIER THAN NORMAL SURF MAY OCCUR EVEN WHEN THE WEATHER IS CLEAR AND WINDS GENTLE.

THE SEA SURFACE TEMPERATURE VARIES CONSIDERABLY BOTH IN TIME AND LOCATION DUE TO EDDIES CAUSED BY GULF STREAM MOVEMENT AND SHIFT IN WIND DIRECTION. THE TEMPERATURE ON ONSLOW BAY RANGES FROM 56 TO 64 DEGREES IN WINTER AND FROM 78 TO 82 DEGREES IN SUMMER.

THE MEAN TIDAL RANGE ALONG ONSLOW BEACH IS 3 FEET, WITH EXTREME HEIGHTS OF TIDE RANGING FROM A MINUS 0.5 FOOT LOW, TO A PLUS 4 FOOT HIGH DURING PERIODS OF FULL MOON.

SUMMARY

THE HUMID, SUBTROPICAL CLIMATE OF THE ONSLOW BEACH AREA IS FAVORABLE FOR AMPHIBIOUS OPERATIONS THROUGHOUT THE YEAR. OPERATIONS MAY BE RESTRICTED DURING AUTUMN, WINTER, AND SPRING BY THE PASSAGE OF COLD FRONTS OR STORMS THROUGH THE AREA.

GENERAL CLIMATE

NORTH CAROLINA HAS A HUMID, SUBTROPICAL CLIMATE WITH THE INFLUENCES OF THE MARITIME AIR BEING THE STRONGEST IN THE COASTAL PLAINS. THE MARITIME EFFECT GRADUALLY MODIFIES INLAND. THE WESTERN SIDE, BEING CONTIGUOUS TO THE APPALACHIAN RANGE, HAS COOLER CLIMATE THAN COASTAL REGIONS. SELDOM IS THE WARM WEATHER CONSISTANT OVER THE ENTIRE STATE. DUE TO THE COMBINED EFFECT OF THE WARM GULF STREAM ALONG THE COAST AND GRADUAL INCREASING ELEVATION TO THE WEST. THE ANNUAL TEMPERATURE RANGES FROM 63 DEGREES IN THE COASTAL PLAINS TO 55 DEGREES IN THE MOUNTAIN REGION. ANNUAL PRECIPITATION ALONG THE COAST IS ABOUT 50 INCHES, WHILE STATIONS INLAND AVERAGES ABOUT 44 INCHES. SNOW, RARE AT COASTAL STATIONS, AVERAGES ABOUT 1 INCH PER MONTH DURING THE WINTER IN THE PIEDMONT AND 3 INCHES IN THE MOUNTAINS. THE WINDS ARE VARIABLE AND SELDOM VIOLENT EXCEPT ALONG THE COAST DURING TROPICAL CYCLONES IN LATE SUMMER AND EARLY AUTUMN. WIND SPEED AT COASTAL STATIONS AVERAGES 1-2 KNOTS HIGHER THAN THOSE INLAND.

WINTER

DURING THE WINTER, THE POLAR FRONT REACHES FARTHEST SOUTH, AND THE ONSLOW BAY AREA LIES ACROSS THE PATH OF MANY TRAVELING WEATHER SYSTEMS. NORTHEASTERN TYPE STORMS, WHICH DEVELOP OFF THE SOUTHEAST COAST OF THE UNITED STATES; ARE THE CHIEF CAUSE OF VIOLENT WINTER WEATHER OVER THE AREA, HOWEVER, THESE STORMS USUALLY REACH THEIR MAXIMUM INTENSITY AFTER PASSING OFF TO THE NORTH. PREVAILING WIND DIRECTIONS ARE DISTRIBUTED FAIRLY EVENLY FROM SOUTHWEST, CLOCKWISE TO NORTHEAST. IN WINTER, WIND SPEEDS SHOW A GRADUALLY INCREASING TREND; HOWEVER, LESS THAN 10% OF WINDS ARE GREATER THAN 27 KNOTS. THE COLDEST WINTER TEMPERATURES COME WITHOUT BREAKS OF POLAR OR ARTIC AIR FOLLOWING THE PASSAGE OF A LOW TEMPERATURE AREA. DECEMBER HAS THE MOST FREQUENT FRONTAL PASSAGES, WITH A GREATER PERCENTAGE OF LOW TEMPERATURES; ALTHOUGH JANUARY AND FEBRUARY ARE SLIGHTLY COLDER THAN DECEMBER. THE AVERAGE WINTER TEMPERATURE DROPS FROM 60 DEGREES OVER THE WATER TO 50 DEGREES IMMEDIATELY ACROSS THE BEACH. PRECIPITATION DURING THE WINTER AVERAGES BETWEEN 3 AND 4 INCHES PER MONTH, MOST OF IT FALLING AS RAIN. CEILINGS AVERAGE CONSIDERABLY LOWER DURING WINTER MONTHS THAN FOR OTHER SEASONS, BUT ARE NOT A HAZARD TO OPERATIONS. VISIBILITY IS FREQUENTLY RESTRICTED BY GROUND FOG IN THE SWAMP AREAS NEAR THE BEACH. DURING PERIODS OF SOUTHERLY WINDS, FOG FORMS OVER THE WATER NEAR THE BEACH.

SPRING

THE CHIEF TRAIT OF THE SPRING WEATHER IS "VARIABILITY". IT IS DURING THIS TRANSITION SEASON BETWEEN WINTER AND SUMMER

WEATHER STUDY

CAUTION

WEATHER STATISTICS OR CLIMATOLOGICAL DATA ARE STATISTICAL COMPILATIONS OF THE WEATHER THAT WERE OBSERVED AND RECORDED AT A GIVEN PLACE OVER A PERIOD OF TIME. VARIOUS WEATHER ELEMENTS ARE EXPRESSED IN TERMS OF MEANS AND EXTREMES. IN REVIEWING THIS DATA THE PROCESS OF STATISTICAL AVERAGING, BY ITS VERY NATURE, SMOOTHS OUT SIGNIFICANT DEVIATIONS. FOR THIS REASON, WEATHER STATISTICS CANNOT BE ACCEPTED AS THE COMPULSIONS THAT WILL ACTUALLY OCCUR AT THE TIME OF EXECUTING A PLANNED OPERATION. THE USAGE OF CLIMATOLOGY FOR PLANNING, VERSUS CURRENT WEATHER FORECASTS FOR OPERATING MUST BE FULLY APPRECIATED. LACK OF UNDERSTANDING OF THIS DIFFERENCE IS THE MAIN REASON FOR THE OFTEN HEARD REMARK AT THE CONCLUSION OF OPERATIONS: "THE WEATHER COOPERATED(D) HAS NOT THAT NORMALLY TO BE EXPECTED".

THE WEATHER STATISTICS PROVIDED HEREIN GO BEYOND MEANS AND EXTREMES. DIURN AND PERCENTAGE OCCURRENCES OF THE OPERATION-ALLY SIGNIFICANT WEATHER ELEMENTS, DURATION OF COVERSE CONDI-TIONS, AND THE PROBABILITY OF A WEATHER CHANGE. THIS DATA SHOULD PROVE TO BE VALUABLE IN PLANNING AND CALCULATING THE PROBABILITY OF SUCCESS OF A PLANNED OPERATION. BUT, NERE AGAIN, THEY WERE COMPUTED FROM PAST WEATHER RECORDS AND CANNOT BE SUBSTITUTED FOR THE DAILY FORECAST.

OCEANOGRAPHY

IN THE VICINITY OF OMSLOW BAY, SEAS GREATER THAN 3 FEET OCCUR 5 TO 35% OF THE TIME, WITH A MAXIMUM IN WINTER. LOW SEAS AND CALMS OCCUR FROM 25 TO 60% OF THE TIME DURING THE YEAR, MAXIMUM IN SUMMER. SURF CONDITIONS AT OMSLOW BEACH VARY FROM 3 TO 5 FEET DURING AVERAGE ON SHORE WINDS. TO MODIFY HEIGHTS DURING PERIODS OF OFFSHORE WINDS. STORM WAVES GENERATED FAR AT SEA MAY TAKE SEVERAL DAYS TO ARRIVE, CONSEQUENTLY, HEAVIER THAN NORMAL SURF MAY OCCUR EVEN WHEN THE WEATHER IS CLEAR AND WINDS GENTLE.

THE SEA SURFACE TEMPERATURE VARIES CONSIDERABLY BOTH IN TIME AND LOCATION DUE TO CHOICE CAUSED BY GULF STREAM MOVEMENT AND SHIFT IN WIND DIRECTION. THE TEMPERATURE ON OMSLOW BAY RANGES FROM 35 TO 84 DEGREES IN WINTER AND FROM 75 TO 82 DEGREES IN SUMMER.

