PROPOSED TRAINING CIRCULAR

ASSAULT TRAINING CENTER
CONFERENCE

HQ ETOUSA

1 July 1943

PROPOSED TRAINING CIRCULAR

A rough draft of a proposed Training Circular on the "Attack of a Fortified Beach", prepared by various committees of the Conference, is presented herewith. The principles set forth are considered to be fundamental, and form a basis for further revisions now being prepared by the Assault Training Center Staff for official consideration.

As new techniques and equipment of proven worth are made available, they will be recommended for inclusion.

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DRAFT OF A PROPOSED TRAINING CIRCULAR.

SUBJECT: ATTACK OF A FORTIFIED BEACH.

SECTION.

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I. GENERAL

1.) Scope: This training circular embodies a consideration and tratment of as much of the landing phase of "Landing Operations on Hostile Shores" (FM 31-5) as pertains to the seizure of strongly organized beach defenses. Although section 144 of that manual states that, "Beaches strongly organized for defense are avoided, if possible, in the initial landing", circumstances may nevertheless require such an assault. This training circular describes the characteristics of strongly fortified beach areas of German design, considers them in the light of existing doctrine described in "Attack on Fortified Positions", TC No. 33, Mar/43, and sets forth techniques to overcome installations to be encountered in such defenses. It further illustrates the application of these techniques in a tactical situation.

2.) Definitions: THE SEIZURE OF AN ORGANIZED BEACH DEFENSE, for the purpose of this circular, is construed to mean the successful landing of assault elements within appropriate beach areas, together with the reduction of organized positions defending these beach areas.

A STRONGLY FORTIFIED BEACH AREA is a defensive area organized for all-around defense. It will usually consist of minefields, barbed wire, seawalls, the other obstacles located on or close to the beach, covered by direct fire from machine guns, antitank guns and rifles, located in concrete pillboxes or open emplacements, and by supporting fire from artillery and mortars located within 4000 to 5000 yards from the beach.

II. ORGANIZATION OF A FORTIFIED BEACH AREA.

1.) German Policy: a.) The German policy for the defense of France and the Low Countries is to hamper an invading force before it reaches the coast, and, should it reach the coast, to prevent the invaders from crossing the beaches. Their coastal artillery is sited well forward and will engage ships and craft before they can land. Should craft reach the beaches, the German aim is to hold the invaders on the beaches by obstacles, while they are destroyed by fire from well protected localities enfilading these obstacles. Local reserves are used to reinforce the fixed beach defense positions. They are not used to man defense positions further inland. There are main mobile reserves for counter attack. Thus, should an invading force be successful at the beaches (the main line of resistance), the German plan is to stage an armored counter-attack before this force can consolidate a large beachhead and get enough troops ashore to offer adequate resistance.

b.) A feature of the German coastal defense system is the large employment of a large amount of artillery and automatic weapons of all kinds. In addition to heavy and light coastal defense guns and mobile railway guns which are mainly in the vicinity of the ports, there are:

(1) Land batteries of medium caliber, fitted with instruments to engage ships at sea and, in some cases,

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also able to fire on the beaches;

(2) Antiaircraft and antitank guns sited where they can, if necessary, engage craft attempting to land;

(3) Field and medium artillery, sited to bring fire to bear on beaches where a successful landing has been made, but from such a distance that the guns themselves will not become involved in the fighting for the beaches. There are on the average some 200 guns of this nature employed to cover a divisional sector.

c.) The German Air Force will support the defense at all stages. A system of airfields has been developed that will allow air support to be concentrated at any point on the coast.

d.) The Germans attach great importance to the defense of ports. They believe that an invading force cannot maintain itself over beaches, and the capture of a port thus is vital. There has been prepared on the landward side of all important ports a defensive perimeter consisting of antitank ditches (sometimes combined with flooding), continuous wire belts, minefields, road blocks and infantry strong points, with trenches, pillboxes, shelters and MG and field gun positions. Quays, jetties, moles and cranes are prepared for demolition.

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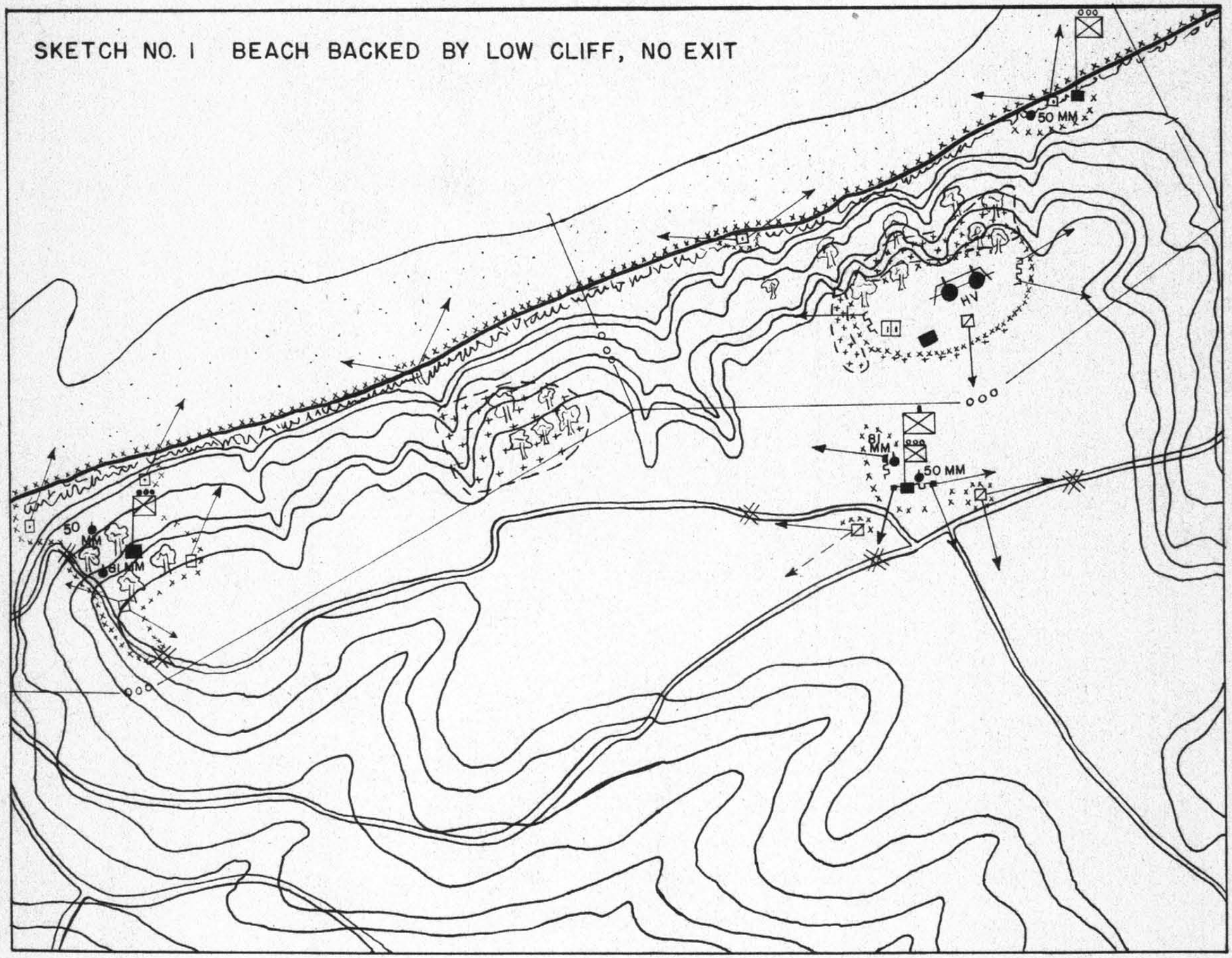
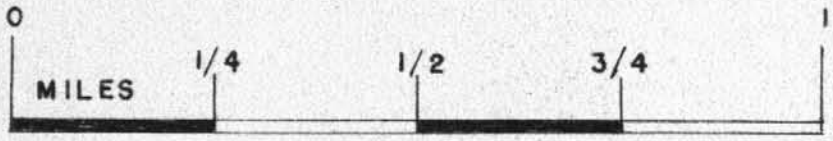
SKETCH NO. 1 BEACH BACKED BY LOW CLIFF, NO EXIT



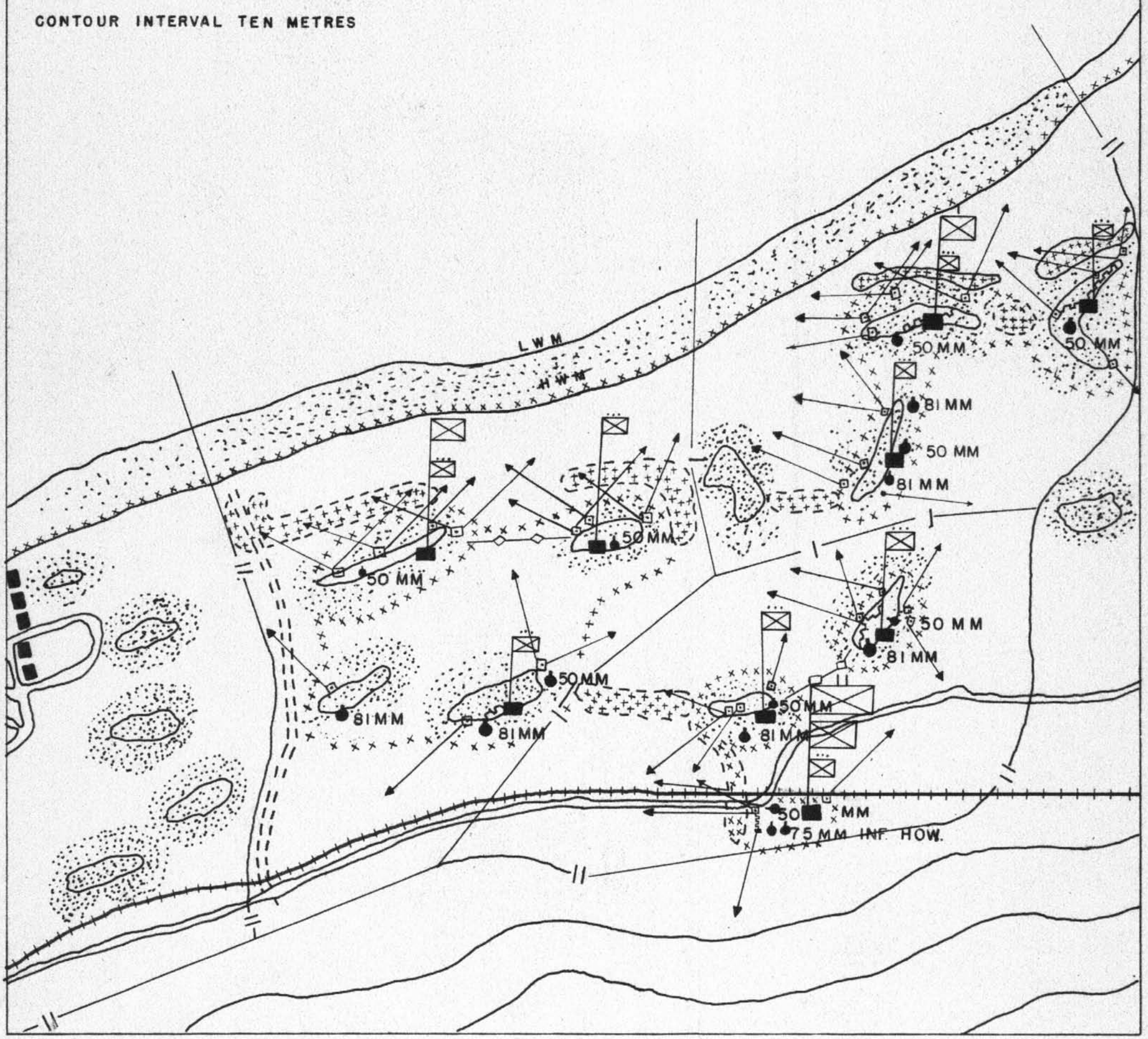
0 MILES 1/4 1/2 3/4 1

CONTOUR INTERVAL 10 METRES

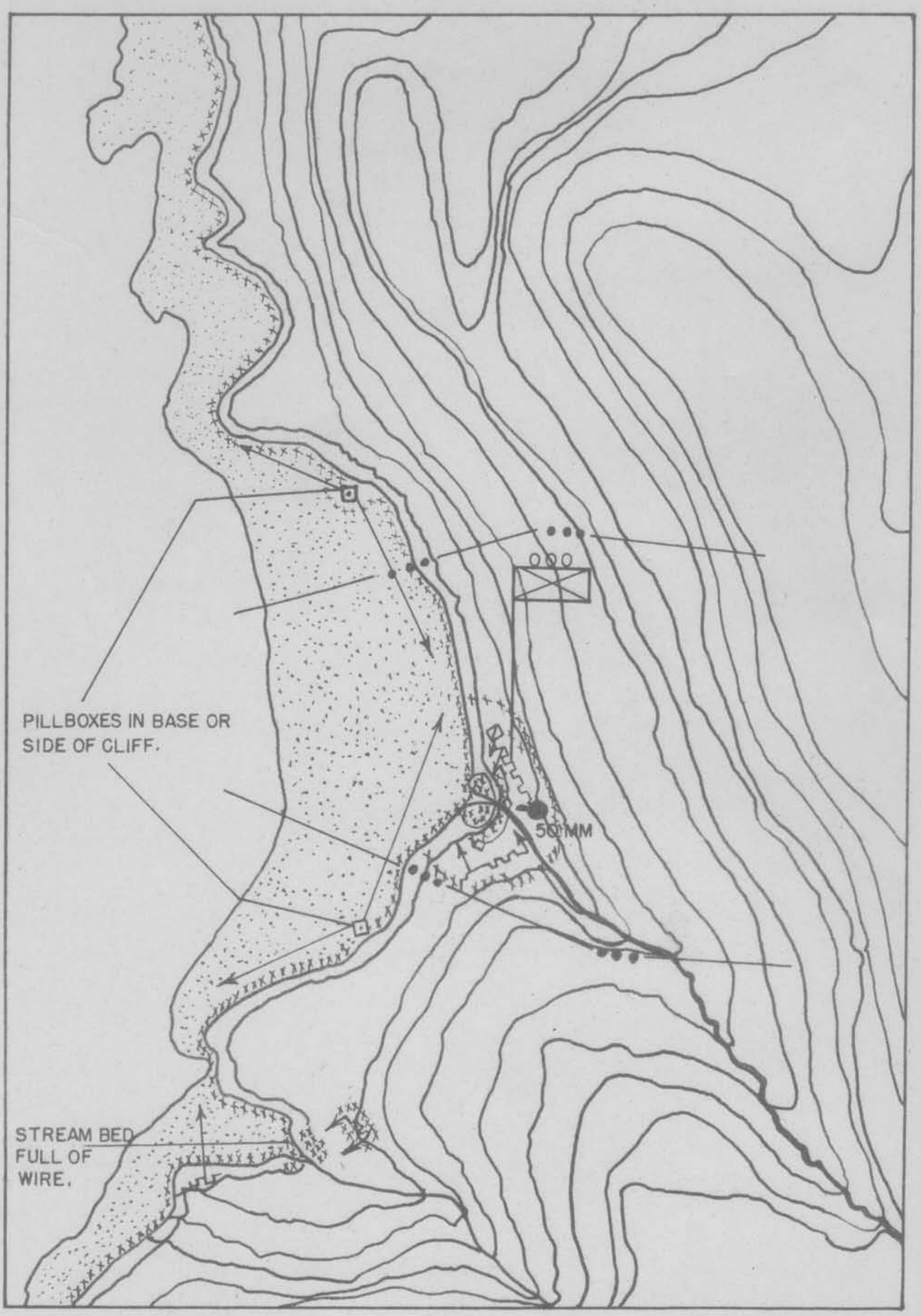
SKETCH NO. 2 BEACH BACKED BY SAND DUNES.