THE MEAN TIDAL RANGE ALONG OMSLOW BEACH IS 3 FEET, WITH EXTREME HEIGHTS OF TIDE RANGING FROM A MINUS 0.5 FOOT LOW TO A PLUS 4 FOOT HIGH DURING PERIODS OF FULL MOON.

SUMMARY

THE MAIN, SUBTROPICAL CLIMATE OF THE OMSLOW BEACH AREA IS FAVORABLE FOR AMPHIBIOUS OPERATIONS THROUGHOUT THE YEAR. OPERATIONS MAY BE RESTRICTED DURING AUTUMN, WINTER, AND SPRING BY THE PASSAGE OF COLD FRONT OR STORMS THROUGH THE AREA.

GENERAL CLIMATE

NORTH CAROLINA HAS A MAIN, SUBTROPICAL CLIMATE WITH THE INFLUENCE OF THE MARITIME AIR BEING THE STRONGEST IN THE COASTAL PLAINS. THE MARITIME EFFECT GRADUALLY MODIFIES INLAND. THE WESTERN PART, LYING CONTIGUOUS TO THE APPALACHIAN MOUNTAINS HAS COOLER CLIMATE THAN COAS AL ROCKING. SITUATED IN THE MAIN WEATHER CONTINENT OVER THE UNITED STATES. DUE TO THE CONTINUOUS CHANGE OF THE MAIN CONTINENTAL AIR MASSES, THE WEATHER IS VARIABLE AND CHANGEABLE. THE PASSAGE OF A LOW TEMPERATURE AREA, DECEMBER HAS THE MOST FREQUENT FRONTAL PASSAGES, WITH A GREATER PERCENTAGE OF THE MAIN COLD STREAM ALONG THE COAST AND BREAKING CLEVATION TO THE NET. THE ANNUAL TEMPERATURE RANGES FROM 45 DEGREES IN THE COASTAL PLAINS TO 53 DEGREES IN THE MOUNTAIN REGION. ANNUAL PRECIPITATION ALONG THE COAST IS ABOUT 50 INCHES, WHILE STATIONS IN AND AVERAGES ABOUT 60 INCHES. SNOW, RARE AT COASTAL STATIONS, AVERAGES ABOUT 3 TWICE PER MONTH DURING THE SLIGHTLY VIOLENT EXCEPT ALONG THE COAST WHERE THE WINDS ARE VARIABLE AND SLIGHTLY VIOLENT EXCEPT ALONG THE COAST SPEED AT COASTAL STATIONS AVERAGES 5-9 KNOTS HIGHER THAN INLAND.

WINTER

THE CHIEF TRAIT OF THE SPRING WEATHER IS "VARIABILITY". IT IS DURING THIS TRANSITION SEASON BETWEEN WINTER AND SUMMER

DURING THE WINTER, THE POLAR FRONT REACHES FARTHEST SOUTH, AND THE OMSLOW BAY AREA LIES ACROSS THE PATH OF MANY TRAVELING WEATHER SYSTEMS. MOISTNEAZTERN TYPE SYSTEMS, WHICH DEVELOP OFF THE SOUTHEAST COAST OF THE UNITED STATES, ARE THE CHIEF CAUSE OF VIOLENT WINTER WEATHER OVER THE AREA, HOWEVER, THESE STORMS USUALLY REACH THEIR MAXIMUM INTENSITY AFTER PASSING OFF TO THE NORTH. PREVAILING WIND DIRECTIONS ARE DISTRIBUTED FAIRLY EVENLY FROM SOUTHWEST, CLOCKWISE TO NORTHEAST. IN WINTER, WIND SPEEDS SHOW A GRADUALLY INCREASING TREND, HOWEVER, LESS THAN 10% OF WINDS ARE GREATER THAN 22 KNOTS. THE COLDEST WINTER TEMPERATURES COME WITHOUT BREAKS OF POLAR OR ARCTIC AIR FOLLOWING THE PASSAGE OF A LOW TEMPERATURE AREA. DECEMBER HAS THE MOST FREQUENT FRONTAL PASSAGES, WITH A GREATER PERCENTAGE OF LOW TEMPERATURES; ALTHOUGH JANUARY AND FEBRUARY ARE SLIGHTLY COLDER THAN DECEMBER. THE AVERAGE WINTER TEMPERATURE RANGES FROM 50 DEGREES OVER THE WATER TO 50 DEGREES INDICATIVE OF THE BEACH. PRECIPITATION DURING THE WINTER AVERAGES BETWEEN 3 AND 4 INCHES PER MONTH, MOST OF IT FALLING AS RAIN. CEILINGS AVERAGE CONSIDERABLY LOWER DURING WINTER MONTHS THAN FOR OTHER SEASONS, BUT ARE NOT A HAZARD TO OPERATIONS. VISIBILITY IS FREQUENTLY RESTRICTED BY GROUND FOG IN THE SWAMP AREAS NEAR THE BEACH. DURING PERIODS OF SOUTHERLY WINDS, FOG FORMS OVER THE WATER NEAR THE BEACH.

SPRING

CLIMATOLOGY

THAT ELEMENTS OF BOTH SEASONS COMPETE. THE MOVEMENT NORTH OF THE SUN PROVIDES WARM AIR MASSES THAT MOVE NORTHERLY INTO THE AREA, WHILE CONDITIONS TO THE NORTH MAINTAIN WINTER CHARACTERISTICS. SPRING BRINGS THE YEARS MOST VIOLENT FRONTAL WEATHER AS AIR MASSES FROM THESE TWO SOURCE REGIONS CLASH. SQUALL LINES MOVING OVER THE AREA PRODUCE PROLIFIC THUNDERSTORM ACTIVITY DURING THIS PERIOD. DURING THE SPRING WIND SPEED AVERAGES 12-15 KNOTS; HIGHEST OF THE YEAR. WIND DIRECTION, PREVAILING FROM THE NORTH DURING LATE WINTER, GRADUALLY SHIFTS SOUTHWARD. IN MARCH, WIND DIRECTION IS QUITE VARIABLE, BUT, BY JUNE APPROXIMATELY 40% OF THE WINDS ARE SOUTH OR SOUTHEAST OVER THE ONSLOW AREA. TEMPERATURES GRADUALLY INCREASE THROUGHOUT THE SEASON, THOUGH DEPARTURES FROM NORMAL ARE GREATER DURING SPRING THAN OTHER SEASONS. AVERAGE TEMPERATURE INCREASES FROM 54 DEGREES IN MARCH TO 69 DEGREES IN MAY. PRECIPITATION OVER THE AREA SHOWS A GRADUAL INCREASE FROM 3 INCHES IN MARCH TO 5 INCHES IN JUNE, CAUSED BY LIGHT RAIN TYPE TO SHOWERY TYPE PRECIPITATION. SNOW OCCURS NORMALLY IN MARCH AND THEN VERY RARELY, FALLING NORMALLY ONLY A FRACTIONAL PERCENT OF THE TIME. THERE ARE FEWER CLOUDS IN SPRING AND THE FREQUENCY OF LOW CEILING DECREASE THROUGHOUT THE SEASON. EARLY MORNING GROUND FOG, WHICH DISSIPATES RAPIDLY WITH THE MORNING SUN, FORMS FREQUENTLY IN THE LOW LYING AREAS. DURING PERIODS OF SOUTHERLY WINDS, PATCHES OF FOG WILL FORM OVER THE WATER NEAR THE BEACH.

SUMMER

DURING THE SUMMER THE ONSLOW BEACH AREA IS UNDER THE INFLUENCE OF THE BERMUDA HIGH PRESSURE CELL, WITH SOUTH TO SOUTHWEST WIND PREDOMINATING. SUMMER WINDS ARE RARELY STRONG, WITH ONLY 2% ABOVE 27 KNOTS, THESE ARE ASSOCIATED WITH THUNDERSTORMS AND TROPICAL STORMS. DESTRUCTIVE WINDS OF HURRICANES MAY THREATEN THE ONSLOW AREA DURING LATE SUMMER. SUMMERS ARE WARM AND HUMID OVER THE AREA, HOWEVER, TEMPERATURES OVER 90 DEGREES OCCUR LESS THAN 8% OF THE TIME. JULY, WITH AN AVERAGE TEMPERATURE OF 80 DEGREES, IS THE WARMEST MONTH. WESTERLY WINDS PRODUCE THE HIGHEST TEMPERATURES; WINDS FROM THE EAST AND SOUTH, HAVING A MARITIME TRAJECTORY, ARE COOLER. DURING PERIODS OF WEAK WINDS, FREQUENT IN AUGUST, LAND AND SEA BREEZES MAY DOMINATE THE WIND CIRCULATION OVER THE AREA, THUS MODIFYING TEMPERATURE EXTREMES WITHIN A FEW MILES OF THE COAST. PRECIPITATION TAKES PLACE ABOUT 10% OF THE TIME IN SUMMER, JULY AVERAGES 8 INCHES PER MONTH, THE GREATEST FREQUENCY OF THE YEAR. CEILING AND VISIBILITY ARE SELDOM LOW DURING THIS SEASON. CUMULUS TYPE CLOUDS ARE PREDOMINATE DURING THE SUMMER AND LOW CEILINGS ARE INFREQUENT AND OF SHORT DURATION. ALTHOUGH DENSE FOG IS RARE, THE VISIBILITY IS OFTEN RESTRICTED BY EARLY MORNING HAZE OVER THE SWAMPS.

AUTUMN

AUTUMN, LIKE SPRING, IS A TRANSITION SEASON. THE HURRICANE THREAT TO THE ONSLOW AREA IS AT A MAXIMUM IN SEPTEMBER. FRONTAL PASSAGES AND NORTHEASTERN TYPE STORMS BECOME MORE FREQUENT AND, BY NOVEMBER, THEY ARE THE USUAL CAUSE OF ADVERSE WEATHER. SQUALL LINES WITH THUNDERSTORM ACTIVITY OFTEN PRECEED COLD FRONTS. WIND SPEEDS GRADUALLY INCREASE WITH THE SEASON AND THE AVERAGE IS 8 TO 12 KNOTS. TEMPERATURES START THE SEASONAL DECLINE IN LATE SEPTEMBER AND BY NOVEMBER AVERAGE TEMPERATURES OVER THE BEACH AREA (55 DEGREES) ARE COLDER THAN THOSE OVER ONSLOW BAY (63 DEGREES). FREEZING TEMPERATURES ARE RARE UNTIL NOVEMBER, THEN THEY OCCUR 7% OF THE TIME. PRECIPITATION CHANGES FROM THE SHOWERY TYPE TO THE LIGHT RAIN TYPE IN AUTUMN AND AVERAGES DECREASE FROM 6 TO 3 INCHES PER MONTH. SNOW OCCURS ONLY IN NOVEMBER AND IS USUALLY OF SHORT DURATION. CLOUD FORMATIONS CHANGE FROM A PREDOMINATELY CUMULUS TO MORE STRATUS WITH AN INCREASE IN THE OCCURRENCES OF LOW CEILINGS. VISIBILITY IS RESTRICTED BY FOG PATCHES ON 10 TO 15 DAYS PER MONTH. THE EARLY MORNING GROUND FOG IS DENSER AND MORE RESISTANT TO BEING DISSAPATED BY THE SUN IN AUTUMN.

FRONTS AND STORMS

ALTHOUGH ONSLOW IS SUITABLY LOCATED FOR FRONTAL PASSAGES THROUGHOUT THE YEAR, MOST STRONG FRONTS PASS DURING THE COLDEST MONTHS. OUTBREAKS OF COLD POLAR AIR, PUSHING RAPIDLY SOUTHWARD FROM THE ARTIC, ACCOMPANIED BY SQUALL CONDITIONS, STRONG SURFACE WINDS, AND RAPID DROP IN TEMPERATURE, PRODUCE THE TYPICAL COLD FRONT WEATHER FOUND AT ONSLOW. AFTER PASSAGE OF COLD FRONTS TO THE SOUTH, SKIES USUALLY CLEAR, BUT, WINDS MAY REMAIN STRONG FOR 24 HOURS OR MORE. TEMPERATURES USUALLY REACH LOWEST VALUES ABOUT ONE DAY AFTER A COLD FRONT PASSAGE, FOR THE CENTER OF THE COLD AIR MASS USUALLY REACHES ONSLOW BY THEN. SQUALL LINES THAT MOVE EASTWARD AHEAD OF COLD FRONTS MAY PRODUCE VERY SEVERE WIND CONDITIONS TEMPORARILY OVER THE AREA, ESPECIALLY DURING SPRING AND AUTUMN. SOME COLD FRONTS REACH THE ONSLOW AREA IN A WEAKENED CONDITION AND STAGNATE IN THE VICINITY, WITH A RESULTANT EXTENSION OF POOR WEATHER CONDITIONS.

ALTHOUGH THE VIOLENCE OF ANY FRONT IS DEPENDENT ON THE STRENGTH OF THE LOW PRESSURE SYSTEM IN WHICH IT IS EMBEDDED, WARM FRONT WEATHER IS USUALLY MORE WIDESPREAD AND OF LESS VIOLENCE THAN COLD FRONT WEATHER. AT ONSLOW, WARM FRONTS PRODUCE FOG, LOW CEILINGS, LOW VISIBILITY, AND ICING DURING WINTER. USUALLY OF SHORT DURATION, THESE CONDITIONS CAN PERSIST FOR SEVERAL DAYS OVER THE AREA. THE NORMAL FRONTAL CONFIGURATION OF MOVING LOW PRESSURE CENTERS EFFECTS A COLD FRONT PASSAGE OF 1 TO 2 DAYS AFTER A WARM FRONT, DEPENDING ON THE PATH FOLLOWED BY THE PARENT LOW. DURING THE WARMER MONTHS, FRONTS ARE WEAKER, MANY COLD FRONTS FAIL TO REACH FAR ENOUGH SOUTH TO ENTER THE AREA; HENCE WARM TROPICAL AIR DOMINATES ONSLOW DURING THIS SEASON.

TO THE SOUTHWEST OF ONSLOW TWO AREAS, OVER TEXAS AND THE EASTERN GULF OF MEXICO, ARE FAVORABLE FOR DEVELOPMENT OF LOW PRESSURE AREAS. AS CYCLONES (LOW PRESSURE CENTERS) FORMING OVER THESE AREAS APPROACH, ONSLOW WILL EXPERIENCE INCREASING

NORTHEASTERLY WINDS, LOWERING CEILING, RAIN, AND (IN RARE CASES) SNOW. THESE LOWS, PARTICULARLY DURING WINTER, OFTEN INTERFERE WITH SHIPPING IN COASTAL WATERS. MOST SEVERE OF WINTER STORMS AFFECTING ONSLOW IS THE "SOUTH ATLANTIC" TYPE. DEVELOPING OFF EASTERN FLORIDA, GEORGIA, OR EVEN ONSLOW ITSELF, THIS TYPE MOVES NORTH TO NORTHEAST WHILE INTENSIFYING RAPIDLY, PRODUCING SEVERE CONDITIONS AT ONSLOW AND TYPICAL BLIZZARD CONDITIONS TO THE NORTH. THE "SOUTH ATLANTIC" TYPE IS ESPECIALLY DANGEROUS IN THAT IT DEVELOPS QUITE RAPIDLY, ALLOWING LITTLE WARNING.

ANOTHER SOURCE OF INCLEMENT WEATHER IS FROM TROPICAL STORMS AND HURRICANES.

THE HURRICANE SEASON NORMALLY BEGINS IN JULY AND LASTS THROUGH OCTOBER, WITH AN OCCASIONAL STORM BEFORE AND AFTER THE SEASON. OF THE MANY TROPICAL CYCLONES THAT FORMED FROM 1879 TO 1951, 46 HURRICANES STRUCK THE GEORGIA, SOUTH CAROLINA AND NORTH CAROLINA COAST. OF COURSE, MANY OTHERS THREATENED THE AREA, BUT TURNED AND PASSED OFFSHORE. THESE STORMS DO NOT REACH MAXIMUM STRENGTH UNTIL THEY PASS TO THE NORTHEAST OF CAPE HATTERAS. HOWEVER, EXTENDED PERIODS OF LOW CEILINGS, POOR VISIBILITY AND MODERATE WINDS OCCUR WHEN THE POLAR FRONT STAGNATES JUST TO THE SOUTH OF ONSLOW, AND WHEN CYCLONES DEVELOP IN THE AREA OR TO THE SOUTHWEST. THE GREATEST THREAT TO OPERATIONS IS DURING THE HURRICANE SEASON IN THE LATE SUMMER AND EARLY FALL.

ALONG THE COAST, ATMOSPHERIC CONDITIONS THAT CAUSE EXTENDED RANGES OR DUCTING OF RADAR OCCUR FROM 40% OF THE TIME IN WINTER TO 20% IN THE SUMMER. EXPECT ABNORMAL RADAR PERFORMANCE WHEN OPERATING NEAR THE GULF STREAM.

SONAR CONDITIONS WILL BE GOOD 75% TO 100% OF THE TIME; BECAUSE OF THE 100 FATHOM CURVE, SONAR CONDITIONS WILL BE ERRATIC.