CONTOUR INTERVAL TEN METRES



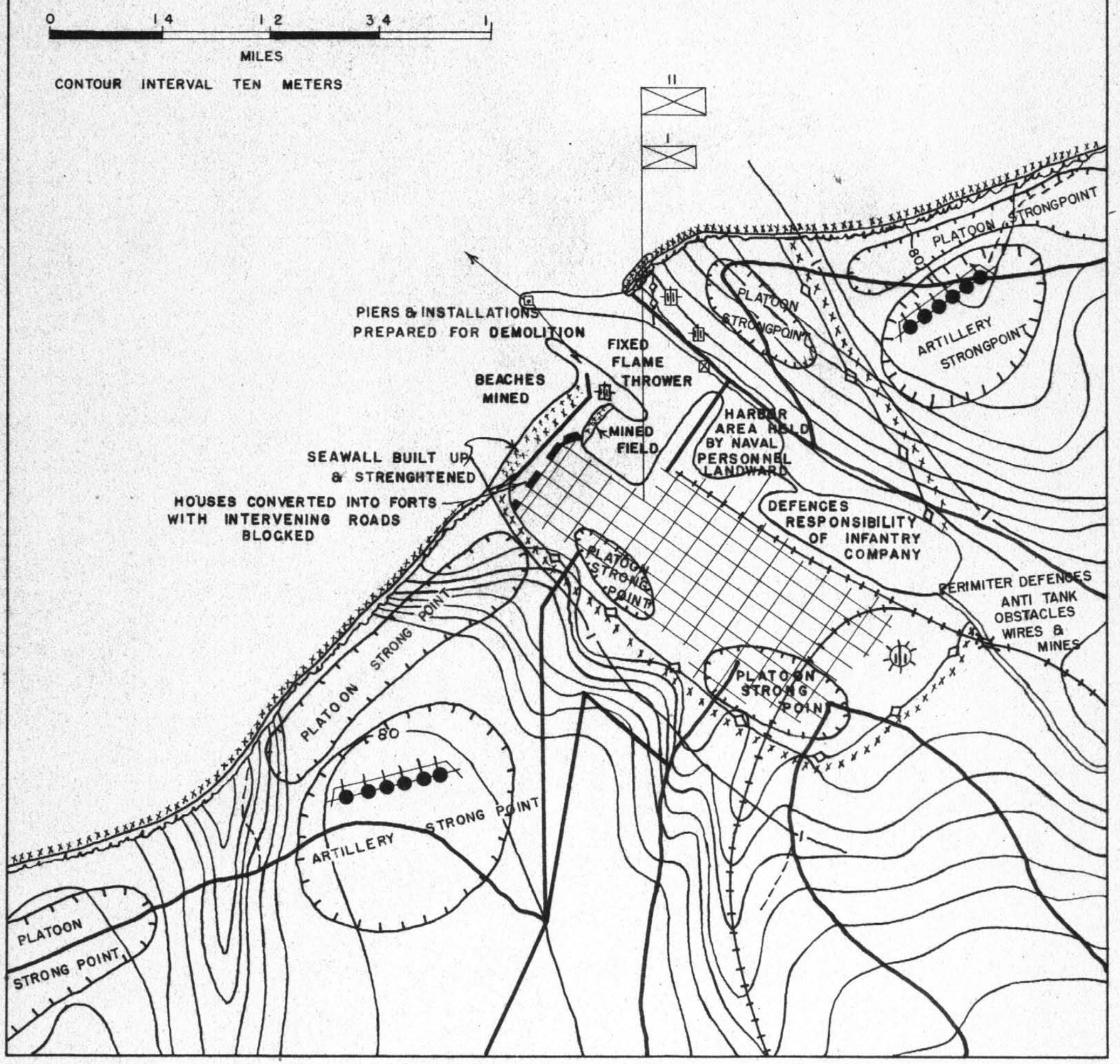
SKETCH NO.3 HIGH CLIFF WITH 2 SMALL STREAM EXITS



0 MILES 1/4 1/2 3/4 1

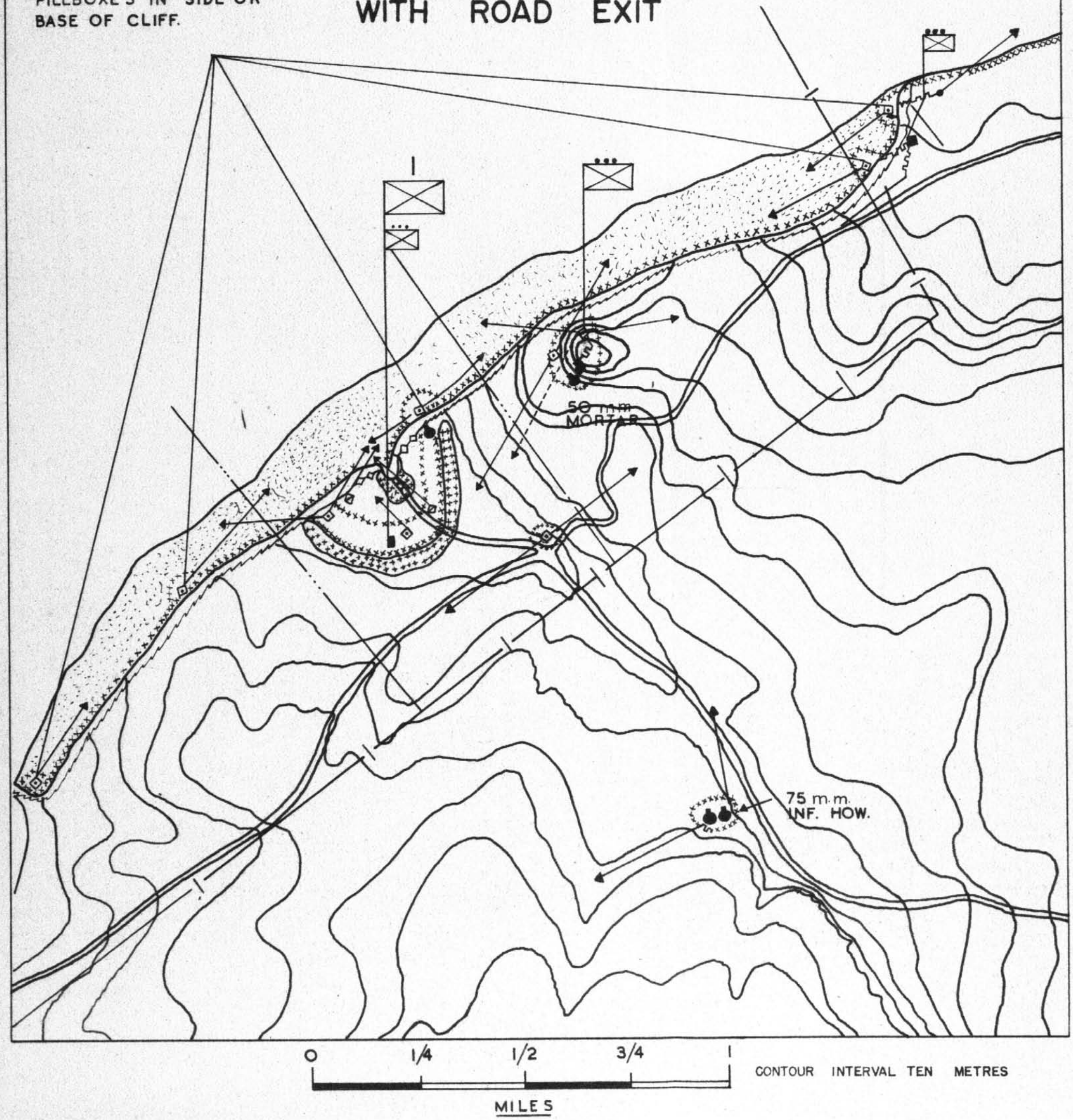
CONTOUR INTERVAL TWENTY METRES

SKETCH NO. 4 A SMALL PORT



SKETCH NO. 5 – BEACH BACKED BY LOW CLIFF WITH ROAD EXIT

PILLBOXES IN SIDE OR BASE OF CLIFF.



2.) Beach Obstacles: a.) Wire: In general, there are two or more continuous belts of wire along all open beaches, usually sited between high water mark and the back of the beach (photographs 1 and 2). In addition, all strong points are wired, belts varying in depth between thirty yards and two hundred yards according to the importance of the strong point. Beach exits, particularly gulleys in cliffs, are often barred by a dense wire entanglement. Wire is also extensively used in conjunction with minefields, walls, road blocks and other kinds of obstacles (photograph 3).

b.) Mines: The use of antipersonnel and antitank mines is general. The former are normally found round the perimeter of defended localities and at infantry exits from beaches; the latter at AFV exits from beaches, in open country behind beaches and at road junctions and road defiles. Anti-personnel mines also are scattered through antitank minefields.

c.) Walls: Of the various types of obstacles employed to prevent vehicles from moving off the beaches, the reinforced concrete or brick wall is the commonest type (photograph 4). Walls block streets leading from a beach or harbor, and also well defined exits from open beaches. Wall blocks together with existing buildings often form a continuous obstacle along the entire seafront of a town.

d.) Antitank Ditches: Antitank ditches are sometimes found surrounding strong points and on the seaward side of antitank or sea walls.

e.) Steel Fence: Steel fence obstacles are fairly common along stretches of open beach (photograph 5).

f.) Others: Dragons teeth, concrete pillars, rail pyramids, knife rests and inundations are also used.

3.) Defenses: a.) Pillboxes and shelters flush with, or nearly flush with, the ground and constructed of reinforced concrete at least three feet and sometimes six feet thick abound. They are sited so that fire from them can cover the obstacles. Pillboxes within strong points are linked up by highly developed trench or tunnel systems. The lower floors of houses along the seafront of coastal towns have also been walled up to form strong points (photograph 6). Gun positions are found in these houses, in antitank or sea walls and dug into the base of cliffs.

b.) Defense layouts: There are presented, as sketches 1 to 5, German defense layouts for various types of coast.

(1) SKETCH 1: This represents a beach backed by low cliffs, which may be scaled by infantry but arenot passable for tanks or M.T. It is typical of much of the coastline between Calais and Le Havre. Points to note are:

(a) Pillboxes and emplacements are strung out fairly evenly along the cliff line. Pillboxes may be actually in the face of the cliffs.

(b) The heavy artillery battery has sufficient small arms for its own defense.

(2) SKETCH 2: This represents a battalion sector among sand dunes. Defenses which would be outside the battalion

sector are NOT plotted. The dunes can be crossed by tanks (at least in between the dunes) and of course by infantry at all points. M.T. can also move between the dunes. A large part of the coast between the mouth of the Seine and the northeast tip of the Cherbourg Peninsula is like this. Points to note are:

(a) Pillboxes will be right in the sand dunes with only fire slits visible.

(b) Passages connecting pillboxes may be trenches or tunnels.

(c) Individual dunes are converted into strongpoints. Between the dunes extensive obstacles (particularly mines) are to be found.

(d) There is a great deal of wire used.

(3) SKETCH 3: This represents a cliff sector of coast, with two small streams running through it. The cliffs are not normally assailable. Both the streams provide beach exits for infantry. The larger one can take tracked vehicles in single file. This sector is typical of much of the coast of Britanny. Points to note are:

(a) The thinness of the garrison, apart from the platoon at the main stream mouth.

(b) The concentration of wire in the smaller stream, covered by a few light machine guns.

(c) The antitank obstacles, minefield and wire in the larger stream.

(4) SKETCH 4: This represents the defense of a small port, such as may be found anywhere along the Channel Coast. Points to note are:

(a) The main responsibility for the defense of the port proper falls on the naval personnel, while the landward defenses are held by the infantry company.

(b) The town is defended on all sides by an antitank obstacle.

(c) The seawall has been built up, wired and reinforced as an antitank obstacle by a ditch dug in front of it.

(d) The houses facing the sea front have been turned into fortifications by bricking up the ground floors.

(e) All roads into the town, both from the sea front and from the rear, have been blocked.

(f) There are two coast defense batteries allotted for the defense of the town, to fire on shipping approaching the port, and three light dual purpose antiaircraft batteries located so as to be able to fire on landing craft.

(5) SKETCH 5: This represents a stretch of beach backed by low cliffs with a road exit from the beach. This may be found at many points along the coast. Points to be noted are:

(a) The concentration of strength and complexity of the obstacles around the beach exit.

(b) The two infantry howitzers which are attached to the company to cover the beach exit.

(c) The normal pillboxes and emplacements strung along the cliffs (See also Sketch 1).

III. UNUSUAL CHARACTERISTICS

1.) Information: Information as to hostile dispositions will be obtained primarily from aerial reconnaissance and agents, and it must be accepted that such information at best will be incomplete. The result is that the planning for any operation against this area, for which the most complete information is desirable, must usually be done on less information than would normally be available. Therefore, trained reserves with special equipment to deal with the unexpected and unforeseen must be provided.

2.) Limitation of Suitable Landing Beaches: Due to the recognized limitation in the number of suitable landing beaches in any given locality and the difficulty of navigational control, the approach for the assault battalions over water must be executed as provided in the plan, or disastrous confusion is likely to result.

3.) Absence of natural cover and concealment: Other than in darkness, smoke or conditions of low visibility, troops coming ashore have no means of natural cover or concealment and are especially vulnerable to hostile fire. The absence of natural cover may be partially compensated for by armored craft and the dispersion of craft.

4.) Lack of communications and control: As the troops are being brought ashore, the only means of communication available are radio and visual. As it is impracticable to equip all craft with two-way radio, and as visual means can be used only within certain limits, control of craft and troops during this phase is at a minimum, with the result that any effort to divert craft and troops from the approach, as planned, is virtually impossible.

5.) Absence of Normal Field Artillery Support: The fire support in the initial stages of the attack is characterized by a lack of normal field artillery fire. Naval gunfire, air support, and fire from special craft and weapons currently classified as Secret must be substituted.

6.) Uncertainty of landing at proper beaches: Satisfactory equipment for guiding landing craft to the desired beach is still undergoing experimentation and development. Until a reliable method is assured, commanders must face the possibility of the failure to land at a planned location and must be prepared to exercise the utmost in initiative in adjusting to and overcoming the situation in a landing at an unexpected location.

7.) Physical deterioration of troops in landing craft: Plans should require troops to be in small landing craft for as brief a period of time as the situation will permit, as craft are crowded and men must sit in cramped and uncomfortable positions. Due to this reason, as well as to exposure to spray, cold and sea sickness, the solider's efficiency is progressively impaired and he is unable to fight at his best when the need is greatest, immediately upon reaching the shore.

8.) Underwater Obstacles: Defended beaches may be expected to include underwater obstacles which may take the form of piling, pipe scaffolding, mines, fixed flame throwers emplaced in the water, assorted debris, etc. Personnel with special equipment and special training must be provided to breach these obstacles. Military and naval personnel have a joint responsibility in this task which must be worked out and clearly defined, in advance.

9.) Initial lack of normal transportation facilities: During the early assault, the landing of motor vehicles is difficult and vehicles will be available only in small numbers. As a consequence, tactical planning must make provision for the hand-carrying of necessary equipment, ammunition and other supplies.

10.) Support from the air: Support for the attack from the air will consist of:

a.) Antisurface vessel and antisubmarine patrol;
b.) Fighter escort and cover;
c.) Bombing;
d.) Straffing;
e.) Laying of smoke;
f.) Reconnaissance

To effect direct support, an air support party will be attached to the headquarters of ground units, usually not lower than those of combat teams, to transmit requests of the Assault Echelon Commander, direct to the carriers or land bases. Direct support aircraft and air support parties will be on the same frequency, so that close liaison may be maintained.

11.) Smoke: To compensate for the absence of natural concealment in such water-borne movements, the use of smoke may be invaluable and should be carefully considered in planning. Due to variable wind conditions which may be encountered, alternate plans of employment of smoke must be prepared. These smoke plans require careful coordination with the plans for naval gunfire and air support. (See Smoke Annex).

12.) Speed in execution: The final success of the attack depends upon the attacker being able to gain and to secure essential terrain before the defender has time to block this effort by reserves and counter-attack. Attacking troops, therefore, must conduct their operations at a speed greater than that with which the enemy can effectively move and employ his reserves. The imperative need for speed at every step is regarded as the outstanding characteristic of an assault landing. Every officer and enlisted man must be taught, and must never be permitted to forget, that the degree of speed in every phase of an assault landing holds in balance the success of the entire operation.

IV. WEAPONS, MEANS AND OBSTACLES.

1.) General.

a.) A combined operation, whether it involves a short sea voyage or a long sea voyage, presents certain definite problems which clearly differentiate it from any normal land operation. If the combined operation is to be successful, these problems must be carefully considered and solved during the planning stage. In their order of occurrence, they might be summed up as follows:

(1) Air and sea attack, while enroute;
(2) Reduction or neutralization of enemy coast batteries and Radar equipment;
(3) Close fire support on the beaches;
(4) Underwater obstacles;
(5) Reduction of obstacles on the beaches, to include possible cratering of the beaches, to provide a certain amount of cover for assaulting troops;
(6) Fire support during the advance inland.

b.) The means, with which to deal with the problems outlined above, are hereafter discussed in the broader categories showing the possibilities and limitations of each service involved.

2.) Air Aspect.

a.) Air Operations in an Assault Landing. In general, the following procedure and sequence of activity will be employed by the Air Force.

(1) An attempt to neutralize the enemy air actions that could be brought to bear against an assault landing in any particular location would first be dealt with by the strategic bombing and fighter forces. This will culminate in the selection just before and during D-day of certain airdromes, R.D.F. stations and control units for enemy aircraft.

(2) The next effort of protecting our operations from air and sea attack will be the air cover and escort, as performed by fighters, anti-surface vessels, and anti-submarine type aircraft, in their respective roles.

(3) In bringing the sequence of events to the actual landing, the next considerations deal with various types of enemy installations as objectives for air attack

(a) Airdromes within striking distance of the beachhead are an important objective, even though previous attacks have been made on them, as much neutralization as possible can and must be maintained.

(b) Enemy batteries for coast defense and anti-aircraft as well as other emplaced guns are important objectives but require direct hits within the emplacement for good effect. Destruction is most unlikely but short periods of neutralization may be effected by shock from H.E.bombs and smoke to reduce accuracy of fire. The types of action to accomplish this are: high, medium and low level bombing; dive-bombing; machine-gun and cannon strafing and smoke-laying aircraft.

(c) Enemy batteries not emplaced, such as field guns, railroad guns, artillery concentration of antitank guns, machine guns and other type weapons will be less difficult to deal with than emplaced weapons. In case of weapons of smaller caliber, such as the mortars, the areas in which these are located should consitute the objective for which the pilot is briefed, and the fire power will normally be delivered against the terrain feature, rather than the actual weapons.

(d) Fortified positions, with overhead cover, will vary in size from "hedgehogs" to individual pillboxes and these installations are, of course, made particularly for defense against air attack. Attack on them will require much combined study by both air and ground. As a rule, individual pillboxes offer almost an impossible target. "Hedgehogs" can be at least partially neutralized by the shock effect of heavy bombs (1000 pounds and over) and by smoke.

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(e) Pillboxes, except perhaps a few that are located in very prominent positions, such as at the end of a pier or on a prominent landmark, will be almost impossible to single out accurately enough from the air to warrant an individual attack by aircraft. They will have to be included in the ground attack "bands" or "zones", that are attacked according to the prearranged plan.

(f) A type of objective which must be considered suitable for air attack, regardless of the difficulties which may have to be encountered, is the enemy RDF installations. These installations will generally be located on prominent high points and their exact location must be the subject of intensive advance study by our photo reconnaissance and intelligence agencies. Due to the fact that these installations must have aerials and a considerable amount of very sensitive equipment, they will be susceptible to both the shock action of heavy bombs and to the fragmentation effect of antipersonnel bombs. They are, of course, unaffected by smoke. In part, the same applies to signal centers; and to fire control centers and directors, although the location of these will not be as easy to determine. The RDF and similar installations must be attacked at the earliest practicable time, in order to obtain the maximum neutralization before the air battle of D-day.