TABLE OF CLIMATIC CONDITIONS

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPERATURES (F)												
MEAN MAX	52.9	56.6	63.8	86.5	80.4	84.5	87.9	87.7	82.6	74.1	65.5	58.1
MEAN MIN	32.7	36.1	42.2	36.5	60.0	67.2	71.7	71.3	65.2	54.6	43.6	36.8
PRECIPITATION (IN.)												
MEAN RAINFALL	4.47	4.68	2.27	1.67	3.92	5.71	10.5	5.67	3.79	3.04	2.73	3.12
MAX	7.52	7.01	6.86	6.15	5.66	11.8	14.3	7.33	6.21	5.27	5.73	6.06
MIN	1.96	1.91	1.73	0.51	2.02	3.39	4.60	1.48	1.40	0.51	1.03	0.44
MEAN SNOWFALL	5.90	8.70	.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.003	0.30
RELATIVE HUMIDITY (%)												
MEAN	74.7	72.2	70.5	69.8	74.0	78.5	88.0	81.6	79.7	78.5	74.4	75.0
SURFACE WINDS (KTS)												
MEAN SPEED	06.7	07.2	06.7	07.8	06.8	06.4	07.5	05.3	06.0	06.0	05.0	06.0
PREVALENT DIR	NNW	NNW	WSW	SW	NE	SSW	WSW	SW	NE	NNE	N	WSW
% - 16 KTS	06.0	07.4	05.3	03.7	00.9	01.0	00.3	00.5	01.2	01.9	03.3	02.0
% - 27 KTS	00.1	00.1	00.1	00.0	0.00	0.00	0.00	0.00	00.3	0.00	00.2	0.00

LATITUDE 34 42 N
LONGITUDE 77 25 W

SUNRISE AND SUNSET AT CAMP LEJEUNE, NORTH CAROLINA

EASTERN STANDARD TIME

NAUTICAL ALMANAC OFFICE
U.S. NAVAL OBSERVATORY
WASHINGTON, D.C. 20390

	JAN		FEB		MAR		APR		MAY		JUN		JUL		AUG		SEP		OCT		NOV		DEC	
DAY	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET	RISE	SET
1	0717	1710	0708	1739	0639	1805	0557	1831	0520	1854	0458	1917	0500	1927	0519	1912	0542	1837	0604	1754	0630	1716	0658	1659
2	0717	1710	0708	1740	0638	1806	0556	1831	0519	1855	0457	1918	0500	1927	0520	1911	0543	1835	0605	1753	0631	1715	0659	1659
3	0717	1711	0707	1741	0637	1807	0554	1832	0518	1856	0457	1919	0501	1927	0521	1910	0544	1834	0606	1751	0632	1714	0700	1659
4	0717	1712	0706	1742	0636	1808	0553	1833	0517	1857	0457	1919	0501	1926	0522	1909	0544	1832	0606	1750	0633	1713	0701	1659
5	0718	1713	0705	1743	0634	1809	0552	1834	0516	1857	0457	1920	0502	1926	0522	1908	0545	1831	0607	1749	0634	1713	0702	1659
6	0718	1714	0704	1744	0633	1810	0550	1834	0515	1858	0456	1920	0502	1926	0523	1907	0546	1830	0608	1747	0635	1712	0703	1659
7	0718	1715	0703	1745	0632	1810	0549	1835	0514	1859	0456	1921	0503	1926	0524	1907	0547	1828	0609	1746	0636	1711	0703	1659
8	0718	1715	0703	1746	0630	1811	0548	1836	0513	1900	0456	1921	0503	1926	0525	1905	0547	1827	0609	1745	0637	1710	0704	1659
9	0718	1716	0702	1747	0629	1812	0546	1837	0512	1901	0456	1922	0504	1925	0525	1904	0548	1825	0610	1743	0637	1709	0705	1659
10	0718	1717	0701	1748	0628	1813	0545	1838	0511	1901	0456	1922	0504	1925	0526	1903	0549	1824	0611	1742	0638	1708	0706	1659
11	0717	1718	0700	1749	0626	1814	0544	1838	0510	1902	0456	1923	0505	1925	0527	1902	0549	1823	0612	1741	0639	1708	0707	1659
12	0717	1719	0659	1750	0625	1815	0542	1839	0509	1903	0456	1923	0506	1925	0528	1901	0550	1821	0613	1739	0640	1707	0707	1659
13	0717	1720	0658	1751	0624	1815	0541	1840	0509	1904	0456	1923	0506	1924	0528	1900	0551	1820	0613	1738	0641	1706	0708	1700
14	0717	1721	0657	1752	0622	1816	0540	1841	0508	1905	0456	1924	0507	1924	0529	1859	0552	1818	0614	1737	0642	1706	0709	1700
15	0717	1722	0656	1753	0621	1817	0539	1842	0507	1905	0456	1924	0507	1923	0530	1858	0552	1817	0615	1735	0643	1705	0709	1700
16	0716	1723	0655	1753	0619	1818	0537	1842	0506	1906	0456	1925	0508	1923	0531	1857	0553	1816	0616	1734	0644	1704	0710	1700
17	0716	1724	0654	1754	0618	1819	0536	1843	0505	1907	0456	1925	0509	1922	0531	1856	0554	1814	0617	1733	0645	1704	0711	1701
18	0716	1725	0652	1755	0617	1820	0535	1844	0505	1908	0456	1925	0509	1922	0532	1854	0554	1813	0618	1732	0646	1703	0711	1701
19	0716	1726	0651	1756	0615	1820	0533	1845	0504	1908	0456	1925	0510	1921	0533	1853	0555	1811	0618	1731	0647	1703	0712	1702
20	0715	1727	0650	1757	0614	1821	0532	1845	0503	1909	0456	1926	0511	1921	0533	1852	0556	1810	0619	1729	0648	1702	0712	1702
21	0715	1728	0649	1758	0613	1822	0531	1846	0503	1910	0457	1926	0511	1920	0534	1851	0557	1808	0620	1728	0649	1702	0713	1703
22	0714	1729	0648	1759	0611	1823	0530	1847	0502	1911	0457	1926	0512	1920	0535	1850	0557	1807	0621	1727	0650	1701	0713	1703
23	0714	1730	0647	1800	0610	1823	0529	1848	0502	1911	0457	1926	0513	1919	0536	1848	0558	1806	0622	1726	0651	1701	0714	1704
24	0713	1731	0646	1801	0608	1824	0527	1849	0501	1912	0457	1926	0513	1918	0536	1847	0559	1804	0623	1725	0652	1701	0714	1704
25	0713	1732	0644	1802	0607	1825	0526	1849	0501	1913	0458	1927	0514	1918	0537	1846	0600	1803	0624	1724	0653	1700	0715	1705
26	0712	1733	0643	1803	0606	1826	0525	1850	0500	1913	0458	1927	0515	1917	0538	1844	0600	1801	0624	1722	0654	1700	0715	1705
27	0712	1734	0642	1804	0604	1827	0524	1851	0500	1914	0458	1927	0516	1916	0539	1843	0601	1800	0625	1721	0655	1700	0716	1706
28	0711	1735	0641	1804	0603	1827	0523	1852	0459	1915	0459	1927	0516	1915	0539	1842	0602	1758	0626	1720	0656	1659	0716	1707
29	0710	1736	0640	1805	0601	1828	0522	1853	0459	1915	0459	1927	0517	1915	0540	1841	0603	1757	0627	1719	0657	1659	0716	1707
30	0710	1737			0600	1829	0521	1853	0458	1916	0459	1927	0518	1914	0541	1839	0603	1756	0628	1718	0657	1659	0716	1708
31	0709	1738			0559	1830			0458	1917			0519	1913	0542	1838			0629	1717			0717	1709

THIS TABLE MAY BE USED IN ANY YEAR OF THE TWENTIETH CENTURY AND WITHIN THE GEOGRAPHICAL BOUNDARY OF THE STATED PLACE WITH AN ERROR NOT EXCEEDING TWO MINUTES AND GENERALLY LESS THAN ONE MINUTE. ADD ONE HOUR FOR DAYLIGHT SAVING TIME IF AND WHEN IN USE.

CHAPTER 6

TRAINING AREAS

TRAINING AREAS

TRAINING AREA 'A' IS MOST OFTEN REFERRED TO AS MONTFORD POINT AND IS LOCATED IN THE NORTHERN PORTION OF CAMP LEJEUNE. IT IS BORDERED TO THE NORTH BY HIGHWAY 24 (18STP786478 TO 18STP-808472) AND THE CITY OF JACKSONVILLE, NORTH CAROLINA; TO THE EAST BY SCALES CREEK (18STP799455 TO 18STP808472); TO THE SOUTH BY NEW RIVER (18STP788441) AND TO THE WEST BY NEW RIVER AND WILSON BAY (18STP775463). AREA 'A' IS APPROXIMATELY 2500 METERS WIDE BY 3250 METERS LONG AND IS GENERALLY FLAT. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES. THIS AREA IS PRIMARILY USED FOR FORMAL MILITARY SCHOOLS AND HAS NUMEROUS BUILDINGS, CLASSROOMS AND BARRACKS. THERE IS ONLY ONE LIVE FIRE RANGE LOCATED IN THIS TRAINING AREA AND IT IS LOCATED ON THE SOUTHERN TIP.

TRAINING AREA 'B' IS LOCATED IN THE NORTHWEST CORNER OF CAMP LEJEUNE. IT IS THE AREA AROUND CAMP GEIGER AND NEW RIVER AIR STATION AND IS BORDERED TO THE NORTH BY CAMP GEIGER (18STP744466 TO 18STP755450); TO THE EAST BY NEW RIVER AIR STATION (18STP-755450 TO 18STP744425); TO THE SOUTH BY HICKS RUN (18STP730412 TO 18STP744425) AND TO THE WEST BY HIGHWAY 17 (18STP730412 TO 18STP744466). AREA 'B' IS APPROXIMATELY 2200 METERS WIDE BY 4000 METERS LONG AND GENERALLY FLAT. VEGETATION CONSISTS OF SCRUB BRUSH AND TREES AND SOME MARSHY AREAS ALONG THE STREAM BEDS. THIS AREA IS USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUACS. WATER PURIFICATION TECHNIQUES MUST BE EMPLOYED PRIOR TO DRINKING WATER FROM ANY OF THE STREAMS WITHIN THIS AREA.

TRAINING AREA 'C' IS LOCATED IN THE NORTHERN PORTION OF CAMP LEJEUNE BETWEEN THE RESIDENTIAL AREAS OF BERKELEY MANOR AND PARADISE POINT. IT IS BORDERED TO THE NORTH BY NORTHEAST CREEK (18STP825447 TO 18STP843452); TO THE EAST BY A CONTOUR LINE EXTENDING FROM COORDINATES 18STP843452 TO 18STP849440 AND STONE ROAD (18STP849440 TO 18STP840413); TO THE SOUTH BY STONE ROAD (18STP844420 TO 18STP840414); AND TO THE WEST BY THE RESIDENTIAL AREA OF PARADISE ISLE (18STP840414 TO 18STP825438). AREA 'C' IS APPROXIMATELY 1900 METERS WIDE BY 3200 METERS LONG AND GENERALLY FLAT. VEGETATION CONSISTS OF FAIRLY DENSE SCRUB BRUSH AND TREES. THERE ARE NO LIVE FIRE RANGES OR TACTICAL LANDING ZONES LOCATED WITHIN THIS AREA. TRAINING AREA 'C' IS RESTRICTED AND IS NOT USED BY MILITARY UNITS FOR TRAINING.

TRAINING AREA 'D' IS LOCATED DIRECTLY BELOW TRAINING AREA 'C' AND IS SPLIT IN HALF BY THE MAIN WORKING AND BILLETING AREAS OF CAMP LEJEUNE KNOWN AS HADNOT POINT. THE NORTHERN HALF OF AREA 'D' IS BORDERED BY STONE ROAD (18STP844420 TO 18STP840414) AND A LINE EXTENDING FROM COORDINATES 18STP844420 TO 18STP856435 TO THE NORTH; TO THE EAST BY HOLCOMB BOULEVARD (18STP856435 TO 18STP865398); TO THE SOUTH BY HADNOT POINT (18STP865398 TO

TRAINING AREA 'D' (CONT'D)

18STP855388 TO 18STP844401); TO THE WEST BY COORDINATES 18STP-844401 TO 18STP840413. THE SOUTHERN HALF OF AREA 'D' IS BORDERED TO THE NORTH BY COORDINATES 18STP854365 TO 18STP873384; TO THE EAST BY SNEADS FERRY ROAD (18STP873384 TO 18STP884362); TO THE SOUTH BY FRENCHS CREEK (18STP884362 TO 18STP855353); AND TO THE WEST BY NEW RIVER (18STP855353 TO 18STP854366). DUE TO THE LOCATION OF QUARTERS, SCHOOLS AND THE NEW FORCE TROOPS AREA, PORTIONS OF TRAINING AREA 'D' ARE RESTRICTED. THE 'DA' AREA (18STP840413 TO 18STP852429 TO 18STP850417 TO 18STP843405) IS CLOSED TO ALL TROOP AND VEHICLE MOVEMENT. THE 'DC' AREA (18STP-854365 TO 18STP861371 TO 18STP882367 TO 18STP885361 TO 18STP-855354) IS CLOSED TO ALL TRACKED VEHICLES AND FIELD TRAINING, WITH THE EXCEPTION OF THE AREA WITHIN 2D FIELD ARTILLERY GROUP'S TRUCK PARK. AREAS THAT ARE NOT RESTRICTED MAY BE USED BY INFANTRY UNITS FOR MANEUVERS. THE TERRAIN WITHIN AREA 'D' IS GENERALLY FLAT AND VEGETATION IS MAINLY SCRUB BRUSH AND TREES.

TRAINING AREA 'E' IS LOCATED IN THE EXTREME SOUTHEASTERN PORTION OF CAMP LEJEUNE AND CONTAINS THE BEACH AREA. IT IS BORDERED TO THE NORTH BY THE INTRACOASTAL WATERWAY (18STP844257 TO 18STP-932293); TO THE EAST BY TRAINING AREA 'N' (18STP932293 TO 18STP-933285); TO THE SOUTH BY THE ATLANTIC OCEAN (18STP933286 TO 18STP854232); AND TO THE WEST BY NEW RIVER INLET (18STP854232 TO 18STP844257). AREA 'E' IS APPROXIMATELY 9500 METERS LONG BY 600 METERS WIDE AND GENERALLY FLAT. THERE IS SOME MARSHY AREA LOCATED IN THE WESTERN PORTION OF AREA 'E' ALONG THE INTRACOASTAL WATERWAY AND NEW RIVER INLET, THE REST OF THE TRAINING AREA IS BASICALLY VOID OF VEGETATION. AREA 'E' IS USED BY INFANTRY UNITS ON BEACH LANDING OPERATIONS AND BY AMTRAC UNITS FOR RIVER CROSSING OPERATIONS. THE PORTION OF AREA 'E' FROM THE PIER (18STP903263) NORTHEASTWARD IS RESTRICTED AND IS NOT USED FOR NORMAL OPERATIONS.

TRAINING AREA 'F' IS LOCATED IN THE NORTHEASTERN PORTION OF CAMP LEJEUNE. IT IS BORDERED TO THE NORTH BY HIGHWAY 24 (18STP896432 TO 18STP940434); TO THE EAST BY A LINE FROM 18STP940434 TO 18STP-940369; TO THE SOUTH BY A TANK TRAIL AND LYMAN ROAD (18STP885362 TO 18STP910375 TO 18STP940369); TO THE WEST BY HOLCOMB BOULEVARD (18STP885362 TO 18STP864415). AREA 'F' IS APPROXIMATELY 8700 METERS WIDE BY 1500 METERS LONG AND IS GENERALLY FLAT. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS MAINLY ALONG THE STREAM BEDS. THERE ARE SEVERAL STREAMS IN THE AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. THERE ARE ALSO NUMEROUS LIVE FIRE RANGES AND SEVERAL TACTICAL LANDING ZONES LOCATED IN THIS TRAINING AREA. THIS TRAINING AREA IS USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUACS. DURING TIMES WHEN THE LIVE FIRE RANGES ARE IN USE THE REMAINDER OF THE AREA IS RESTRICTED.

TRAINING AREA 'G' IS LOCATED IN THE SOUTHEAST PORTION OF CAMP LEJEUNE. IT IS BORDERED TO THE NORTH BY A TANK TRAIL AND LYMAN ROAD (18STP885362 TO 18STP910375 TO 18STP940369); TO THE EAST BY COORDINATES 18STP940369 TO 18STP950365 TO 18STP967354; TO THE SOUTH BY THE INTRACOASTAL WATERWAY (18STP978343 TO 18STP-911275); AND TO THE WEST BY MOCKUP ROAD AND SNEADS FERRY ROAD (18STP911275 TO 18STP901290 TO 18STP885362). AREA 'G' IS APPROXIMATELY 6400 METERS WIDE BY 8300 METERS LONG AND GENERALLY FLAT. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS MAINLY ALONG THE STREAM BEDS AND THE INTRACOASTAL WATERWAY. THERE ARE SEVERAL STREAMS IN THIS AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PURIFICATION. THERE ARE NUMEROUS LIVE FIRE RANGES AND SEVERAL TACTICAL LANDING ZONES LOCATED WITHIN THE TRAINING AREA. THE MAJORITY OF THE TRAINING AREA IS IMPACT AREA AND BUFFER ZONE. ONE BUFFER ZONE, WHICH CONTAINS THE IMPACT AREA RUNS FROM COORDINATES 18STP885362 TO 18STP893369 TO 18STP950368 TO 18STP950337 TO 18STP940329 TO 18STP901328 TO 18STP885362. ANOTHER BUFFER ZONE IS LOCATED IN THE SOUTHERN PORTION OF THE TRAINING AREA AND CONTAINS THE MINE FIELDS (18STP932294 TO 18STP931306 TO 18STP970353). THE PORTIONS OF AREA 'G' THAT ARE NOT RESTRICTED BECAUSE OF BUFFER ZONE AND IMPACT AREAS ARE USED BY INFANTRY UNITS ON MANEUVERS.