(g) Another type of objective which will be attacked from the air for the purpose of obtaining some neutralization is the position of the defending ground forces which are without overhead cover; but which cannot be adequately dealt with until field artillery has been landed. These will be so disposed as to have a field of fire over the beaches and exits from the beaches, or will be in reserve positions, defiladed from naval gunfire. These objectives are highly susceptible to attack by fragmentation bombs, cannon fire and ground-strafing. They often cannot, however, be singled out by the pilot, even when these objectives have been located. Therefore, he will seldom attack specific small targets, attaching rather a terrain feature, and the aircraft thus generally must be furnished with the maximum number of anti-personnel bombs to create the best "pattern" effect. The attack on these objectives is accomplished by pattern-bombing, either in formation or "in trail", and by ground strafing. Some heavier bombs (100-300 pounds) may also be included, to obtain "shock" or "blast" effect. A study of the terrain covering the beaches, together with careful photo interpretation, will disclose the position areas in which these objectives may be found.

(h) Movement of large numbers of reserves, especially in vehicles, is a very suitable and profitable objective for air attack. The enemy must and will make movements of his reserves, soon after H-hour, which will continue until he has defined our complete intentions. These attacks on reserves cannot usually be planned in advance, beyond indicating principal routes which are available to the enemy. For this reason, and due to the extreme importance of blocking these movements, as much as fifty percent (50%) of the air formations, which have been briefed for attack of ground "zones", would be directed to attack large troop movements and their routes of march whenever seen, regardless of the mission for which they were briefed, provided that these movements are beyond the bomb line.

(i) Other enemy installations which the assault will encounter are wire and mine belts, and tank walls or obstacles. Here, the air can be of little help. The air attack of the hostile

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position areas or ground attack zones will cause some incidental damage to surrounding wire or mine belts, but its effectiveness must be regarded as limited. The breaching of tank walls or obstacles by air attack is regarded as wholly impracticable and these walls and obstacles cannot be considered as suitable targets. The air can, however, attack personnel and equipment using these walls or obstacles for cover.

b.) Airborne Troops

(1) In selecting appropriate missions for airborne troops, the tendency to dissipate their strength by scattered employment should be guarded against; these troops are lightly armed and should be used in mass to be most effective.

(2) Airborne troops should be directed against objectives which are vital to the force as a whole, but only against objectives which cannot be reasonably attacked by other ground forces.

(3) Inasmuch as the hostile reaction to an assault landing may likely take the form of armored counter-attack, large airborne units should not be landed so deep within the enemy area as to preclude reasonable prospect of their being given timely reinforcement by other ground forces.

(4) In assisting an assault landing, the following are considered appropriate missions for airborne troops:

(a) To attack key points in, or in the rear of coastal fortifications, such as gun positions inland from the beach;

(b) To block movement of enemy reserves;

(c) To assist in securing objectives of the assault division;

(d) To attack beach defenses from the rear;

(e) To disrupt enemy communications and supply facilities.

(5) Airborne units as large as a division may appropriately be used to engage hostile reserves, and to assist in securing the objective of the assault division. They may assist in blocking counter-attacks of large enemy forces, but acting alone are incapable of holding hostile armor.

3.) Rangers

a.) The organization and training of Ranger battalions make them ideal units to be employed in the early capture and destruction of coastal guns and other installations, the early reduction of which is vital to secure the flanks of an assaulting force. Such troops are trained to attack in unlikely places and under unlikely conditions to gain surprise. They could also be usefully employed for feints and taking of objectives from the flank and rear, by landing upon beaches that would not be suitable for landing of usual assault formations.

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4.) Fire Support.

a.) Naval Bombardment.

(1) Naval gunfire may be expected effectively to neutralize, during the period of firing, areas of a dimension suitable to the caliber of the guns. High capacity (HC) ammunition and airburst AA ammunition have increased the effect over that obtained in the past. Harassing and interdiction may be included as types of effective neutralization by naval gunfire.

(2) Naval gunfire is less efficient for fires of destruction. Good results, however, may be expected when the target is imposed and visible from the firing ship and when the range is not too great. If hits can be obtained, theeffect of large caliber AP shells against concrete emplacements should be satisfactory.

(3) Each ship may be considered as composed of a number of artillery batteries, equal to the number of its fire controls. A single ship can thus engage simultaneously two or more targets and, in the case of larger ships, with different calibers and types of shells.

(4) It is reasonable to expect that combatant ships (BB, CA, CL and DD) will be furnished to provide gunfire support for a landing operation on the following scales: one ship for the direct support of each assault battalion.

(5) Within the limits of ammunition supply, naval gunfire may be expected to provide:

(a) Preparation in advance of the landing;
(b) Neutralization of areas containing enemy installations directly opposing the initial troop landings;
(c) Neutralization of selected rear areas (CP's, OP's communication centers, concentrations of reserves);
(d) Counter-battery, and neutralization of both field artillery and coast artillery;
(e) Fires on targets of opportunity designated by the supported troops.

(6) Fire will be as effective as the personnel who control it are competent. Two specially trained types of personnel are required in addition to normal ships complement:

(a) Naval officers for shore fire control and liaison with troops.

(b) Army officer on each firing ship to translate troop requirements into terms of naval gunfire support.
(Each of these must be provided in addition to regular T/O and must be thoroughly trained in advance of an operation.)

b.) Fire Support on the beaches, to include cratering of the beaches.

(1) Employment of field artillery in the early stages of a landing operation differs from its employment in ordinary land operations in the following essential features:

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(a) In ordinary land operations, from the beginning field artillery executes preparatory and supporting fires. In a landing operation, preparatory and supporting fires are executed by naval guns until field artillery is ashore and prepared to reinforce the ship fire or to take over certain fire missions.

(b) Due to difficulties in transporting and landing guns and ammunition, the amount of field artillery available in a landing operation is usually less than that in a land operation on a corresponding scale. This factor may require ship guns to continue on certain fire missions during all or a large part of the operation. Coordination of fire of field artillery and ship guns is required.

(c) Normally, in a landing operation, field artillery must reach the beach before it can go into action. This factor, together with the necessity of reinforcing or relieving naval guns at the earliest possible time, makes it necessary to employ field artillery with great boldness.

(d) In offensive operations on land, field artillery coordinated its fire with the advance of the infantry from the beginning of the attack. In a landing operation, the field artillery support begins after the attack is well under way. Liaison with the front line troops is continuous in order that close supporting fires may be delivered as soon as batteries are prepared to fire.

(e) Because of the impracticability of exercising centralized control, field artillery batteries are usually attached to infantry units during the initial phases of a landing operation. This makes difficult the concentration of fire of a number of batteries on a designated objective. As soon as the situation on shore permits, field artillery is placed under centralized control.

(2) To meet this lack of fire support from organic artillery, certain means have been developed and others are now in the process of development.

(3) Cratering of the Beaches. Cratering of the area over which the assault must pass is essential to provide cover for the assault troops. Normally, this will occur incidental to aerial bombardment and shell fire on this area.

c.) Special Craft.

(1) Special types of craft constructed for close fire support of landing troops (such as LCS, LCG, LCF, LCT rocket) should be considered separately and apart from naval gunfire, since their capacities and employment are very distinct from those of regular combatant vessels.

(2) The essential feature of these craft is that they do not lie off-shore and deliver long range fire, but actually accompany landing craft into the beach firing while troops are getting ashore. These craft thus belong in the first wave of landing craft and become a specie of artillery, emplaced at the water's edge, delivering pointblank fire against targets which are in immediate opposition to the troops. (The rocket craft is an exception). This does not, of course, preclude fire while off-shore.

(3) Although a technique for their employment still remains to be developed, (in the U.S. service), two points may be noted as to their number and disposition.

(a) The numbers will depend on the number of guns necessary on particular beaches in order to provide fire support after the naval gunfire has lifted. This will be dependent on enemy installations and must be especially considered for each case.

(b) These craft must be disposed (on the flank, in the center) according to the enemy dispositions, so that each may place its designated target under fire, while the target is being attacked by the troops.

d.) Organic artillery in Landing Craft.

(1) There are certain developments in the nature of specialized use of landing craft which will materially increase the fire support to be expected from organic field artillery. In a short sea voyage, organic artillery may well be transported from shore to shore in LCTs. By replacing towed guns of the division artillery with 105mm self-propelled guns, it is possible to give some degree of fire support while these guns are still afloat. It is not considered feasible to conduct indirect fire from these craft. However, direct fire from ranges up to 10,000 yards have proved very effective.

(2) Following is the suggested organization and scale of equipment for a battalion of the organic field artillery of the infantry division to enable it to conduct this type of fire:

(a) 3 batteries of 6 guns per battery, armament 105mm;
(b) self-propelled guns to be loaded 3 into each LCT;
(c) 2 LCTs per battery, 6 LCTs per battalion

(3) Artillery, so equipped and transported across the water gap, will be able to land at a much earlier time than has been considered possible in the past. Organic artillery employed to fire from craft while afloat, must not become so involved in firing as to fail to get ashore at the earliest moment possible so as to assume its primary mission of close support to the infantry.

e.) Artillery support during the initial stages of the advance inland.

While it is possible, by the use of self-propelled guns in LCTs, in a shore to shore operation, to provide some artillery support at an earlier stage than heretofore, naval gunfire and air support will have to increase this support to the maximum extent possible.

5.) Smoke - (See Smoke Annex.)

6.) Reduction of Obstacles.

a.) Underwater Obstacles.

(1) As agreed by the Army and the Navy, the Navy is responsible for the removal or breaching of underwater obstacles of all types which exist to seaward of the normal grounding points

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of the landing craft, at the time and place of landing, and the landing force (Army or Marine) is responsible from these points inland. Each service must be prepared, in mental attitude as well as by training, to assist the other.

(2) The Navy has directed the establishment of naval demolition units to perform its share of this task. These are in the process of organization and of development of equipment and technique.

(3) Well in advance of any operation, these units should be provided for joint training with Army engineers in the theater of prospective activity.

b.) Obstacles on the beaches.

(1) The problem of breaching the defensive system on the enemy-held coast, the so-called "crust", resolves itself into two general classifications:

(a) Neutralization of fire covering the obstacles;
(b) Reduction or passage of the obstacles themselves.

c.) Fire covering the obstacles.

(1) A feature of the defensive system is a large amount of artillery and automatic weapons of all kinds employed for the defense of the coast. In addition to heavy and light coastal defence guns and mobile railway guns which are mainly in the vicinity of the ports, there are:

(a) Land batteries of medium caliber, fitted with instruments to engage ships at sea and, in some cases, also able to fire on the beaches.

(b) Antiaircraft and antitank guns sited where they can, if necessary, engage craft attempting to land;

(c) Field and medium artillery, sited to bring fire to bear on beaches where a successful landing has been made, but from such a distance that the guns themselves will not become involved in the fighting for the beaches. There are on the average some 200 guns of this nature employed to cover a divisional sector.

(2) All of the above weapons must be dealt with by means other than those immediately available to the assaulting forces. The assaulting forces will have, as their immediate problem, the removal of direct fire from the obstacles. This fire will emanate from antitank weapons and machine guns in concrete emplacements. These emplacements are of such a nature and so well concealed that long range naval bombardment and air bombardment will have difficulty in locating and hitting them in vulnerable spots. The weapons which would normally be used in land warfare to counteract this fire are too vulnerable to be placed upon the beaches in the initial stages of the assault.

(3) The two most effective means at present possible are, fire from LCS and LCGs, and fire from tanks which are brought ashore with the assault wave.

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Revised 9 July

(4) It is important that these tanks should be not considered as tanks in the accepted sense. They will probably never leave the beach, due to mines and extremely heavy fire on the beaches. They become, for this purpose, armored assault guns, and their inclusion in the assault waves will be necessary to replace the fire of assault weapons normally available for the reduction of fortifications, using the technique set forth in T.C.-33.

d.) Reduction of Obstacle-Means.

(1) Hand placed charges: Hand placed explosive charges are the most reliable means of destroying concrete and steel obstacles. When operating under fire or when it is necessary to cross fields of small arms fire, a tank adapted for transporting engineers and explosives can be effectively used.

(2) Wirecutting parties: Wirecutting parties are composed of one or more soldiers equipped with hand wire cutters. They can operate either under protective fire or under cover of darkness or smoke. Individual strands of wire are cut and thrown back until a gap of the desired size is cleared.

(3) Mine removal parties: Hand methods, using mine detectors or probes, are the most reliable means of creating passages through minefields.

(4) Bangalore torpedoes: Bangalore torpedoes are tubes fitted with explosive. The present ones are about 2 inches in diameter and come in 5-foot sections, however, sections can be quickly joined together. The torpedo is pushed into place by hand and then detonated. They will effectively clear gaps in wire obstacles and will also detonate mines.

(5) Snakes: Snakes are essentially heavy Bangalore torpedoes, that are moved into position by tanks. A special nose on the front end permits the snake to be pushed over uneven ground. Snakes of an effective length of 100 yards have been used.

(6) Preparation fires: Heavy preliminary bombardment from the air and sea can be expected to effect sufficient destruction of minefields and wire obstacles to permit passages of infantry, but cannot be relied upon to provide gaps for vehicles. A very heavy concentration is required for even this result. Such a heavy concentration may be obtained by use of a special craft now being developed.

(7) Carpets: Carpets of chicken wire or other similar material can be placed over barbed wire either by hand or by special carpet laying devices mounted on Bren carriers or tanks. These carpets will permit the passage of infantry over the wire.

(8) Fascines: Fascines carried in a special rack in front of a tank can be dumped in anti-tank ditches or against low walls. Tanks supported by these fascines can then ride over the obstacle. This is a rapid method of crossing anti-tank ditches and low walls, however, due to its unusual load, if seen, the fascine tank will undoubtedly draw hostile fire.

[redacted]

(9) Grapnel and Cable: Grapnels on cables can be pulled behind tanks to destroy wire obstacles. Also light grapnels on cables have been projected from tanks by means of rockets. The chief use for these is pulling trip wires in a minefield.

(10 Mechanical devices: There are being developed various mechanical means for clearing minefields, destroying wire and breaching obstacles. As these are proven practical and are made available for issue they should be incorporated in planning and training.

[redacted]

V. Organization

1. Basic Units

a. Normal type rifle platoons are reorganized into two types of special platoons for the assault of a fortified beach - Assault Platoons and Support Platoons.

b. The Assault Platoon is a specially organized team, trained to locate and quickly breach and reduce defensive works of a fortified position at most favorable points in the platoon zone of action, in order to permit other assault troops to advance rapidly without undue losses.

c. The Support Platoon provides fire support for the Assault Platoons.

d. There are two Assault Platoons and one Support Platoon in each Assault Company. However, the number of platoons may be adjusted to the situation.

2. Assault Platoon

a. The Assault Platoon consists of three (3) sections - a Reconnaissance Section, a Support Section and an Assault Section, performing respectively, the functions of reconnaissance, firing and assault, i.e., breaching and reducing hostile defensive works. The sections of the assault platoon are composed as follows:

(1) Reconnaissance Section:

SCOUT PARTY

Personnel	Arms & Equipment
3 EM and 1 Officer or NCO	Carbines or pistols, grenades, wire cutters, compass.

OBSTACLE CROSSING PARTY

Personnel	Arms & Equipment
4 EM and 1 NCO (Sgt)	Carbines, pistols, grenades, wire cutters, compass, bangalore torpedoes and wire mat for crossing wire entanglements

(2) Support Section

Personnel	Arms & Equipment
1 Leader NCO (Sgt)	M-1 Rifle
1 Assistant Group Leader	M-1 Rifle
1 Automatic Rifleman	Automatic Rifle
1 Asst. Automatic Rifleman	Carbine
1 EM	Submachine gun
5 EM	M-1 Rifles

(3) Assault Section

Personnel	Arms & Equipment
1 Group Leader (off) 1 Assistant Leader 4 Rocket (or grenade)men 2 Flame Thrower operators 3 Demolition men 5 EM (Wire cutters & wire mat carriers)	Flame throwers, Demolition charges, Rocket launchers (or grenade dischargers), Bangalore Torpedoes, wire cutters.
Personnel	Arms & Equipment
	Wire cutting pliers, Signal projector, carbines, smoke grenades.

b. In addition to the arms and equipment indicated above, the following may be carried:

Intrenching tools
Wire cutters
Hand grenades (offensive)
Smoke grenades
Compass

3. Support Platoon

The Support Platoon is a normal type infantry rifle platoon with two (2) 60 mm mortar and two (2) LMG teams attached. The mortars and LMG's will frequently be attached to Support Sections of the Assault Platoon for the initial landing phase.

The Support Platoon, in addition to giving fire support to each Assault Platoon, may also be used to deepen penetration in the zone of action of either Assault Section.

4. The Assault Company

The Assault Company (See Chart B) is organized into a Company Headquarters, two Assault Platoons and one Support Platoon. It is designed to permit the Company to attack on a two platoon front. However, the depth of the obstacle in front of the defensive position may require the successive operation of the Assault Sections. In such case, the two Assault Platoons should be employed in column and both Assault Platoons could be landed at the same beach. Where the situation requires, the number of Assault Platoons may be changed as in the Example included in Section VI.

5. The Assault Battalions

The Assault Battalion (See Chart C) is organized into a Battalion Headquarters and Headquarters Co, two (2) Assault Companies, one (1) Support Company and one (1) Reserve Weapons Company. This organization permits employment of the battalion on a two company front, with a Support Company having two of its platoons strong in fire power, which can be used: (a) to reinforce both Assault Companies, if companies are employed abreast, or (b) as one unit to exploit success in either assault Company zone of action. The Reserve Weapons Company is equipped with the surplus weapons of the Rifle Company Weapons Platoons and the Heavy Weapons Company.

These weapons provide the Battalion Commander with a reserve which he may use for replacing Assault Company weapons or for increasing fire power at any point in the battalion zone of action. One quarter ton ($\frac{1}{4}$ T) trucks landed with the Reserve Weapons Company should correspondingly increase the effectiveness of the reserve fire power.

6. The Assault Regiment

The Assault Regiment is organized into a Headquarters, Headquarters Company, Service Company, Anti-tank Company, Anti-aircraft Platoon (cal. 50), Medical Detachment and three battalions.

Two of the battalions are organized into Assault Battalions, as described in par (a) above.

Each of two Assault Battalions provides the regiment with four Assault Platoons for breaching hostile defensive positions. This permits the regiment to land on a broad front and breach as many as eight (8) passages through the obstacles; or, should the obstacles have considerable depth, to concentrate a sustained drive on a narrower front.

The Reserve Battalion is a normal T/O organization (less many of its vehicles) and has the mission of exploiting the success of the Assault Battalions.

All unlettered organizations of the infantry regiment are organized and equipped in accordance with authorized tables.

ASSAULT CO.

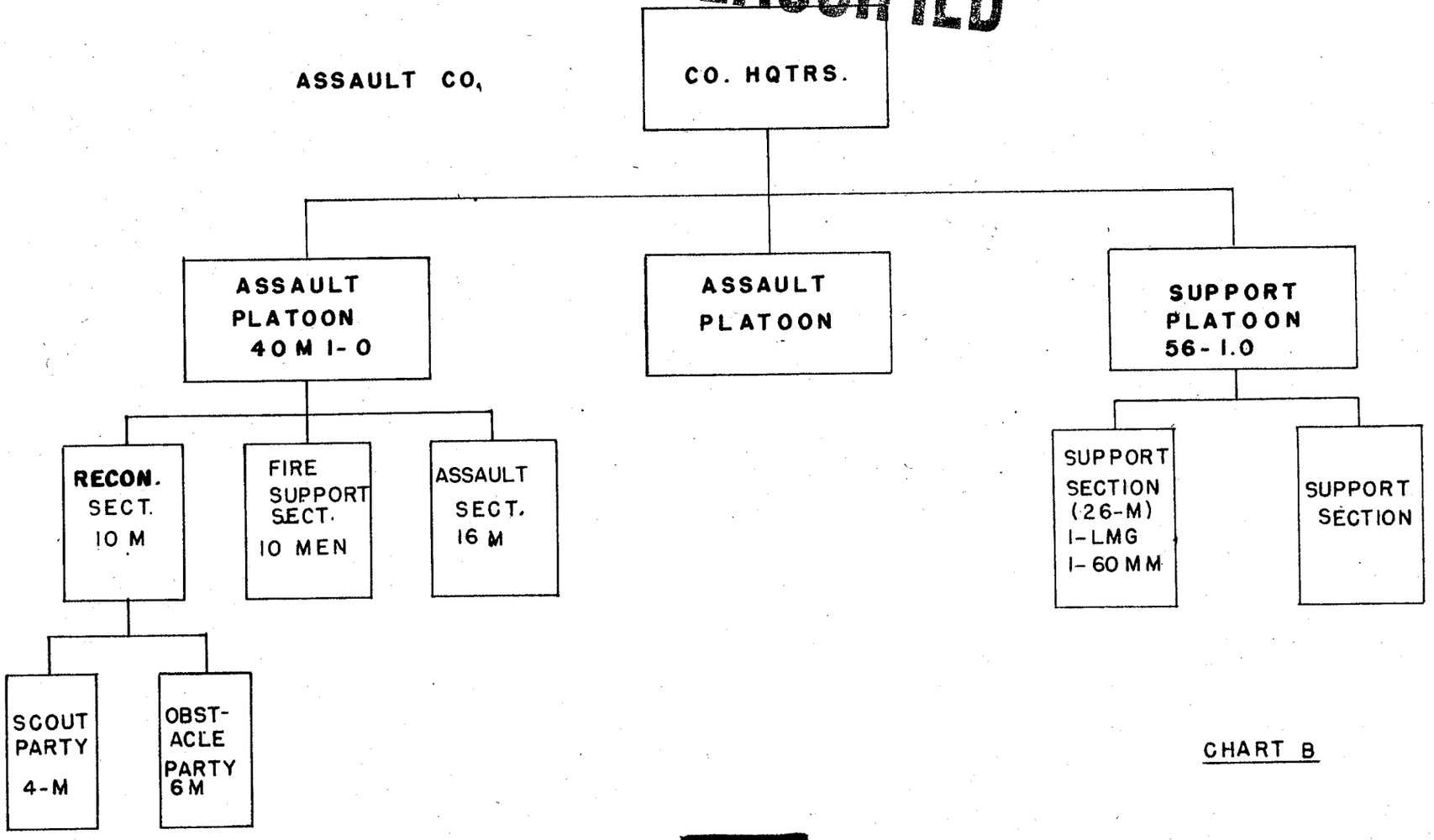

CHART B

ASSAULT BN.

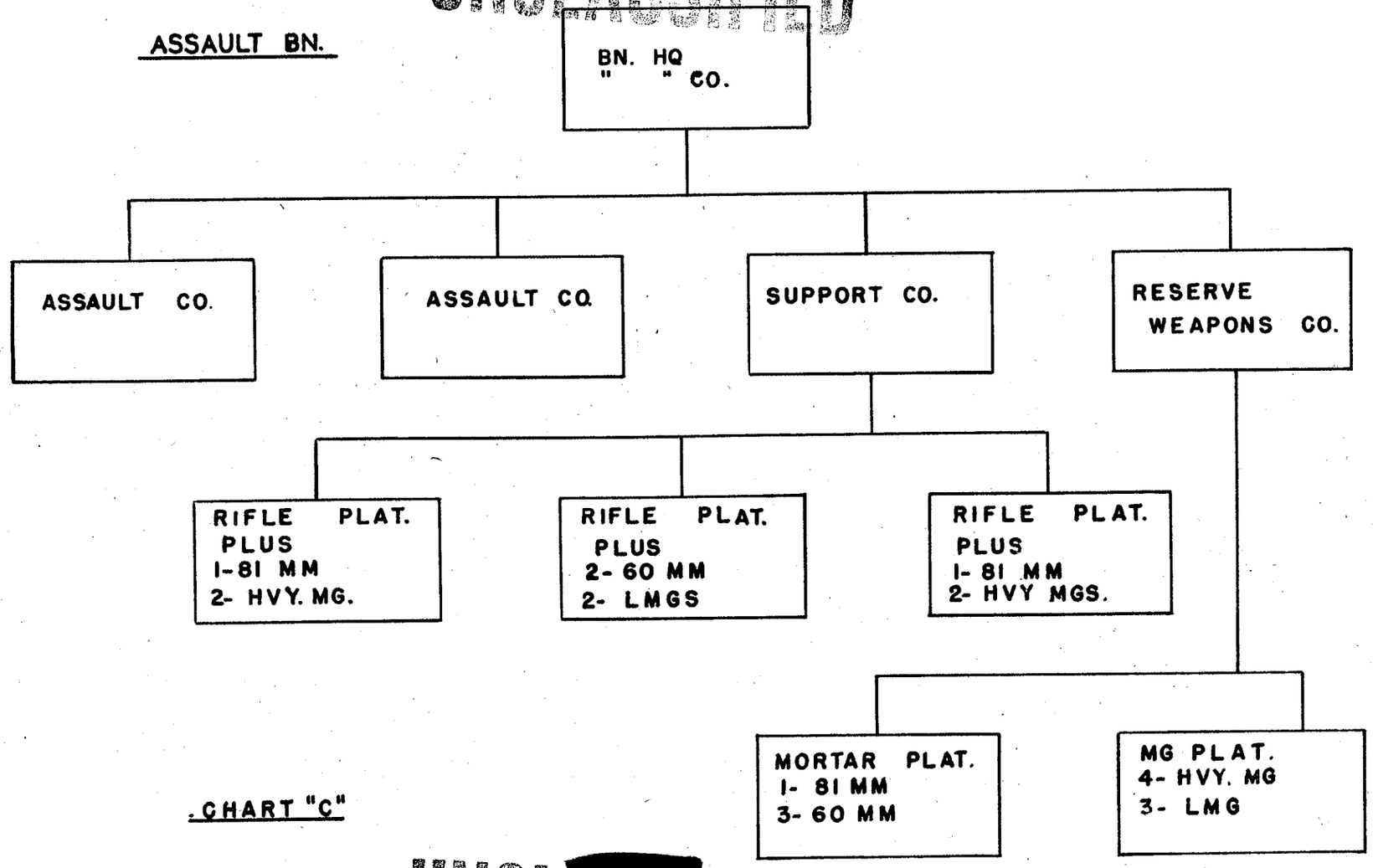

CHART "C"

AUTH. GRANTED C.E. MAP AND REPRO.
SECT. HQ S.O.S. ETOUSA TO REP.
NEGS AND 215 POSITIVES.
SIGNED
RANK
SECTION
DATE 29 JUNE 1943

VI. EXECUTION OF THE ATTACK

1.) Sequence of Operations:

a.) In order successfully to attack and penetrate a strongly fortified beach area, it is essential that hostile defenses undergo a softening up by air bombardment for several weeks prior to the attack, supplemented by naval bombardment preparatory to the assault. Furthermore, at the time of, and during the attack, local air superiority must be obtained. Occasional single hostile planes may slip in, but attacks by formations of enemy planes must be prevented. Continuous air and naval fire support must be available on call during all phases of the attack.

b.) The chronological sequence of the phases of an attack might be as follows:

(1) Rangers land during darkness to destroy key beach defenses, inaccessible to naval gunfire and air bombardment, and difficult for assaulting troops to attack.
Example: Well-concealed heavy batteries located on rocky headlands.

(2) Parachute troops are dropped behind the defenses prior to nautical twilight to secure a base of fire for airborne troops, and to attack strongly defended localities and artillery located well inland.
Note: The landing of Rangers and the dropping of parachute troops must be coordinated so that neither precludes surprise by the other.

(3) Naval bombardment begins at nautical twilight.
Targets: Hostile batteries and strongpoints commanding the beach.

(4) Air bombardment begins as soon as there is sufficient light for accurate bombing.

Targets: Areas from the waterline inland to include batteries and strongpoints commanding the beach. It is important that minefields and wire be included and that the beach be left well cratered in order to provide cover for assaulting troops.

(5) A heavy smoke screen is laid by planes and maintained by planes and mortars from landing and support craft, to cover movement of troops into shore.

(6) Glider elements of airborne troops start arriving as soon as there is sufficient light to land gliders.

(7) Leading wave reaches the beach, assault platoons are landed, and tanks are beached or positioned hull down in the water.

(8) Obstacles are breached and assault platoons close with the pillboxes.

(9). Remainder of assault companies and the battalion reserve elements land, pass through the gaps in the obstacles and push rapidly inland to secure the battalion objectives.

(10) Reserve battalions land on beaches where going is easiest, push inland to deepen the penetration, and secure the Regimental Intermediate Beachhead Line.

(11) Division reserve lands, moves rapidly inland and secures the key position of the Division Intermediate Beachhead Line.

2.) Assault Principles:

a.) The Force Commander must look well beyond the initial assault and consider the battle between his force and the hostile main reserves. Operations necessary to the deployment of his total force ashore must be characterized by utmost speed, for these operations are matched in a race with the enemy's movement of mobile reserves.

b.) The Assault Division will have the mission of seizing, defending and maintaining a beach head. The beach head, successfully defended, must:

(1) Secure suitable and adequate beaches and exits for passage of the follow up force.

(2) Provide space for offensive deployment of the buildup force.

(3) Have its perimeter within the defensive capabilities of a division.

(4) Have its perimeter on terrain favorable to the defense.

c.) The mission of the Assault Division may be considered in three phases:

(1) Seizure of beaches with suitable exits for passage of troops, artillery, tanks and other supporting weapons.

(2) Attainment of intermediate objectives which secure the landing beaches against small arms and other direct fire; and defense of these objectives against local counter-attack.

(3) Seizure of objectives on the beach head perimeter and defense of the beach head against counter-attack by hostile main reserves.

d.) Concurrently with these operations, improvement of the landing beaches and exits will be initiated and carried on for the logistical support of the division, and in preparation for expeditous passage of the build up force.

e.) Seizure of beaches with suitable exits may be accomplished by direct frontal attack, or by seizure of adjacent beaches which, due to lack of exits, are most lightly defended.

The latter would be followed by envelopment of the defenses covering the desired beach. Choice between the two schemes of maneuver can be made only on the basis of careful study of terrain and information of the disposition of enemy defensive installations. Initial attack through weakness, followed by envelopment of the desired beaches, is the better choice wherever possible. The balance between success and failure is never more delicate than in the initial assault; therefore this assault should be directed against the least strength. The advantages outweigh the disadvantages of foot movement and hand-carry of machine guns and mortars over difficult terrain.

f.) Normally a battalion may land on, and attack the defenses of about 500 yards of beach. The frontage suitable for a division will depend upon the number of, and space between, suitable landing beaches, and exits, the inland terrain, and defensive supporting strong points. As a rough rule a frontage of about 3 miles may be considered suitable.

The Regimental Intermediate Beach Head Line must secure the landing beach against direct fire and effective mortar fire. It should include terrain favorable for defense against counter-attack by local reserves. It must be within the capabilities of the regimental combat teams to seize and defend without assistance of the division reserve. As a rough guide,about 3,000 yards inland appears reasonable.

Considerations affecting the location of the Division Intermediate Beach Head Line, or beach head perimeter, are discussed in paragraph (b) 1.). As a guide, a distance of 5 to 6 miles is necessary to keep effective hostile medium artillery fire off the beaches.

3.) Reduction of Fortifications: a.) General - The first task confronting the assault battalion is to pierce beach defenses and to gain a toe-hold on terrain providing cover and concealment just beyond the sand beaches. This involves closing with and destroying concrete pillboxes covering the beaches and requires special assault platoons, (see section V), properly organized and equipped to cut through wire and other obstacles, to get through mine fields and to silence pillboxes by means of explosives, probably hand-placed.

b.) Fire Plan - Assault platoons can land, get through obstacles and close with pillboxes only if direct defensive fires, which can be brought to bear on them, are beaten down and finally neutralized during their approach, landing, and attack, by an integrated, progressive scheme of fires, employing all means. Smoke is equally essential and must be carefully coordinated with the fire plan and the attack, so as not to mask fire targets or confuse the assault platoons. Shore batteries covering approach of landing craft must be silenced. This can best be accomplished by naval gunfire, air bombardment, and assault by Rangers, the latter landing and reaching the batteries by stealth under cover of darkness.

(1) The first phase of the fire plan is the general softening by air bombardment, beginning several weeks in advance, building up to the maximum level that can be maintained, and maintained at that level until D-day. During the assault, air bombardment concentrates on inland areas containing defenses most dangerous to the assault.

(2) The second phase is the naval gunfire phase, beginning with bombardment of shore batteries and beach defenses on a planned scheme of fires, and lifting, with the approach of assaulting troops, to inland hostile fire support emplacements;

and/or shifting laterally to beat defenses flanking the landing beaches.

(3) The third, or direct fire phase, begins before assault waves come within direct fire of beach defenses, and consists of direct fire on enemy embrasures delivered from support craft, artillery on landing craft and tanks. (Close liaison with current study and development in the field of direct fire support for assault waves must be maintained in order to capitalize on all proven developments).

(4) The choice between blinding hostile direct fire by smoke or neutralizing it by direct fire requires careful study of known information of enemy defensive installations, terrain and weather. A smoke cloud once laid is controlled only by atmosphere and terrain, while control of gunfire is positive. Obviously, direct gunfire cannot be laid on targets which are in smoke. Probably both smoke and direct fire will be used to complement each other in a coordinated plan.

c.) Assault Platoons (1) - The Assault Platoon should be carried in one craft of suitable capacity, and should be loaded so that the Reconnaissance Section is the first to go ashore. See charts A and 1-A.

(2) The Platoon, accompanied by supporting tanks, lands under the protection afforded by support fire and smoke.

(3) The tanks, from positions on the beach hull down in water, deliver direct observed fires on embrasures from which destructive fires would otherwise be brought to bear on the Assault Platoons. These fires continue until the Assault Platoon is prepared to close with the pillboxes or other defenses and demolish them. Such support must be closely coordinated.

(4) The Scout Party of the Reconnaissance Section, operating in accordance with the accepted principles of scouting and patrolling, rapidly locates the hostile weapons and positions and selects the least difficult places for passage through an obstacle.

The Obstacle Crossing Party, taking advantage of all available cover, moves up to the obstacle at the points selected by the Scout Party and prepares to cross it or breach it. Wire mats or bangalore torpedoes may be used for this purpose.

(5) The Fire Support Section, with 60 mm mortar, and light machine gun teams attached, is landing immediately behind the Reconnaissance Section. As it debarks, the section should move quickly in suitable deployed formation to selected firing positions from which it may support the action of the Assault Section. Their positions may well be on the flanks of the gap through which the Assault Section will cross the obstacle.

(6) The Assault Section is the main force of the Assault. Consequently, on landing, care must be exercised to prevent its unnecessary exposure to hostile fire. It should immediately take up a suitable deployed formation and take momentary advantage of whatever cover is available while preparations are made for its employment. The mission of the Assault Section is to knock out defensive works which threaten to hold up the advance of assaulting troops, and it will utilize the assault principles set forth in I.C. No.33, "Attack of Fortified Position". It operates under close support from the Support Section and the Company Support Platoon, as well as accompanying tanks. Therefore, steps must be taken to coordinate the actions of these elements.