TRAINING AREA 'H' IS LOCATED IN THE EASTERN PORTION OF CAMP LEJEUNE ALONG NEW RIVER. IT IS BORDERED TO THE NORTH BY FRENCHS CREEK (18STP855352 TO 18STP876350) AND THE BASE MAGAZINE AREA; TO THE EAST BY SNEADS FERRY ROAD (18STP894343 TO 18STP902892); TO THE SOUTH BY A TANK TRAIL (18STP902292 TO 18STP855310) AND MARINES ROAD (18STP855310 TO 18STP826305) AND THEN NORTHWESTWARD ON ANOTHER TANK TRAIL (18STP826305 TO 18STP824312); AND TO THE WEST BY NEW RIVER (18STP824312 TO 18STP856351). AREA 'H' IS APPROXIMATELY 6200 METERS WIDE BY 4500 METERS LONG WITH THE TERRAIN GENTLY ROLLING. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS MAINLY IN THE SOUTHEAST PORTION OF THE TRAINING AREA AND ALONG THE STREAM BEDS. THERE ARE SEVERAL STREAMS AND FRESH WATER PONDS LOCATED WITHIN THE TRAINING AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. AREA 'H' IS PRIMARILY USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUACS. COMBAT TOWN IS LOCATED WITHIN THIS TRAINING AREA, (BIVOUACING IS NOT PERMITTED IN COMBAT TOWN), AS WELL AS THREE TACTICAL LANDING ZONES.

TRAINING AREA 'I' IS LOCATED IN THE SOUTHERN PORTION OF CAMP LEJEUNE AND BORDERS THE INTRACOASTAL WATERWAY. IT IS BORDERED TO THE NORTH BY TRAINING AREA 'H' (18STP902292 TO 18STP855310 TO 18STP849311); TO THE EAST BY MOCKUP ROAD (18STP900290 TO 18STP849311); TO THE EAST BY MOCKUP ROAD (18STP900290 TO 18STP-911274); TO THE SOUTH BY THE INTRACOASTAL WATERWAY (18STP911274 TO 18STP853258) AND TRAPS BAY (18STP853258 TO 18STP840275); AND

TRAINING AREAS

TRAINING AREA 'I' (CONT'D)

TO THE WEST BY A TANK TRAP LEADING FROM THE SHORE LINE AT COORDINATES 18STP840275 NORTHWARD ACROSS HIGHWAY 172 TO COORDINATES 18STP849311. AREA 'I' IS APPROXIMATELY 6400 METERS WIDE BY 4600 METERS LONG WITH FLAT TO GENTLY ROLLING TERRAIN. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS PRIMARILY ALONG THE INTRACOASTAL WATERWAY. THERE ARE SEVERAL STREAMS AND FRESH WATER PONDS LOCATED WITHIN THIS TRAINING AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. THE AREA, LIKE TRAINING AREA 'H', IS USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUAC. IT IS ALSO USED FOR TRAINING. THERE ARE ALSO THREE TACTICAL LANDING ZONES LOCATED IN TRAINING AREA 'I'.

TRAINING AREA 'J' IS LOCATED IN THE SOUTHERN PORTION OF CAMP LEJEUNE ALONG THE EASTERN SIDE OF NEW RIVER. IT IS BORDERED TO THE NORTH BY NEW RIVER (18STP803310 TO 18STP824312) AND TRAINING AREA 'H' (18STP824312 TO 18STP826305 TO 18STP837305 TO 18STP849311); TO THE EAST BY TRAINING AREA 'I' (18STP849311 TO 18STP840275); TO THE SOUTH BY NEW RIVER, COURTHOUSE BAY AND ELLIS COVE (18STP840275 TO 18STP799288); AND TO THE WEST BY STONE BAY (18STP799288 TO 18STP803310). AREA 'J' IS APPROXIMATELY 3700 METERS WIDE BY 1700 METERS LONG WITH GENTLY ROLLING TERRAIN. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES. TRAINING AREA 'J' IS GENERALLY USED BY AMTRACS, AND FOR FORMAL MILITARY SCHOOLS. IT ALSO CONTAINS THE AREA KNOWN AS COURTHOUSE BAY. THE SOUTHEASTERN SECTION OF AREA 'J' (18STP834280 TO 18STP840280 TO 18STP840275 TO 18STP834275) IS RESTRICTED BY ENGINEERS SCHOOLS FOR DEMOLITIONS. PORTIONS OF AREA 'J' CAN BE AND ARE USED BY INFANTRY UNITS ON MANEUVERS AND BIVOUACS. THERE ARE SEVERAL STREAMS AND FRESH WATER PONDS LOCATED WITHIN THIS AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION.

TRAINING AREA 'K' IS LOCATED IN THE CENTRAL PORTION OF CAMP LEJEUNE ON THE WESTERN SIDE OF NEW RIVER. IT IS BORDERED TO THE NORTH BY LEWIS CREEK AND NEW RIVER (18STP770378 TO 18STP791381 TO 18STP792403 TO 18STP818382); TO THE WEST BY NEW RIVER (18STP-818382 TO 18STP826354 TO 18STP810331); TO THE SOUTH BY STONE BAY (18STP810331 TO 18STP774335); AND TO THE WEST BY MILL CREEK AND VERONA LOOP ROAD (18STP774335 TO 18STP773351 TO 18STP785356 TO 18STP770378). AREA 'K' IS APPROXIMATELY 4100 METERS WIDE BY 1000 METERS LONG WITH FLAT TO GENTLY ROLLING TERRAIN. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS ALONG THE STREAM BEDS. OF THE STREAMS LOCATED IN THIS TRAINING AREA, NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. THE NORTHERN HALF OF THIS TRAINING AREA IS USED BY INFANTRY UNITS ON MANEUVERS, BUT THE LOWER, OR SOUTHERN HALF, IS RESTRICTED TO TROOP MEOVEMENT DUE TO THE NUMEROUS LIVE FIRE RANGES LOCATED IN

TRAINING AREA 'K' (CONT'D)

AREA 'K'. THE ENTIRE SOUTHERN HALF OF AREA 'K' IS DESIGNATED A BUFFER ZONE AND IMPACT AREA (18STP776334 TO 18STP787356 TO 18STP-816355 TO 18STP820350).

TRAINING AREA 'L' IS LOCATED IN THE SOUTHWEST CORNER OF CAMP LEJEUNE. IT IS BORDERED TO THE NORTH BY VERONA LOOP ROAD (18STP-727353 TO 18STP773352); TO THE EAST BY MILL CREEK AND STONE BAY (18STP773352 TO 18STP774334 TO 18STP755325 TO 18STP735278); TO THE SOUTH BY EVERETT CREEK (18STP785278 TO 18STP753270); AND TO THE WEST BY U.S. HIGHWAY 17 (18STP753270 TO 18STP727353). AREA 'L' IS APPROXIMATELY 4000 METERS WIDE BY 7700 METERS LONG WITH HILLY TERRAIN. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES. THERE ARE SEVERAL STREAMS IN THIS AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. TRAINING AREA 'L' CONTAINS THE BASE RIFLE RANGE AND THAT IS THE MAIN PURPOSE OF THIS TRAINING AREA. ALTHOUGH AREA 'L' CAN BE USED BY TROOPS FOR MANEUVERS, IT SELDOM IS, BECAUSE THE MAJORITY OF THE AREA IS RESTRICTED DURING TIMES WHEN THE RANGE IS IN USE. ALSO A PORTION OF AREA 'L' IS RESTRICTED BECAUSE OF COUNTERGUERRILLA WARFARE SCHOOL (18STP770289 TO 18STP773289 TO 18STP784279 TO 18STP770279).

TRAINING AREA 'M' IS LOCATED ON THE WESTERN SIDE OF CAMP LEJEUNE ALONG HIGHWAY 17. IT IS BORDERED TO THE NORTH BY HICKS RUN AND SOUTHWEST CREEK (18STP730411 TO 18STP744424 TO 18STP776405); TO THE EAST BY NEW RIVER (18STP786423 TO 18STP793404) AND LEWIS CREEK (18STP793403 TO 18STP791381); TO THE SOUTH BY VERONA LOOP ROAD (18STP791381 TO 18STP770378 TO 18STP786356 TO 18STP727354); AND TO THE WEST BY U.S. HIGHWAY 17 (18STP727354 TO 18STP730411). AREA 'M' IS APPROXIMATELY 5400 METERS WIDE BY 6700 METERS LONG WITH GENTLY ROLLING TERRAIN. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREA ALONG SOUTHWEST CREEK AND HICKS RUN. THERE ARE SEVERAL STREAMS LOCATED IN THIS AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. THIS TRAINING AREA IS EXTENSIVELY USED BY TROOPS FOR MANEUVERS AND WAS FORMALLY USED BY THE INFANTRY TRAINING REGIMENT (ITR) FOR TRAINING. THERE ARE SEVERAL LIVE FIRE RANGES LOCATED WITHIN AREA 'M'.