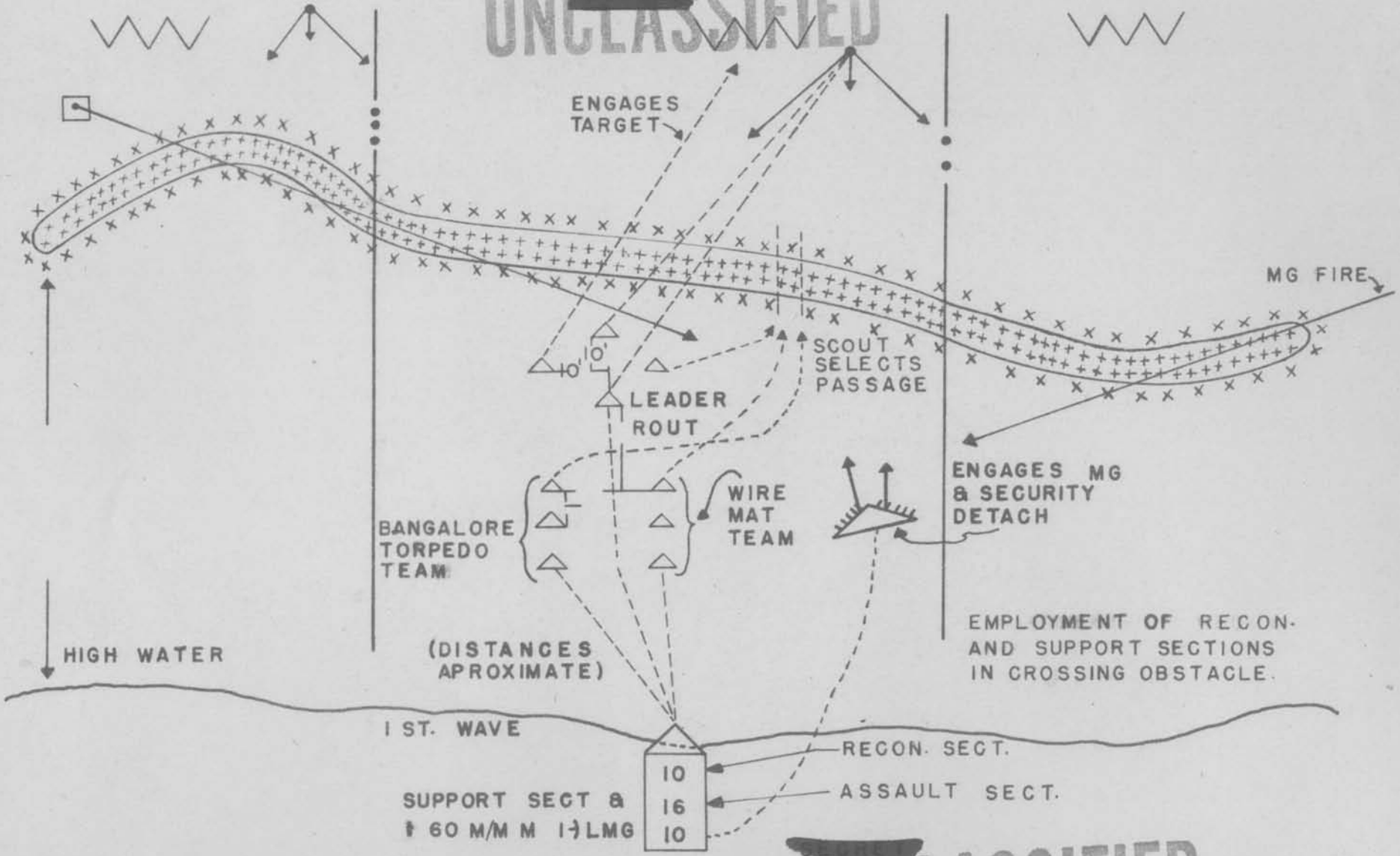

CHART "A"

CHART I-A

AUTH. GRANTED C.E. MAP AND REPRO.
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SIGNED H L Peckham
RANK 1st Lt AGD
SECTION Adjutant
DATE 29 Dec 1943

(7) Machine guns in fortified positions usually include weapons sited in open emplacements, having missions of protecting pillboxes, wire obstacles, minefields, etc. The relative ease with which these machine guns can be concealed makes them quite difficult to locate, especially during heavy firing of artillery and air attacks by both the enemy and friendly forces. As the fire of only one well concealed enemy machine gun may seriously delay the entire operation, Assault Platoons should be thoroughly trained in promptly locating and reporting such weapons. Machine guns in open emplacements will in general be engaged as follows:

As the Scout Party advances toward the enemy position, or after having halted temporarily in front of an obstacle to observe it, it may discover the location of a machine gun firing from an open emplacement. (While searching for the machine gun, the party should also seek to locate the position of the local security detachments protecting the hostile machine gun). If it appears that the fires of the machine gun and the members of the hostile security detachment may prevent the establishment of a passage thru the obstacle, the scouts will first attempt to knock out the machine gun crew. If it is not possible for them to engage the weapon, they may signal to the Support Section and indicate the target by the use of tracers, advising whether the target is to be engaged at once or on signal later, in accordance with plans. Fires of the Support Platoon, especially mortar fire, and the first of the accompanying tanks will also be utilized.

If the hostile fires will not interfere with the establishment of a passage, or if it is not practical to engage the machine gun from the positions available to the Support Section, the Scout Party will pick out some point within the enemy defense area from which effective fire can be directed on the emplacement when friendly troops are in a position to do so.

The Assault Platoon will not normally be used against machine guns sited in open emplacements.

(8) The reduction of pillboxes is the special mission of the Assault Section, which is the only unit of the Assault Platoon equipped with adequate means to accomplish the task. Assistance in the reduction of the pillbox is provided by all sections of the Assault Platoon, particularly the Support Section, whose primary mission is to engage hostile weapons which interfere with the operations of the Assault Section. The Assault platoon will be closely supported by direct gunfire of accompanying tanks and various types of support craft. These fires must be effectively coordinated.

The location of hostile pillboxes, particularly in the initial stage of landing, will be done by the Scout Party, which will pass the information on to the Assault Section. Upon receipt of information giving definite location of hostile pillboxes, rapid revision or modification of existing plans may be made by the Assault Platoon Leader,.

When the protective fires of hostile pillboxes are knocked out, or neutralized by friendly fire support, the Assault Section moves under cover of the fires to positions from which the reduction of the pillbox is undertaken in accordance with prepared plans.

(9) Thus, the Assault platoons in the first wave accomplish such silencing of emplacements as is required to pierce the initial defenses and sufficiently interrupt the continuity of defensive fire bands, to permit succeeding assault troops to cross the beach without prohibitive casualties.

d.) Second Wave - Assault troops in the second wave silence additional emplacements. If the scheme of maneuver is a frontal assault of the desired landing beach, the second and following waves widen the initial gap sufficiently to permit exploiting troops to get inland from the beaches, without fighting their way through or past beachline defenses. If the scheme of maneuver is the seizure of a lightly defended beach, from which to envelop the desired beach, part, or possibly all, of the second wave roll back the inside flank to permit enveloping troops to get through the immediate front, without stopping to fight and without receiving undue casualties from direct fire. The balance of the second wave may consist of the leading echelon of enveloping troops; or it may consist of platoons of the reserve company, which proceed to positions from which to pretect the outside flank of the envelopment. Both missions are urgent and their comparative urgency can be determined only by analysis of the elements of a specific situation. In any event, the battalion commander must be alert and bold in the use of his support company to seize and defend the perimeter of a small battalion beach head. A toe-hold on a beach is precarious. Every foot of terrain with defensive advantage that can be seized inside the beach lessens this precariousness.

e.) Battalion Base of Fire - The battalion commander must build up his battalion base of fire ashore as early as possible, in order to deal with hostile mortars and other heavy weapons. In addition to the weapons of the Heavy Weapons Company, the 4.2 inch chemical mortar, firing HE shell, is believed well adapted to this purpose. Self propelled artillery may be attached to the battalion, and should be landed as early as possible.

f.) The Regiment - The regimental combat team commander utilizes his Reserve Battalion to strike rapidly inland, over-run hostile mortar positions and seize good defensive terrain on the regimental intermediate beach head line in his zone of action. He must build up his base of fire for support of this action and support of subsequent defense against counter-attack, by early employment ashore of his attached artillery.

g.) The Division - The advance of the dominant terrain on the beach head perimeter is made by the Division Reserve Combat Team. Parachute troops, landing just before daylight and seizing dominant terrain on the division objective, may greatly facilitate the action of the division reserve.

h.) Maneuver - Throughout the action reserves are used to exploit success and advance the action inland. Commanders of all echelons must remember the race between the build-up and the movement of hostile main reserves. The beach head is essential to the build-up. Troops holding the beach head must have time to get braced before they are hit by a coordinated attack and they must have fire support in position, ready to fire. Only that energy is expended on the beach defenses which will facilitate inland advancement of the action and its support. Isolated defensive installations, not seriously interfering with operations on the used beaches, are dealt with later. Inland advancement is accomplished by reserves, fresh, organized and under control. Initial assault units will be somewhat exhausted and disorganized. They assist the advance of reserve units by fire on the flanks of the gap and may be reorganized to mop-up isolated sections of the beach defenses. Inland advancement with necessary speed requires alertness to opportunity, and boldness in the commitment of reserves.

i.) The problem of reducing the beach line fortifications and proceeding to the establishment of a beach head is the total problem within the scope of this circular. Reference is made to FM 31-5 for treatment of amphibious operations, to FM 100-5 for applicable doctrines of the combined arms, and to T.C. No.33 for doctrine regarding the attack of a Fortified Position. Familiarity with the provisions of these manuals and the field manuals of the arms and services concerned is essential.

The example that follows demonstrates the foregoing tactics and technique. Tactics, technique and example are presented as a guide. They must be moulded to fit the specific situation. Deviation from these guide lines is a command prerogative which the able commander will exercise and justify by the results obtained.

As stated in Sec V, the composition of an Assault Company may be varied to fit a particular situation. In this example a Company with four assault platoons has been used.

4.) Example: a.) The 10th Division (reinforced), assault division of the XVI Corps, has the mission of attacking a strongly fortified beach between the corps boundaries (as shown in Fig 1), seizing, defending and maintaining the beach head in the corps zone of action.

(1) Attached to the 10th Division:

(a) Tank Bn. (M)
(b) Tank Destroyer Bn
(c) CML Bn (Mtz)
(d) 2 Antiaircraft Bns., AW
(e) 2 Ranger Bns
(f) Shore Party Group.

b.) Supporting operations under control of higher echelons consist of:

(1) Air bombardment and naval gunfire support
(2) Seizure of dominant terrain on division intermediate beach head line by parachute troops.
(3) Delaying action against advance of hostile main reserves by glider-borne troops.

c.) Analysis of the situation confronting the 10th Division: Examination of terrain shows Able Beach to be about 3,500 yards long and Baker Beach about 600 yards. There is a good exit from Baker Beach, and one from Able Beach at Able Beach Red. Landing craft can beach at any point on either beach. Remainder of coast line in corps zone of action is rocky with steep cliffs, negotiable only by Rangers landing from rubber boats.

Known defenses are as indicated in Fig 1. It will be noted that Baker Beach is strongly defended throughout, and that Able Beach is strongly defended at its extremities. Defenses in the center of Able Beach are comparatively weak.

d.) Scheme of Maneuver -

(1) The division commander decides that he must have both exits in order to accomplish his mission. He accordingly decides to employ two combat teams abreast, one to seize the beach served by each exit. Baker Beach is flanked by rocky headlands and must therefore be assaulted frontally. On Able Beach it appears advantageous to penetrate the weaker center defenses initially and destroy the stronger defenses at the exit from the flank and rear, utilizing foot troops with hand carried weapons. This scheme of maneuver enables the attacker to maintain neutralization of defense areas at the extremities of Able Beach by naval gunfire, air bombardment, and smoke until a foothold has been gained and he is prepared to assault these defense areas. The defense area at the south end of Able Beach will be assaulted from the rear by CT28 after it has gained Baker Beach.

Ranger Battalions land under cover of darkness, approach by stealth and destroy the shore batteries on the two headlands flanking Able Beach. One regiment of parachute troops will seize dominant terrain on the nose of the division intermediate beach head line.

The chronological sequence of the different phases of this attack might be as follows:

H-hour is one hour after nautical twilight and two hours before high tide.

H minus two hours: Rangers land to destroy batteries on beach lands.

H minus two hours: Parachute troops drop.

H minus 60: Naval bombardment on shore batteries starts, only if batteries open fire.

H minus 30: Air bombardment starts.

H minus 20: Planes start laying smoke screen.

H minus 15: Parachute troops attack and glider elements of airborne division begin to arrive.

H minus 10: 4.2 inch mortars on landing craft assist in laying and maintaining smoke screen.

H-Hour: Leading wave lands.

The Division Commander's scheme of maneuver is shown in Figure 1 (operations overlay)

(2) Combat Team 29 capitalizes on the available length of weakly defended beach by landing two battalion teams abreast, thus providing for prompt inland advancement of the action by its right battalion. The left assault battalion lands on Able Beach Green, disposes of defenses in its front and proceeds to the attack of the defenses of Able Beach Red from the flank and rear. The lifting of supporting fires on these defenses is coordinated with the attack by this battalion.

The Reserve Battalion, prepared to land on either Able Beach Yellow or Red, lands and advances rapidly inland to the regimental intermediate beach head line on the left of the zone of action of Combat Team 29, (see Figure 1).

Combat Team 28 is compelled by the length of beach and strength of defenses to land with battalion teams in column. The leading battalion will penetrate the defenses and obstacles on Baker Beach and advance to the initial phase line, prepared to resist local counter-attack and protect the flank of the next

FIG I

BRITISH
XVI (U.S.) XXX

1ST BN., 100TH RANGER REGT. LANDING AT H-2 HRS., DESTROYS SHORE BTRY.

2ND BN., 100TH RANGERS REGT., LANDING AT H-2 HRS., DESTROYS SHORE BTRY.

APPROACH ACCORDING TO DEVELOPMENT OF SITUATION

COASTAL BTRY

COASTAL BTRY

DEFENSE AREA

DEFENSE AREA

DEFENSE AREA

DEFENSE AREA

ABLE BEACH RED

ABLE BEACH GREEN

ABLE BEACH YELLOW

BAKER BEACH

CT 29

CT 30

DIVISION LANDING ON CALL

DROP AT H-2 HRS.

BEACHHEAD LINE

REGT. INTER.

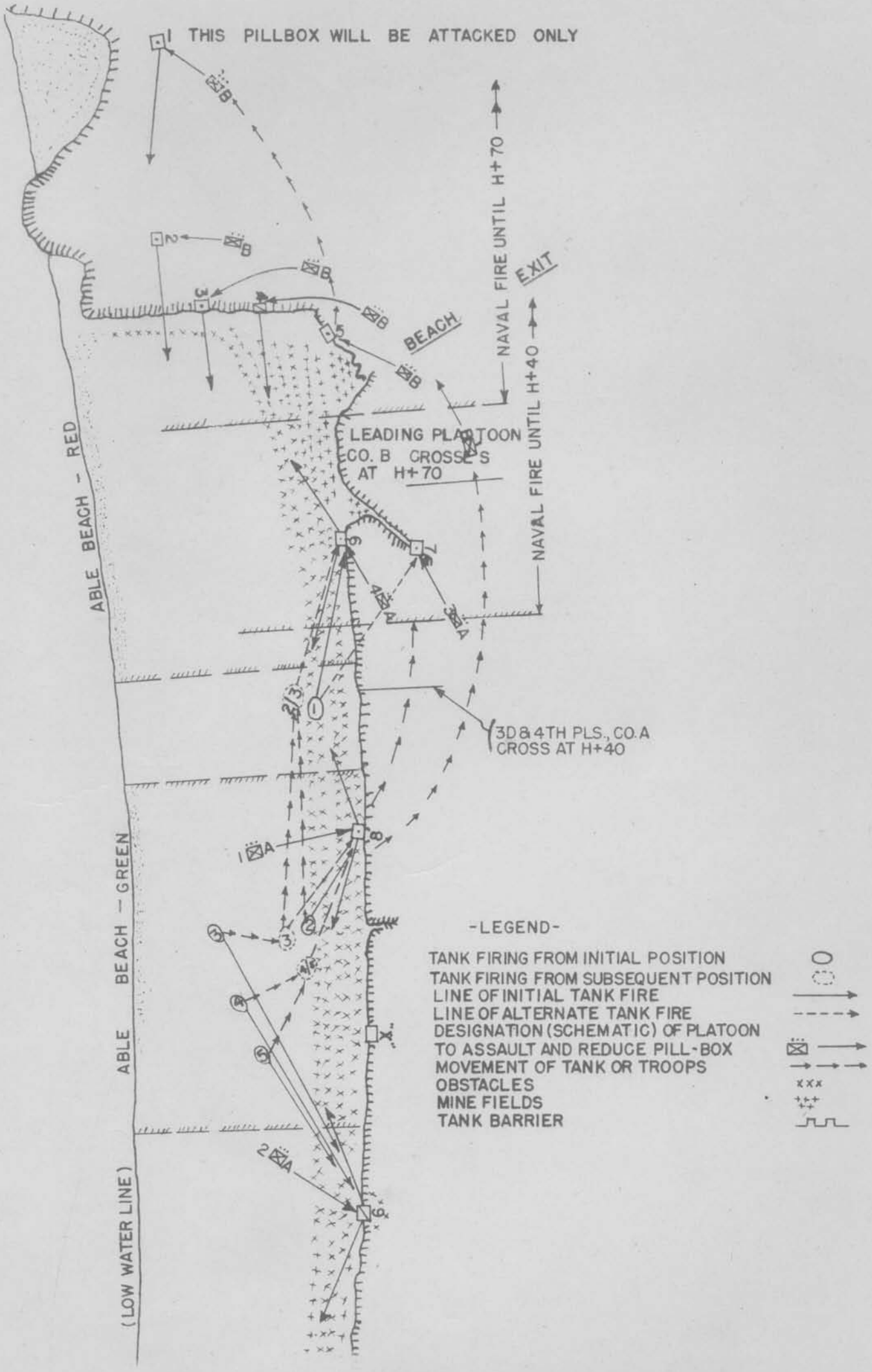
DIV. INTER. BEACHHEAD LINE

100 200 300 400 500 600

1 2 3

XXX

FIG 2


1 THIS PILLBOX WILL BE ATTACKED ONLY
NAVAL FIRE UNTIL H+70
EXIT
BEACH
NAVAL FIRE UNTIL H+40
LEADING PLATOON CO. B CROSSES AT H+70
ABLE BEACH - RED
3D & 4TH PLS., CO. A CROSS AT H+40
ABLE BEACH - GREEN
(LOW WATER LINE)
-LEGEND-
TANK FIRING FROM INITIAL POSITION
TANK FIRING FROM SUBSEQUENT POSITION
LINE OF INITIAL TANK FIRE
LINE OF ALTERNATE TANK FIRE
DESIGNATION (SCHEMATIC) OF PLATOON TO ASSAULT AND REDUCE PILL-BOX
MOVEMENT OF TANK OR TROOPS
OBSTACLES
MINE FIELDS
TANK BARRIER

battalion during its attack on the defense area at the south end of Able Beach. (Figure 1). The reserve battalion lands and advances rapidly inland to seize and hold the regimental intermediate beach head line in the regimental combat team zone of action.

e.) Details of Assault: The assault of the leading elements, left assault battaion of CT 29 will be examined in detail. (See Figure 2).

Neutralization of pillboxes 1 to 7, inclusive, will be maintained by naval gunfire during the initial phase of the assault. Pillboxes south of No.9 will be accounted for by the right assault battalion. Pillbox marked "X" represents a possible additional box, discovered only after landing and located not necessarily as shown, but anywhere along the beach defense line.

The battalion consists of two assault companies and one reserve company. The assault companies each contain four assault platoons. A company of tanks is attached to the battalion.

The battalion commander decides to attack in a column of companies. The first wave consists of two assault platoons supported by a platoon of five tanks. Under protection of direct fire on embrasures, delivered by tanks, the 1st Platoon, Co "A" assaults pillbox No.8 and the 2nd Platoon, pillbox No.9.

The second wave consists of the balance of Co "A" (Co Hqs and 2 platoons) and Co "B", less 2 platoons. The 3rd and 4th Platoons of Co "A" cross the beach in gaps created by the first wave, under protection of tank fires, and proceed to the assault of pillboxes 6 and 7. Naval gunfire and air bombardment shifts to include only pillboxes 1 to 5 inclusive.

Co"B"less 2 platoons, crosses the beach at the same time, and, swinging inside the 3rd and 4th platoons of Co "A", begins its approach to the attack of the defense area point covering Able Beach Green. The remaining 2 platoons of Co "B" assault the Able Beach Green defenses, each platoon closing with a specifically designated pillbox. Naval gunfire lifts when Co "B" approaches. Tanks for the support of this attack land in a later wave.

The order and timing of boat waves is derived from time and space estimation of the operation ashore. Troops in the second wave should pass through the gaps in the defensive fire band as soon as the gap is created by the reduction of pillboxes 8 and 9; not before. Fifteen minutes is allotted for the reduction of pillboxes 8 and 9. If the second wave lands at H plus 12, it is believed the gap will be created by the time it reaches the zone of defensive fire bands. Landing at this time, the points of the 3rd and 4th platoons, Co "A", should be within about 400 yards of pillboxes 6 and 7, by H plus 40, at which time, therefore, the schedule of naval gunfire provided that fire would shift to include only pillboxes 1 to 5, inclusive. Co "A" should be within 400 yards of an east-west line through pillbox 5 at H plus 70; therefore naval gunfire is scheduled to lift at this time. Tanks in support of Co "A" must be landed and ready to fire from the beach on pillboxes 2, 3, 4 and 5, when naval gunfire lifts; therefore these tanks are landed at H plus 1 hour. The third wave should land in time to enable Co "B" to proceed to its mission with no delay brought about by awaiting its 3rd and 4th platoons. Its landing time is set at H plus 18. Remaining boat space in the third and later waves is utilized in landing the reserve company, battalion base of fire, and necessary elements of the Shore Party.

In event of receipt of fire from a previously undisclosed pillbox, necessary change in plans must be made on the spot to

provide for its destruction. If pillbox "X" (figure 3) develops, fire of an additional tank is placed on it as soon as box No 8 is silenced. The 4th platoon, Co "A" might be directed to the assault of this box, in which event one platoon of Co "B" may be diverted to No.7. The deficiency in Co "B" may be made up by reinforcement from reorganized elements of Co "A". Prepared plans should include provisions for likely contingencies.

f.) A prearranged and rehearsed plan of tank fires provides for engagement of targets with maximum speed and minimum confusion. Reference is made to assignment of targets shown in Table 1 for an example. The tabulated assignment was arrived at by means of the following analysis. Initially, three tanks are placed on the antitank pillbox to insure prompt engagement by one. Then, assuming the ideal of no loss of tanks, the most conveniently landed tank is placed on a machine gun pillbox to cover each pillbox by the fire of one tank. The remaining two tanks are kept on the A-T pillbox. This sets up the second targets. Now it is assumed that two of the five tanks are destroyed. Pillboxes 6, 8, and 9 are most dangerous and must therefore be kept covered. Table 2 shows assignment of tanks to these targets, on the basis of loss of any two tanks. Assignments of targets to tanks is extracted from Table 2 and compiled in Table 3. Targets already assigned are removed from the assignment and the net additional targets shown in the last column. These are set down in Table 1 as alternate targets. We may now obtain a bonus by discovering upon landing that naval gunfire has destroyed one of the more dangerous targets. Target 8 is assigned as an alternate to Tank 5 to cover this contingency and target 7 to tank 6. Finally, a previously undisclosed target "X" may be discovered anywhere. Such target is therefore assigned as an alternate to the tanks with one other alternate target.

The assignment of targets to tanks 6 to 10 inclusive (2nd platoon) is worked out in exactly the same manner.

TABLE I

Tank No	Initial No	Target Type	Second Target No	Target Type	Alternate Target No	Target Type
1	6	MG	6	MG	7/X	MG/AT
2	8	MG	8	MG	6/X	MG/AT
3	9	AT	7	MG	6/8	MG
4	9	AT	9	AT	8/X	MG/AT
5	9	AT	9	AT	8/X	MG/AT
6	2	MG	2	MG	1/X	MG/AT
7	3	MG	3	MG	2/X	MG/AT
8	4	AT	5	MG	2/3	MG
9	4	AT	4	AT	3/X	MG/AT
10	4	AT	4	AT	5/X	MG/AT

TABLE II

Target	Tank									
6	1	1	1	2	1	1	2	1	2	3
8	2	2	3	3	2	3	3	4	4	4
9	3	4	4	4	5	5	5	5	5	5

TABLE III

Tank	Target	Previously assigned	Additional
1	6	6	
2	6-8	8	6
3	6-8-9	9	6-8
4	8-9	9	8
5	9	9	

g.) The plan presented in paragraphs e.) and f.) above, is intricate and in detail. Attack of a line of concrete fortifications involves employment of specific units and sources of fire on specific emplacements. Confusion can be avoided only by specifically detailed plans. He who hesitates and ponders on the beach promptly ceases to exist.

Execution of such plans can be successful only if rehearsed over and over against full scale reproductions of all that is known of the defenses on tbe beach to be assaulted. On the other hand, commanders must avoid becoming so frozen to fixed lines that they are unable to make prompt changes to meet the contingencies of battle. All echelons must be kept alert and flexible through introduction of such contingencies in rehearsals. All echelons must learn to anticipate various contingencies and have a plan in mind with which to meet them.

h.) The foregoing is a solution, not necessarily the last word. It demonstrates the need for specific planning and time and space estimation. It is not to be copied, but rather to be used as a starting point and a guide in planning and training for assault of a fortified beach line. Each commander must analyze his specific situation and plan accordingly. He must THINK!

5.) Time of Attack: While the attack illustrated took place after nautical twilight, circumstances in a particular situation may indicate that the attack be made at night.

Sec V, Chapter 1, FM 31-5 presents the considerations affecting the decision as to time of attack. Some minor modifications in assault technique may be required for night attack.

VII. SPECIAL TRAINING.

The complexities of assault landing require special organizations and equipment and these, in turn, require specialized training. The details of this training are discussed adequately in FM 31-5. One cannot over emphasize, however, the importance of full-scale rehearsals as the culminating phase of training. Higher commanders, in their planning, must recognize the importance of rehearsals and take positive action to insure that sufficient time and facilities are allotted for their execution.

[redacted] UNCLASSIFIED

VIII: APPENDIX

A.) USE OF SMOKE IN THE ASSAULT OF A STRONGLY DEFENDED BEACH

1.) Types of smoke weapons and munitions: Smoke may be put down by the following means:

a.) From aircraft by means of bombs or smoke tanks;
b.) By shellfire from mortars or field guns;
c.) By smoke generators, either fixed, mobile or floating;
d.) By smoke grenades.

2.) Aircraft

a.) There are two general types of smoke bombs that can be used from aircraft - the continuous burning type (HC or HC Substitute) and the instantaneous and non-continuous type filled with WP. A WP-filled bomb has the advantage of also being a casualty agent due to the incendiary effect of the burning particles striking defenders, but has the disadvantage that the time of emission of the smoke is not predictable. The HC smoke bombs can be counted on to produce a screening smoke for the predictable time of 5, 10 or 20 minutes.

b.) Smoke tanks (British S.C.I - Smoke curtain installation): Fighter aircraft and light or medium bombers can carry either wing or bomb bay smoke tanks. The liquid FM or FS (British CSAM) is discharged from the tanks while flying over the area to be screened. The length of the screen depends on the speed of the aircraft and the capacity of the tank.

c.) Float smoke bomb: this munition is under development. The bomb will function either from the land or water. It is expected that it will be in supply in the near future.

3.) Shellfire:

a.) Mortars are used for the close support of infantry units, and can establish and maintain a screen as long as the munition supply is ample. The two weapons for which smoke ammunition is available are:

(1) 4.2" Chemical Mortar, MIAI
(2) 81 mm Mortar, MI.

The number of rounds required is dependent on the width of the target and wind direction at the target, and also on whether a casualty effect is desired. The smoke (WP) capacity of the 4.2" mortar shell is 7.56 lb and of the 81 mm mortar shell, 4.06 lb. The 4.2" chemical mortar is fired by chemical troops, and can also fire HE: the 81 mm Mortar is fired by the infantry.

b.) Artillery: In the assault of a beach, artillery usually will not be available in the initial stages. Tanks can fire a smoke shell. British tanks are equipped with a breech loading mortar which fires a smoke shell. The utilization of the tanks will be best effected by their employment in their proper tactical role and should not be counted on to provide a smoke screen.

4. Smoke Generators:

a.) Smoke pots containing HC or CTC (Carbon tetrachloride

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composition - British) are available in many sizes and types. The burning times of these munitions vary with the weight and type of filling. The pots could be man-handled to a flank and fired to screen movements. A floating type is available which can be launched from assault craft. The screen can be maintained by firing additional generators as the original ones are burnt out.

b.) Mobile generators are mounted on trailers and provide a screen by the vaporization of a fog oil in a furnace. These generators are designed for long-time operation and produce a dense screen which holds together and moves with the wind just above the ground. A type known as the 'Esso' generator is available and could be operated from landing craft to provide cover from air attack for a beach operation. The use of these generators would be best made in covering subsequent landings after the initial assault has cleared the beaches.

5.)Smoke Grenades: These weapons produce a large volume of smoke for two minutes and can be thrown by the first wave onto the beach. A rifle grenade discharger is under development for this grenade.

6.) Tactical use of smoke:

a.) Time: Smoke screens in general require a time to establish and must be maintained. All operations which are dependent on smoke for their success must allow for the establishment and maintenance of the screen before being put into effect.

b.) Obscuring power: The value of smoke is in the ratio of 40:12:3, that is 40% hits without smoke, 12% when target only is obscured and 3% when the weapons are obscured. With this in mind, it must be realized that drifting screens (curtains), after initially covering the enemy, may move with the wind and obscure the attackers if the attack is not timed to coincide with the smoke effect. The effect of smoke is valuable on moonlight nights as well as during daylight, but the expenditure of munitions during night is much less. The maximum use of obscuration is made when the smoke blinds both the aimed small arms fire of the defenders as well as the enemy observation for artillery fire.

c.) Signals: Walky-talky radio communication should be available to all units and air-ground communication should be immediately available to ground force commanders as soon as they are in a position to direct the assault.

d.) Use of Aircraft:

(1) The initial screens will be placed by aircraft. In order to insure a satisfactory screen, it is of primary importance that the smoke-laying aircraft be given protection from small arms fire. This must be done by smoke bombs of a continuous burning type being dropped to provide a major degree of protection from aimed small arms fire so that it cannot be brought to bear successfully on all aircraft which are committed to a smoke mission. Time must be allowed for the protective screen to form before the curtain type of screen is laid over the beach defenses. Dependent on the wind, it may be necessary to re-establish the initial screen over the defenders before additional curtains are laid.

(2) Aircraft laying smoke curtains must be afforded fighter cover, and spare smoke laying aircraft should rendezvous so that they will be available for prompt usage should the situation warrant their employment.

(3) Inasmuch as the use of smoke is of primary importance to the ground forces, the aircraft should be under call of the air support party, who will utilize the aircraft as the situation develops, for the ground commander.

(4) The number of aircraft to be employed on a screening mission should be determined by the air officer in conjunction with the air chemical officer for the initial assault. Reserve aircraft (smoke) should be thereafter under the control of the ground force commander until released.

e.) Use of Mortars:

(1) Mortars are the chief means of producing smoke after the initial landings have been made. A high priority in landing should be afforded mortars and mortar ammunition in order that maximum use may be made of this weapon. The supply of ammunition will present the most difficult problem in the first stages of the assault.

(2) Smoke from mortars should be used to cover the approach of a unit when the advance is over open ground. Exposed flanks of units should be covered whenever threatened by enfilade fire. As the supply of ammunition will be limited, smoke should be used with economy and only during the critical stages of an assault.

f.) Use of smoke pots and mobile generators: the use of these munitions and equipment is governed by their availability and the necessity for their use in screening large areas. Their employment should be under the control of a chemical officer and should be coordinated with the antiaircraft officer. Their utilization is limited by the time required to establish a satisfactory screen and therefore can only be employed when an aircraft warning system is available. It is not possible that these munitions could be efficiently and satisfactorily used until 24 to 48 hours after the initial assault has cleared a port or beach.

g.) Depending on the wind direction, if onshore, floating smoke pots can be used to screen the flanks of assault battalions. The smoke floats can be transported in assault craft and dropped overboard, where they will burn for 12 minutes. Allowing the time necessary to establish the screen, the flanks can both be protected if an onshore wind is blowing.

h.) Support from boats: Low trajectory weapons of the supporting craft, both naval and landing type will be able to furnish some smoke cover in the initial stages of the assault. However, in the latter stage as the assault craft approach the beach their fire will have to lift and dependence made on aircraft smoke screens. Fire from mortars on assault boats during rough water will not be dependable and may well be a disadvantage.

B.) Use of Flame Throwers in the assault of a strongly Defended Beach.

1.

a.) At present the portable Flame Thrower M1A1 is

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the only weapon standardized and in supply to the American Forces. This is a pack type model with a capacity of four gallons of fuel and weighs about 70 lbs. filled. It is operated by one man and has a maximum effective range of 50 to 70 yards and can fire continuously for 12 seconds or in small bursts. The small bursts are the most effective as they enable the maximum range to be obtained with the greatest effect as change in aim is possible between shots.

b.) The British one hundred (100) Crocodile type flame throwers may be mounted on Sherman tanks. The fuel for this flame thrower, together with the nitrogen gas for the pressure is carried in an armored trailer connected to the tank by a universal joint. Four hundred gallons of fuel, sufficient for 20-three second discharges are carried. The trailer can be jettisoned by the crew without leaving the tank when the fuel has been expended. The tank maintains all its regular armament and after the trailer has been jettisoned it can perform its normal function. The mobility of the tank is only slightly restricted by the trailer. The range of the flame thrower is:

Maximum	200 yards
Maximum effective	140 to 160 yards.

2. Tactical use of Flame Throwers:

a.) The development of thickened fuel enables the flame thrower to be used at greater ranges than is possible with ordinary liquid fuels. The fuel is not consumed in flight and burns after it strikes the target. The thickened fuel is difficult to put out and burns without smoke. The morale effect of large flame is lost as well as the lack of smoke; these disadvantages are more than overcome by the range and continuous burning effect on the target.

b.) The pack type flame thrower is utilized for the reduction of field fortifications to provide close-in protection for the placement of demolition charges. The flame throwers must always be supported by other weapons, fire or smoke. Operators should be thoroughly trained as well as replacements or reserve operators, otherwise operations centered about its use will fail. A two-man team should normally be assigned each weapon.

c.) Each weapons team is normally assigned to an assault detachment. The assault detachment moves forward under supporting flat trajectory fire, and approaches a pill box on its blind side. Supporting fire from adjacent pill boxes must be neutralized before the assault detachment can approach the pill box. When the assault detachment is in position, the supporting fire is signalled to lift and the flame throwers rush the target, and blind and burn the gun crews. The demolition men then place their charges and all take cover for the detonation. After mopping up the detachment reorganizes.

d.) All equipment must be carefully checked before use; only from experience can the operator know the amount of fuel remaining after a partial discharge.

[redacted] UNCLASSIFIED

3.) The principle operations of the tank type flame thrower presupposes that the bulk of the enemy organization has been broken and the flame thrower would be used for mopping up trenches, bomb holes, pill boxes or houses. The tank can deal with 100 feet of trench with one or two shots lasting 2 to 4 seconds. The filling effect of a quantity entering a loophole will incapacitate the occupants of a pillbox. Likewise, machine gun posts near beach landings can be quickly dealt with from the flanks.

4.)The principle usage of the tank flame thrower is therefore as an accompanying tank. As soon as the beach minefield has been cleared, flame thrower tanks should be landed to assist the infantry in rolling back enemy flanks in order to extend the beach and landing areas.

C.) Chemical Warfare during the assault of a strongly Defended Beach.

1.) It should be expected that during and after the assault of the beaches chemical warfare will be begun. Chemical warfare combines flame, smoke and gas.

2.) The principle beaches may in all probability be protected with emplaced flame throwers. Destruction of this equipment by bombing and gunfire must be undertaken in order to make a successful landing.