TRAINING AREA 'N' IS LOCATED IN THE SOUTHEAST CORNER OF CAMP LEJEUNE. IT IS BORDERED TO THE NORTH BY TRAINING AREA 'G' (18STP-943305 TO 18STP975340) TO THE EAST BY BEAR INLET (18STP987340 TO 18STP0033273); TO THE SOUTH BY THE ATLANTIC OCEAN (18STP003327 TO 18STP942292); AND TO THE WEST BY TRAINING AREA 'E' (18STP942292 TO 18STP943305). AREA 'N' IS APPROXIMATELY 5300 METERS WIDE BY 1700 METERS LONG. THE TERRAIN WITHIN AREA 'N' IS GENERALLY FLAT AND NEAR VOID OF VEGETATION. THIS AREA IS ALL CONSIDERED IMPACT AREA AND THEREFORE IS NOT USED FOR TRAINING.

TRAINING AREA 'Q' IS LOCATED IN THE EASTERN PORTION OF CAMP LEJEUNE. IT IS BORDERED TO THE NORTH BY COORDINATES 18STP-940434 TO 18STP954427; TO THE EAST BY HIGHWAY 172 (18STP954427 TO 18STP952379) AND BEAR CREEK (18STP952379 TO 18STP967354); TO THE SOUTH BY MILL CREEK (18STP967354 TO 18STP955351) AND HIGHWAY 172 (18STP955351 TO 18STP951335) AND TO THE WEST BY TRAINING AREA 'G' (18STP951335 TO 18STP950365 TO 18STP940369 TO 18STP-940434). TRAINING AREA 'Q' IS APPROXIMATELY 2000 METERS WIDE BY 9000 METERS LONG AND GENERALLY FLAT. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS MAINLY ALONG STREAM BEDS. THERE ARE NUMEROUS STREAMS WITHIN THIS AREA, BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. AREA 'Q' IS USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUACS AND CONTAINS TWO TACTICAL LANDING ZONES.

TRAINING AREA 'R' IS LOCATED IN THE NORTHERN PORTION OF CAMP LEJEUNE, ALONG HIGHWAY 24. IT IS BORDERED TO THE NORTH BY U.S. HIGHWAY 24 (18STP854451 TO 18STP896432); TO THE EAST BY COORDINATES 18STP896432 TO 18STP885427 TO 18STP883417; TO THE SOUTH BY WALLACE CREEK (18STP883417 TO 18STP864416); AND TO THE WEST BY HOLCOMB BOULEVARD (18STP864416 TO 18STP854451). AREA 'R' IS APPROXIMATELY 3100 METERS WIDE BY 2200 METERS LONG AND GENERALLY FLAT. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS ALONG WALLACE CREEK. AREA 'R' IS USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUACS AND CONTAINS ONE RESTRICTED AREA (18STP870427 TO 18STP876427 TO 18STP876417 TO 18STP870417).

TRAINING AREAS

TRAINING AREA 'I' (CONT'D)

TO THE WEST [illegible] A TANK TRAP LEADING FROM THE SHORE LINE AT COOR-
DINATES [illegible]0972 NORTHWARD ACROSS HIGHWAY 395 TO COORDINATES
[illegible]8479E4. AREA 'I' IS APPROXIMATELY 4900 METERS WIDE BY
4900 METERS LONG WITH FLAT TO GENTLY ROLLING TERRAIN. VEGETA-
TION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH SOME MARSH
AREAS PRIMARILY ALONG THE INTRACOASTAL WATERWAY. THERE ARE
SWAMPS AND PRESH WATER PONDS LOCATED WITHIN THIS
TRAINING AREA BUT NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR
PURIFICATION. THE AREA LIKE TRAINING AREA 'H', IS USED BY
INFANTRY UNITS FOR MANEUVERS AND BIVOUAC. IT IS ALSO USED FOR
TRAINING. THERE ARE ALSO THREE TACTICAL LANDING ZONES LOCATED
IN TRAINING AREA 'I'.

TRAINING AREA 'J' IS LOCATED IN THE SOUTHERN PORTION OF CAMP
LEJEUNE ALONG THE EASTERN SIDE OF NEW RIVER. IT IS BORDERED
TO THE NORTH BY NEW RIVER (18STP8EN8E9) TO 18STP8E9E3J AND
TRAINING AREA 'H' (18STP8E9E9E TO 18STP8E3T8S
TO 18STP8E4T8S TO THE EAST BY TRAINING AREA 'I' (18STP8E4T8S
TO 18STP8E5UST 4T TO THE SOUTH BY NEW RIVER, COURTHOUSE BAY AND
CLIFF COVE (1 STP8E6QST TO 18STP8E7P8ET AND TO THE WEST BY STONE
BAY (18STP8E7TTH 88 TO 18STP8E8J8D). AREA 'J' IS APPROXIMATELY 3700
METERS WIDE B 5700 METERS LONG WITH GENTLY ROLLING TERRAIN.
VEGETATION CO SISTS MAINLY OF SCRUB BRUSH AND TREES.
AREA 'J' IS C NERALLY USED BY ARTILLERY, AND FOR FORMAL MILITARY
SCHOOLS. IT L30 CONTAINS THE AREA KNOWN AS COURTHOUSE BAY. THE
SOUTHEASTERN ECTION OF AREA 'J' (18STP8E9D8D TO 18STP8ED8D TO
18STP8EHST5 IS RESTRICTED BY ENGINEERS SCHOOL
18STP8ED5T5 2. PORTIONS OF AREA 'J' CAN BE AND ARE USED BY
FOR DEMOLITIO ON MANEUVERS AND BIVOUACS. THERE ARE SEVERAL
INFANTRY UNIT ESH WATER PONDS LOCATED WITHIN THIS AREA BUT NONE
STREAMS AND P OR DRINKING WITHOUT PRIOR PURIFICATION.
ARE SUITABLE

TRAINING AREA 'K' IS LOCATED IN THE CENTRAL PORTION OF CAMP
LEJEUNE ON TH WESTERN SIDE OF NEW RIVER. IT IS BORDERED TO THE
NORTH BY LAKE CREEK AND NEW RIVER (18STP7P9D6 TO 18STP7P4E6
TO 18STP7P5HD TO THE WEST BY NEW RIVER (18STP-
6J8E8E TO 18STP6J9E8J) TO THE SOUTH BY STONE BAY
(18STP7TM8S5) AND TO THE WEST BY MILL CREEK AND
VERONA LOOP R AD (18STP7TY8S8 TO 18STP7P3S8 TO
18STP7P2T8S. AREA 'K' IS APPROXIMATELY 4500 METERS WIDE BY 5000
METERS LONG W TH FLAT TO GENTLY ROLLING TERRAIN. VEGETATION
CONSISTS MAIN Y OF SCRUB BRUSH AND TREES WITH SOME MARSH AREAS
ALONG THE STR AM BEDS. OF THE STREAMS LOCATED IN THIS TRAINING
AREA, NONE AR SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION.
THE NORTHERN ALF OF THIS TRAINING AREA IS USED BY INFANTRY UNITS
ON MANEUVERS, BUT THE LOWER, OR SOUTHERN HALF, IS RESTRICTED TO
TROOP MOVEMENT DUE TO THE NUMEROUS LIVE FIRE RANGES LOCATED IN

TRAINING AREA 'K' (CONT'D)

AREA 'K'. THE ENTIRE SOUTHERN HALF OF AREA 'K' IS DESIGNATED A
BUFFER ZONE AND IMPACT AREA (18STP7P1M8M TO 18STP7P2T8S TO 18STP-
8J8S5S TO 18STP8G8M8D.

TRAINING AREA 'L' IS LOCATED IN THE SOUTHWEST CORNER OF CAMP
LEJEUNE. IT IS BORDERED TO THE NORTH BY VERONA LOOP ROAD (18STP-
7E7S8S TO 18STP7T4S8S) TO THE EAST BY MILL CREEK AND STONE BAY
(18STP7T2S8E TO 18STP7T4M8M TO 18STP7T3E7D8) TO
THE SOUTH BY EVERETT CREEK (18STP7P8S7D TO 18STP7S7T8S) AND TO
THE WEST BY U.S. HIGHWAY 17 (18STP7P5S7D TO 18STP7S7T8S). AREA
'L' IS APPROXIMATELY 4800 METERS WIDE BY 7700 METERS LONG WITH
GENTLY ROLLING TERRAIN. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH
AND TREES WITH SOME MARSH AREA ALONG SOUTHWEST CREEK AND HICKS
RUN. THERE ARE SEVERAL STREAMS LOCATED IN THIS AREA BUT NONE ARE
SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. THIS TRAINING
AREA IS EXTENSIVELY USED BY TROOPS FOR MANEUVERS AND WAS FORMALLY
USED BY THE INFANTRY TRAINING REGIMENT (ITR) FOR TRAINING. THERE
ARE SEVERAL LIVE FIRE RANGES LOCATED WITHIN AREA 'M'.