3.) The approaches may be mined with vesicant mines H5 (mustard) or possibly large emplacements of CG (phosgene) which can be released at the will of the defenders. Destructions of these installations will have to be accomplished by bombardment or shellfire.

4.) Passage of gassed and contaminated areas will have to be made, relying on the protection afforded by the mask, protective clothing, shoes (properly and freshly impregnated) and protective ointment for personal decontamination. The British Cape, Anti-gas is to be preferred to the AS cover, protective individual, for protection against spray of vesicants from the air, as the British cape allows normal movement of the individual and affords the necessary protection.

5.) The concentration of troops in a landing area is a desirable target from the enemy's point of view for a spray attack. It should be expected that desperate attempts will be made to spray attack our troops. Although our equipment is satisfactory, there is the probability that large numbers will become casualties after a spray attack and this will be all the more to our disadvantage with the lack of decontamination equipment for clothing, lack of replacement clothing and lack of shelter until the beach head is established. Gas training, gas discipline and personal decontamination should have a high priority in all training programs.

6.) All ammunition and food brought ashore in the first stages should be in sealed containers to prevent contamination. It will be increasingly difficult to bring ashore, distribute and utilize the quantities of bleach necessary for decontamination. Dispersal of equipment and temporary abandonment of all except high priority items will be necessary until the chemical

SMOKE AND FLAME DEFENSE

Photograph # 1

Fixed Flame-Throwers emplaced on beach

Photograph # 2

Fixed Flame-Throwers emplaced in the water.

Photograph # 3

General effect of use of Flame Throwers on beaches.

Photograph # 4

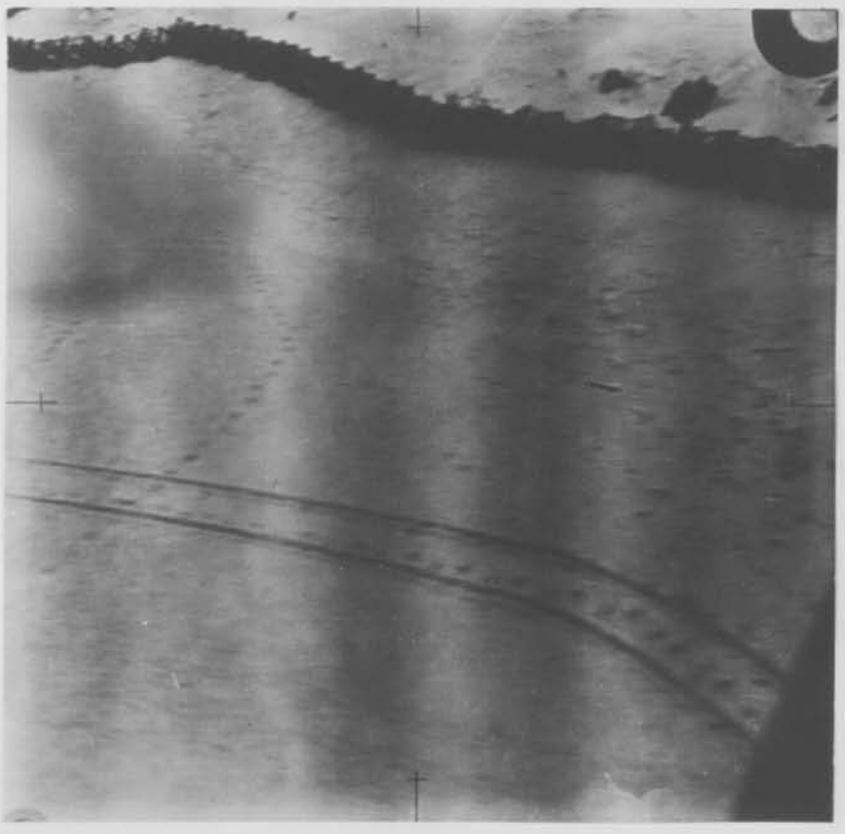
Close view of effect of Flame-Throwers on beach.

decontamination companies can be landed. All service units in the initial assault should be trained to decontaminate equipment using simple or improvised materials.

7.) Use of gas by our own troops would ordinarily not be a suitable employment of our ground forces. The Air Chemical Officer should advise the operations commander and Air Force Commander on the employment of the air arm for relation and casualty effect. The necessity for our troops passing through areas which we ourselves may have contaminated is a basic consideration that must be taken into account on every decision to use vesicants.

BEACH OBSTACLES

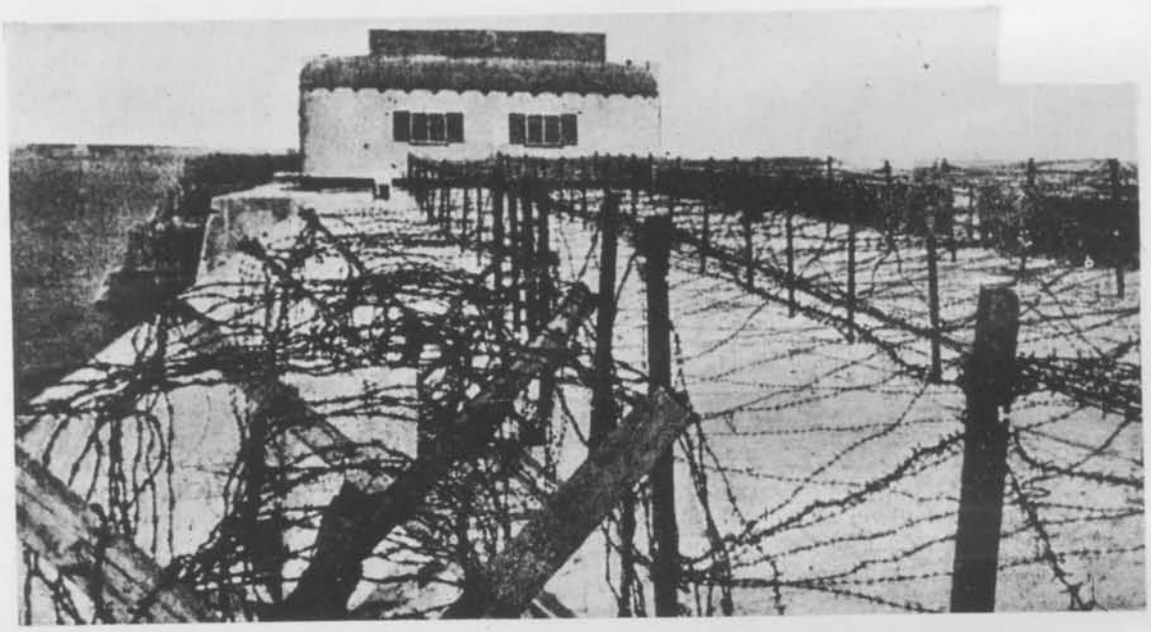
Photograph No. 1



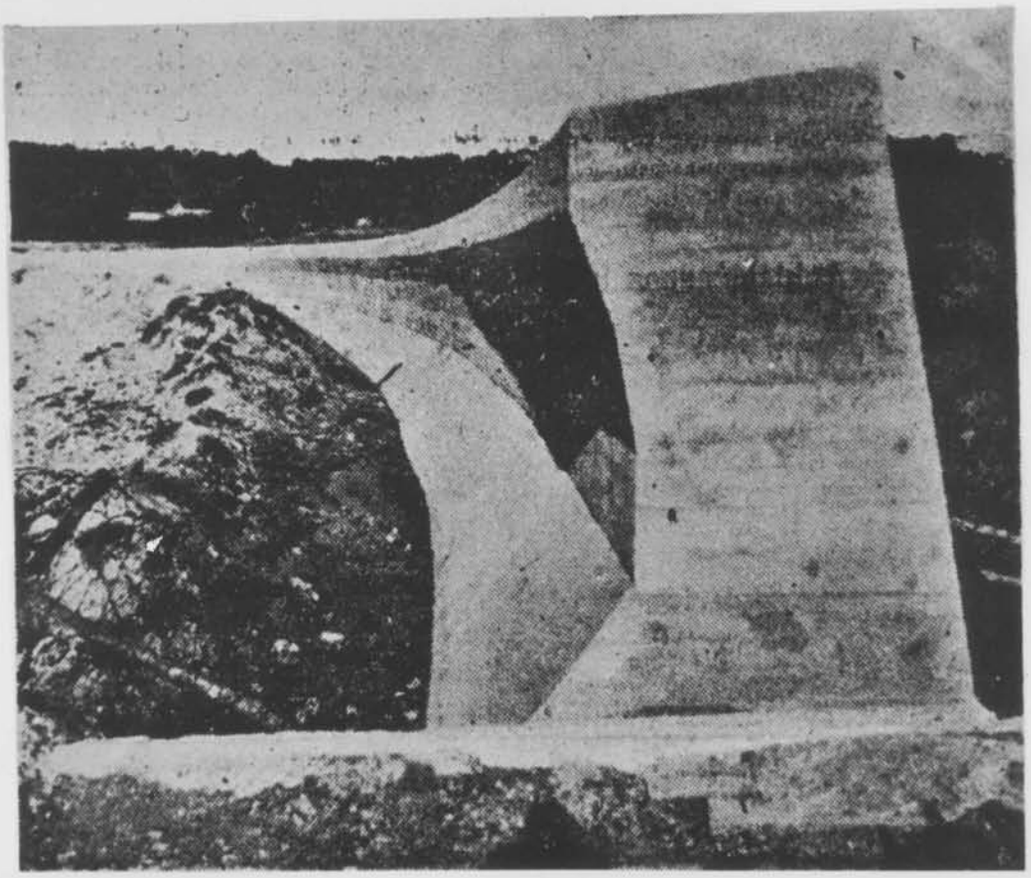
Photograph No. 2

Beach obstacles, wire: continuous belts of wire along all open beaches, usually sited between high water mark and the back of the beach, as above.

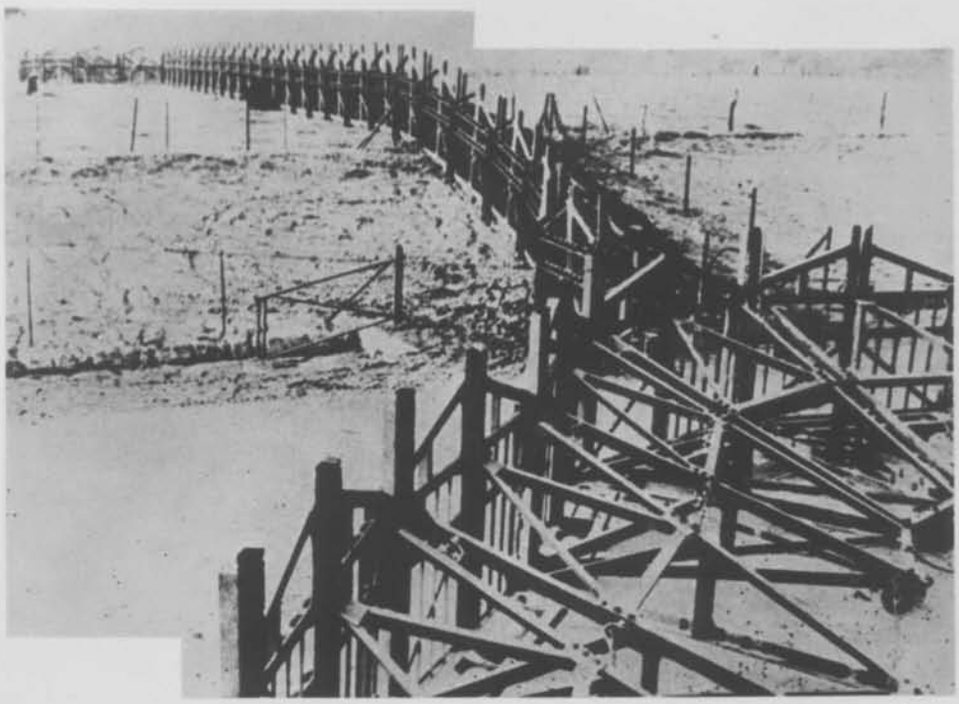
BEACH OBSTACLES



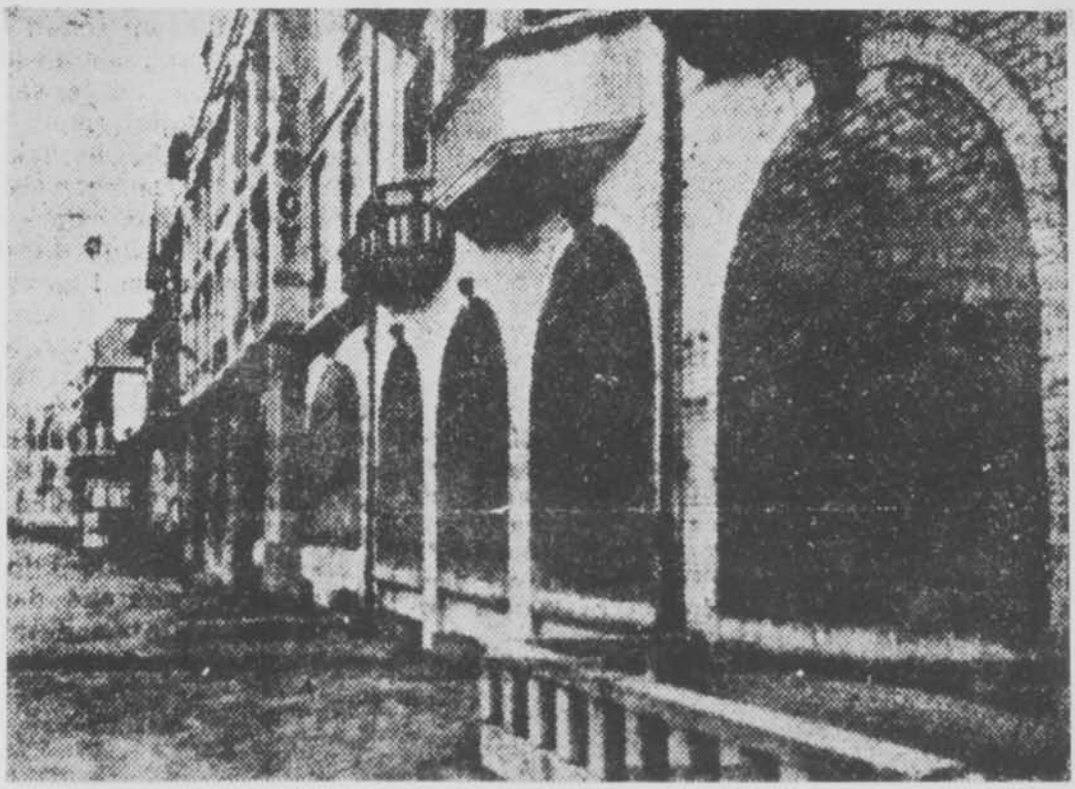
Photograph No. 3: Wire atop of Promenade.



Photograph No. 4: Reinforced concrete walls



Photograph No. 5: Steel fence obstacle, along open beach



Photograph No. 6: Walled up houses on sea-front of a town.

CONCLUDING REMARKS

ASSAULT TRAINING CENTER

CONFERENCE

CONCLUDING SESSION

HQ. ETOUSA.

23 June 1943

SUMMATION BY: THE CHAIRMAN, LT. COL. L. P. CHASE.

This is the last session of the Conference. Let us consider the record of the proceedings.

We have here copies of all the talks which have been edited to date. There are a few insert sheets which indicate speeches, not yet corrected and returned. They will be included as soon as they have been edited. We have also the conclusions reached as the result of each day's discussion, as approved by the Conference from day to day. We have incorporated also summaries of some of the discussions which did not reach the status of conclusions. Additional records of discussions are now under preparation.

These papers were issued to you in this draft form, so that you could run through them quickly, with especial attention to the parts you are interested in. This concluding session is your opportunity to raise any questions in connection with the proceedings. When the proceedings are put out in final form, it will include several things not now in this draft edition: foreword, table of contents, marginal index, and appendices; to make them more reasily usable. We do not expect anybody to sit down and read the proceedings from cover to cover. It is intended to be simply a reference work for those interested in a particular phase of the Assault Landing.

At the conclusion of today's discussion, we would like to have all of the tentative proceedings returned. The final edition will be ready for mailing about a week from now. Every member of the Conference will receive one copy and all interested agencies, both American and British, will be given additional copies. We are preparing a distribution list and should be glad to have your suggestions.

The training circular which Col.Lock's Committee has been preparing will be included as an appendix in this Record, in addition to being distributed separately as a tentative training circular. Comments on FM 31-5 will likewise be included in the appendix.

This is the occasion for a formal approval of the Proceedings details which have all been approved previously in the Conference. If there are no objections, the proceedings will stand approved, subject to the additions and corrections which have been mentioned here.

CONCLUDING REMARKS BY: BRIG. GEN. D. NOCE, A.C. of S., G-3,ETOUSA

A year ago when I got into this work actively, there was

very little that could be found dealing with amphibious operations. It was found, in the U.S., that the best we had was that of the Marine Corps. We have gone a long way since then. The officers who spoke before this Conference were the best informed people on the lines on which they spoke that I have yet seen assembled. We had Hughes-Hallet, the Commodore who commanded the Naval Force at Dieppe, and I think, was at Dunkirk. He knows this business from his own experience. We had Major General Roberts, the Canadian who commanded the Military Force at Dieppe. We had Gen. Candee talk to us and his speech on the "Air Support in an Attack" is the best I have heard on that subject. We have also had the advantage of having, in this group, Col. Lock, Col. Cleaves and Col. Adams, from Washington, who have been working right in the War Department since the beginning and Britishers who know this work over here. All in all, we have had very fine people. You have something here in this Record which puts your ideas down in concrete form. I assure you that it is going to be used.

The conclusions reached will be of benefit. I want to thank you all for your perseverance. The Assault Training Center is approved. We will have an important mission to perform in our work here. Thank you all very much.

CONCLUDING REMARKS BY: COL. P.W.THOMPSON, COMMANDANT, ASSAULT TRAINING CENTER.