TRAINING AREA 'M' IS LOCATED IN THE SOUTHEAST CORNER OF CAMP
LEJEUNE. IT IS BORDERED TO THE NORTH BY TRAINING AREA 'G' (18STP-
7M2S8S TO 18STP7P5S8D TO THE EAST BY BEAR INLET (18STP8P8T8D TO
18STP8D8E8S) TO THE SOUTH BY THE ATLANTIC OCEAN (18STP8D8S8Z TO
18STP7M5S8S) AND TO THE WEST BY TRAINING AREA 'E' (18STP7M5S7D TO
18STP7M3S8Z). AREA 'M' IS APPROXIMATELY 3500 METERS WIDE BY 5700
METERS LONG. THE TERRAIN WITHIN AREA 'M' IS GENERALLY FLAT AND
NEAR VOID OF VEGETATION. THIS AREA IS ALL CONSIDERED IMPACT AREA
AND THEREFORE IS NOT USED FOR TRAINING.

TRAINING AREA 'G' IS LOCATED IN THE EASTERN PORTION OF CAMP
LEJEUNE. IT IS BORDERED TO THE NORTH BY COORDINATES 18STP-
9M9M8M TO 18STP7P5M7S TO THE EAST BY HIGHWAY 172 (18STP7P5M7E
TO 18STP7P6S2E7) AND BEAR CREEK (18STP7P6S2E7D TO 18STP7P7S2H8) TO
THE SOUTH BY MILL CREEK (18STP7P7S7H8 TO 18STP7P8S2E8) AND HIGHWAY
172 (18STP7P8S8E3 TO 18STP7P8S8B5) AND TO THE WEST BY TRAINING
AREA 'G' (18STP7P8S8E5 TO 18STP7P6S8E5 TO 18STP7P6S8E7 TO 18STP-
9M9M8M). TRAINING AREA 'G' IS APPROXIMATELY 7000 METERS WIDE BY
7000 METERS LONG AND GENERALLY FLAT. VEGETATION CONSISTS MAINLY
OF SCRUB BRUSH AND TREES WITH ZONE MARSH AREAS ALONG
STREAM BEDS. THERE ARE NUMEROUS STREAMS WITHIN THIS AREA, BUT
NONE ARE SUITABLE FOR DRINKING WITHOUT PRIOR PURIFICATION. AREA
'G' IS USED BY INFANTRY UNITS FOR MANEUVERS AND BIVOUACS AND
CONTAINS TWO TACTICAL LANDING ZONES.

TRAINING AREA 'H' IS LOCATED IN THE NORTHERN PORTION OF CAMP
LEJEUNE, ALONG HIGHWAY 24. IT IS BORDERED TO THE NORTH BY U.S.
HIGHWAY 24 (18STP8M5M8 TO 18STP8M2M8 TO THE EAST BY COORDI-
NATES 18STP8M2M8 TO 18STP8M2S8 TO 18STP8M4S8 TO THE SOUTH
BY WALLACE CREEK (18STP8M3HP TO 18STP8M1N7) AND TO THE WEST
BY HOLCOMB BOULEVARD (18STP8L4HL TO 18STP8M5M8). AREA 'H' IS
APPROXIMATELY 7000 METERS WIDE BY 5500 METERS LONG AND GENERALLY
FLAT. VEGETATION CONSISTS MAINLY OF SCRUB BRUSH AND TREES WITH
ZONE MARSH AREAS ALONG WALLACE CREEK. AREA 'H' IS USED BY
INFANTRY UNITS FOR MANEUVERS AND BIVOUACS AND CONTAINS ONE RE-
STRICTED AREA 18STP7P2NP7 TO 18STP8P5P7 TO 18STP8P5N7 TO
18STP8P2NP7.

TRAINING AREA OVERLAY

92 TP 46

A

B

C_R

R

R_R

D_R

F

Q

M

M_R

K

K_{BZ}

K

K_{IPA}

L

BASE RR

L_R

D_R D

BASE MAG

G BZ

G IPA

H

J

J_R

I

G

BZ

G

N

IPA

$X_{REC\ AREA}$

E

TP 25 75

6-3

TRAINING AREAS

IPA ..... IMPACT AREA

BZ..... BUFFER ZONE

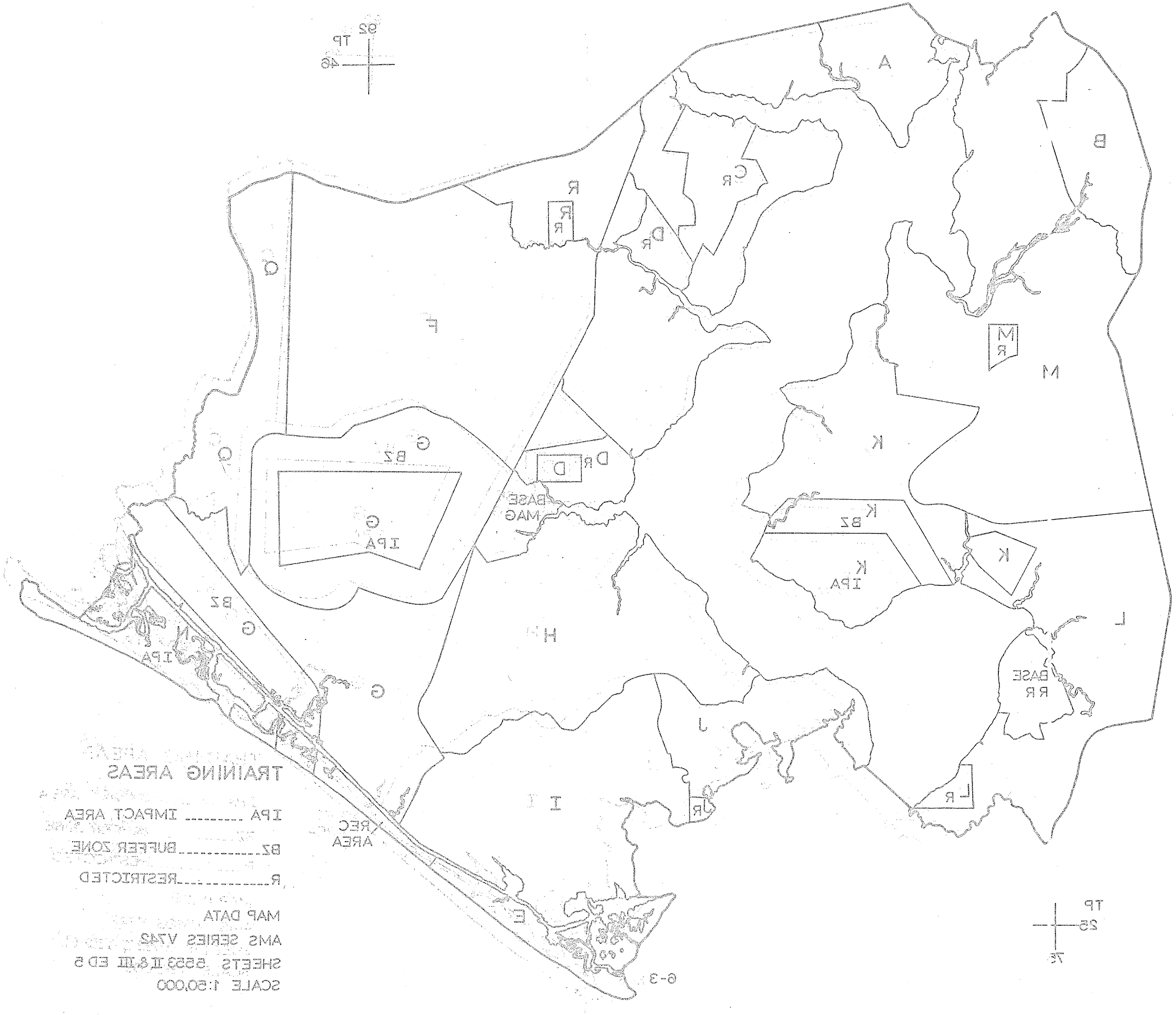
R..... RESTRICTED

MAP DATA

AMS SERIES V742

SHEETS 5553 II & III ED 5

SCALE 1:50,000


TRAINING AREAS
IPA .... IMPACT AREA
BZ ....BUFFER ZONE
R ....RESTRICTED
MAP DATA
AMS SERIES V742
SHEETS 5553 II & III ED 5
SCALE 1:50,000
TP
92
46
TP
25
75
A
B
C R
D R
R
R R
F
O
Q
G
BZ
G IPA
D R
D
BASE MAG
K
M
M R
K BZ
K IPA
K
L
BASE RR
L R
H
I
J
J R
G
BZ
G
N IPA
REC AREA
E