I cannot add a thing to what Gen. Noce has said. Speaking for the Assault Training Center, I want to express my appreciation and the appreciation of all of us in the Assault Training Center, for the good work which has come out of this conference. As Gen. Noce has said, I am sure it is going to be put to good use. It is going to get us off to a flying start, and I think that some day it will "pay off" on the beaches.

APPENDIX

UNCLASSIFIED

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

14 May 1943.

SUBJECT : Conference on Landing-Assault Doctrine

TO :

1. You are invited to participate in the ETO Conference on Landing-Assault Doctrine, which will begin at 1000 hrs on 19 May with an address by Lieutenant General Jacob L.Devers, Commanding General, ETOUSA. A schedule of meetings for the entire conference and detailed agenda for the first week are enclosed.

2. The mission of the conference will be to develop in detail sound doctrine applicable to landing-assaults on heavily defended shores, with particular reference to cross-channel operations.

3. Several specially qualified officers are coming from the United States to attend the conference and it is considered highly important that well qualified senior officers on duty in this theater participate in it and devote a substantial portion of their time to it while it is in session in order that the doctrine developed may be representative of the best thought available.

For the Commandant:

LUCIUS P. CHASE
Lt. Col, Inf.
Conference Chairman.

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UNCLASSIFIED

[redacted]

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

30 April 1943

INVITATION TO SPEAKERS.

Memorandum to: Speaker's name.

Subject : Conference on Landing-Assault Doctrine for Assault Training Center.

1. Confirming our conversation regarding the Conference on Landing Assault Doctrine which is being arranged by the Assault Training Center, it is understood that you will address the Conference at ..... hours on ..... May on the subject:"..... in a Landing Assault". It is contemplated that the lecture will take approximately one-and-a-half hours, and will be followed by a conference discussion on the subject which will continue for most of the remainder of the day.

2. The conference discussion will be guided by an agenda, a tentative copy of which is attached. Your suggestions for its improvement will be appreciated. It would be helpful if this agenda could be returned by 10 May. Although your lecture is not limited to the agenda, and may be much more comprehensive, it should be developed with the agenda in mind.

3. For your information, the conference discussions will be premised on the following assumptions:

a. The purpose of the conference is to develop a training doctrine for the Assault Training Center, whose primary mission is to train divisions and their subordinate units for the assault of a heavily fortified Axis-held coast.

b. The operation contemplated is an invasion, not a raid.

c. The operation will be cross-channel.

d. The coastal area attacked will be within fighter aircraft range of airfields in the United Kingdom.

e. The specific terrain under consideration is the Appledore-Woolacombe training area, fortified to simulate German coast defenses. A sketch map of the area and fortifications will be supplied later.

4. It is desired that all lectures and discussions include a critical examination of the pertinent parts of FM 31-5, "Landing Operations on Hostile Shores". Frequent reference to the lessons of Dieppe, North Africa and other recent operations will be helpful. In this connection a rather extensive file of reference material is being assembled at Conference Headquarters, Flat 453, 20 Grosvenor Square.

LUCIUS. P. CHASE,
Lt.Col., Inf.
Chief, Int. & Ln.Sec.

Incl: 1 (Agenda)

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

14 May 1943

CONFERENCE ON LANDING ASSAULT DOCTRINE

CONFEREES.

FROM UNITED STATES

Col.Edwin P.LOCK, CE.	Engineer School,Ft.Belvoir
Col.Josiah T.DALBEY, GSC.	Chief of Staff, Airborne Command, AGF.
Col.Haskell H.CLEAVES, SC	Army Section,Amphibious Force, Atlantic Fleet, NCB.
Lt.Col.E.B.GALLANT, GSC	Logistics Group, OPD. War Dept. General Staff.
Lt.Col.Ray ADAMS, GSC	G-3 Division, War Dept. General Staff.
Maj.H.G.SIMMONITE,GSC.	G-4 Sec, OPD, War Dept. General Staff
Lt.Col.A.T.MASON,USMC	COMINCH & CNO, Navy Dept. and MARCORPS
Cmdr.W.H.TURNEY, USN.	COMINCH & CNO, Navy Dept.

FROM EUROPEAN THEATER OF OPERATIONS

HQ, ETO AND SOS

Brig.Gen.D.NCCE, GSC	G-3
Brig.Gen.N.D.COTA	Comb.Opns Liaison
Col.G.B.CONRAD, GSC	G-2 Sec
Col.L.P.HILLSINGER,AC.	Comb Opns Liaison
Col.H.W.GRANT, AC	Comb Opns Liaison
Col.H.V.CANAN, CE.	Eng Service, SOS
Lt.Col.J.B.L.LAWRENCE,AUS	Comb Opns Liaison
Lt.Col.H.E.ZELLER,GSC.	G-2 Sec
Maj.E.H.OSGOOD, FA.	G-5 Sec
Maj.W.L.JAMES, SC.	Sig Service, SOS
Capt.G.B.CAUBLE, SC.	Sig Service, SOS

ASSAULT TRAINING CENTER

Col.P.W.THOMPSON, CE.
Col.W.F.LEE, Inf.
Col.M.W.BREWSTER, FA.
Lt.Col.L.P.CHASE, Inf.
Lt.Col.J.B.HORTON, FA.
Lt.Col.J.T.MARTIN, MC
Maj.A.G.PIXTON, FA
Maj.W.A.BOESMAN, Inf.
Capt.H.J.KELLY, CE.

8TH AIR FORCE

Brig.Gen.R.C.CANDEE, AC
Col.Sheffield EDWARDS, AC
Maj.Wm.McWHORTER, AC.

U.S.NAVY

Col.W.T.CLEMENT, USMC
Cmdr.J.S.TRACY, USN

BRITISH

Maj.M.N.W.BURCH — 1 Corps, Home Forces

CONFERENCE ORGANIZATION

NAME	DUTY	FLAT	EXT.
Lt. Col. L. P. CHASE *	Conference Chairman	453F	140
Major J. M. McKEAGUE	Secretary	453G	140
Major W. A. BOESMAN *	Recorder	453G	140
Major A. G. PIXTON *	Recorder	454E	253
Major M. A. PALMER	Supply Officer	453G	140
Tech. Sgt. G. BLACK	Message Center	454B	375
Staff Sgt. GRIFFITH	Librarian	454B	375
Miss K. MASON	Conference Steno	454C	373
Miss I. VIDLER	Conference Steno	454C	373
Mrs. D. MUSCROFT	Conference Steno	454C	373
Miss M. KARSBERG	Secty: Room No.1	454C	544
Miss J. ROBERTS	Secty: Room No.2	454C	544
Mrs. M. MINNIS	Secty: Room No.3	454C	544

* Lt. Col. CHASE, Major BOESMAN, and Major PIXTON are also members of the conference.

[redacted]

CONFERENCE ON LANDING ASSAULT DOCTRINE.

GENERAL INFORMATION.

Message Center. extension 375. The Message Center is in the model room (Flat 454B), Conferees may use this telephone for incoming calls.

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Model Room. Flat 454B has been set aside as a display room, in addition to its use as a Message Center and library. Tech. Sgt. Black will be in charge of this room.

The following will be displayed:

a. Models of old and new landing craft which have been borrowed from the British Combined Ops HQ.

b. Mosaics of beaches on the western coast of France.

c. Pictures of actual German beach defenses, inland and coastal strong points, etc., and two viewing stereoscopes.

d. Terrain model of prospective training area for the Assault Training Center (ETOUSA).

e. Maps and pictures of Fifth Army Invasion Training Center.

f. Other material of interest to the conferees.

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TAB "B"

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

21 May 1943

CONFERENCE
ON
LANDING-ASSAULT DOCTRINE

Date	Time	Activity	Speaker
		PHASE I - ORIENTATION	
May 24 (Mon)	1000	Opening address Orientation talks Films: "Combined Operations" and "Vaagso Raid"	Lt Gen Jacob L Devers Col P. W. Thompson Lt Col L. P. Chase
	1600	G-5 Introduction	Lt Col C. R. Kutz
	1700	Lecture: Combined Operations	Maj Gen J. Charles Haydon Vice Chief, Comb Ops (Br)
unassigned time		Individual preparation	
		- - -	
		PHASE II - DISCUSSION OF DOCTRINE	
25 (Tues)	0930-1050	Lecture: German coastal defenses and defensive doctrine	Lt Col H. E. Zeller Lt Col Burton (Br) Maj Stamp (Br)
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
unassigned time		Individual preparation	
		- - -	
26 (Wed)	0930-1050	Lecture: Naval support of a landing-assault	Cmdr. Strauss, USN
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	1730	Lecture: Dieppe Raid Film: "Dieppe"	Commadore Hughes-Hallett, RN
unassigned time		Individual preparation	

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(Revised 21-5-43)

Date	Time	Activity	Speaker
May 27 (Thurs)	0930-1050	Lecture: Air support of a landing-assault	Brig Gen R.C. Candee
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
unassigned time		Individual preparation	
		- - -	
28 (Fri)	0930-1050	Lecture: Airborne troops in a landing-assault	Col J.T. Dalbey
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	1730	Film: March of Time "We are the Marines"	
unassigned time		Individual preparation	
		- - -	
29 (Sat)	0930-1050	Lecture: Armored fighting vehiclesin a landing-assault	Lt Col C.R. Kutz
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	1730	Lecture: Tanks in a landing-assault	Maj Gen P.C.S. Hobart C.B., D.S.O., O.B.E., M.C., 79th Armoured Division
unassigned time		Individual preparation	
		- - -	

(Revised 27-5-43)

Date	Time	Activity	Speaker
May 30 (Sun)		Day off	
		- - -	
31 (Mon)	0930-1050	Lecture: Reduction of obstacles and fortifications	Col E.P. Lock
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	unassigned time	Individual preparation	
		- - -	
June 1 (Tues)	0930-1050	Lecture: Artillery in landing-assault	Col G.B. Conrad Col M.W. Brewster
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	1730	Film: "North African Landings,I"	
	unassigned time	Individual preparation	
		- - -	
2 (Wed)	0930-1050	Lecture: Infantry in landing-assault	Gen N.D. Cota
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	1730	Film: "North African Landings, II"	
	unassigned time	Individual preparation	
		- - -	

(Revised 27-5-43)

Date	Time	Activity	Speaker
June			
3 (Thurs)	0930-1030	Lecture: Signal communications for landing-assault	Col Haskell H. Cleaves Col H.W. Grant Maj W.L. James
	1040-1230	Discussion	
	1230-1345	Lunch	
	1345-1445	Lecture: Chemical Warfare	Col H.W. Rowan
	1500-1700	Discussion	
	1715-1815	Review of previous day's conclusions	
	unassigned time	Individual preparation	
		- - -	
4 (Fri)	0930-1030	Lecture: Combined Arms in a landing-assault	Lt Col Ray Adams
	1040-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion	
	1600-1720	Review of previous day's conclusions	
	unassigned time	Individual preparation	
		- - -	
5 (Sat)	0930-1050	Lecture: Supply and Administration during landing-assaults Film: Amphibious Vehicles"	Maj A.G. Pixton
	1100-1230	Discussion	
	1230-1345	Lunch	
	1345-1545	Discussion continued	
	1600-1720	Review of previous day's conclusions	
	unassigned time	Individual preparation	
		- - -	
6 (Sun)		Day off	
		- - -	

(Revised 27-5-43)

Date	Time	Activity	Speaker
June 7 (Mon)	0945-1000	Remarks on trip to Woolacombe	
	1000-1100	Lecture by Maj-Gen.Hamilton Roberts C-in-Co, Holding Force, Canadian Army, C.O. of Ground Troops at Dieppe.	
	1115-1230	Exercise Kruschen	Brig.O.M.Wales
	1230-1345	Lunch	
	1345-1445	Lecture: Medical service in landing assault.	Col.C.B.Spruit,MC. Col.M.C.Grow, MC.
	1445-1645	Discussion	
	1700-1815	Review of previous day's conclusions	
	evening	Move to Woolacombe	

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PHASE III - PREPARATION OF FIELD EXERCISES

June 8 (Tues) to 13 (Sun)	all day	Committees develop field exercises.	
13 (Sun)	evening	Return to London	

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PHASE IV - ADAPTATION OF FM 31-5 TO ASSAULT TNG CEN'S MISSION

June 15 (Tues)	0930	General Discussion on adaptation of FM 31-5	
	balance of day	Committee work	
16 (Wed)	0930	Coordination Conference	
	balance of day	Committee work	
17 (Thurs)	0930	Coordination Conference	
	balance of day	Committee work	
18 (Fri)	0930	Coordination Conference	
	balance of day	Committee work	

Date	Time	Activity	Speaker
June 19 (Sat)	0930 and all day	Approval of Report on FM 31-5	
20 (Sun)		Day off	
		PHASE IV - CONCLUSION	
June 21 (Mon)	all day	Committee work	
22 (Tues)	morning	Committee work	
	1400	Talk - "Attu Operation"	Lt.Col.R.O.Bare,USMC
	1530	Conference for approval of notes on FM 31-5	
23 (Wed)	0930	Conference for approval of Training Circular	
	1430	Conference for approval of tentative Conference Proceedings	
	1700	Adjourn.	

For the Commanding Officer:

LUCIUS P. CHASE
Lt.Col., Inf
Conference Chairman.

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

1 June 1943

CONFERENCE ON LANDING ASSAULT DOCTRINE.

Committee Assignments for
Phase III - Preparation of
Field Exercises.

General Committee

Col. Paul W. Thompson, CE.	Commanding Officer
Lt.Col.L.P.Chase, Inf.	Conference Chairman
Maj.J.M.McKeague, FA.	Conference Secretary
Maj.M.A.Palmer	Conference Supply Officer
Lt. D.N.Short, QMC.	Conference Supply Officer
Maj.G.Phillipson-Stow	British Liaison Officer
Col.E.P.Lock, CE.	Engineer Advisor
Col.J.T.Dalbey, GSC.	Airborne Troops Advisor
Lt.Col.J.T.Martin, MC.	Medical Advisor
Lt.Col.H.E.Zeller,GSC.	G-2 Advisor

Committee No.1

Chairman: Brig.Gen.N.D.Cota

Col.W.F.Lee, Inf.
Col.W.T.Clement,USMC.
Col.H.V.Canan, CE.
Col.L.B.Hillsinger, AC.
Lt.Col.E.B.Gallant,GSC.

Committee No.2

Chairman: Col.M.W.Brewster, FA.

Lt.Col.A.T.Mason,USMC.
Maj.H.G.Simmonite,GSC.
Maj.Wm.McWhorter, AC.
Capt.G.B.Cauble, SC.

Committee No.3

Chairman: Lt.Col.J.B.Horton, FA.

Col.S.Edwards, AC.
Col.H.H.Cleaves, SC.
Comdr.J.S.Tracy, USN.
Comdr.W.H.Turney,USN.
Lt.Col.R.Adams, GSC.
Maj.A.G.Pixton, FA.

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

14 June 1943

CONFERENCE ON LANDING ASSAULT DOCTRINE

Directive for Phase IV.
"FM 31-5"

Phase 4 of the Conference on Landing Assault Doctrine will consist of adapting FM 31-5 to the specific task of a cross-channel operation against heavily defended shores. A complete revision of the Field Manual is not contemplated; however, some chapters of it may well be recommended for revision. Other portions may require expansion or amplification. Others may be disregarded as inapplicable.

Committees have been appointed as listed in Appendix "A" attached. It will be noted that several officers are on more than one committee.

Each Committee has been assigned a portion of the Manual for study as indicated below. Major items of responsibility are shown by underlining. Chapters so designated will be given primary attention by the Committee concerned and other chapters listed will be considered of secondary importance. Personnel of Committees which have smaller assignments of work, will be appointed to other Committees upon completion of their initial assignment.

Assignment of Work.

Committee # 1. (General)	Chapters 1, 2 sec.1, 5, & 11, and Assault Technique. (the latter not covered in the Manual, see par.144)
Committee # 2. (Engineer)	Chapter 10 sec.VI
Committee # 3. (Signal)	Chapters 5, 8, & 11 sec.III.
Committee # 4. (Naval)	Chapters 2 sec.III, 3, 4, 5, & 6, & appendices.
Committee # 5. (FA & Tanks)	Chapters 5, 6, 9, & 11.
Committee # 6. (Air)	Chapters 5, & 7, and Airborne Troops (Col.Dalbey)
Committee # 7. (Supply)	Chapters 2 sec.II, 5, & 10 (less sec.VI)

Committees will work separately, but the full conference will meet daily at 0930 hours for coordination. Coordinating procedure will be as follows:

(a) Each Committee will give the conference secretary, by noon of each day, questions which it needs to have answered by other committees.

(b) The secretary will turn the questions over to the proper committees for study and reply.

(c) Questions will be disposed of directly between the committees concerned, where possible.

(d) Questions requiring discussion or involving several

committees, or on which a conflict develops, will be placed on the agenda for the coordinating conferences the following morning.

Each Committee will submit a memorandum containing its recommendations on completion of its work. These will be consolidated and submitted to the full Conference for approval.

The schedule will be as shown in the Master schedule for the balance of the Conference. It is subject to adjustment from day to day as work progresses.

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

14 June 1943

CONFERENCE ON ASSAULT-LANDING DOCTRINE

PHASE 4. ADAPTATION OF F.M.31-5 TO ASSAULT TRAINING CENTER'S MISSION

COMMITTEE ASSIGNMENTS

Committee #1 (General) - (chapters 1, 2 sec. I, 5, and 11 and assault technique)
Chairman - Col. Lock
Gen. Cota
Col. Lee
Col. Clement
Col. Dalbey
Col. Edwards
Lt. Col. Adams
Lt. Col. Gallant
Lt. Col. Zeller
Maj. Boesman

Committee #2 (Engineer)-(chapter 10 sec VI)
Chairman - Capt. Murphy
Col. Lock
Capt. Kelly

Committee #3 (Signal) - (chapters 5, 8 and 11 sec III)
Chairman - Col. Cleaves
Col. Grant
Maj. James
Capt. Cauble

Committee #4 (Naval) - (Chapters 2 sec III, 3, 4, 5, and 6) (appendices)
Chairman - Comdr. Turney
Comdr. Strauss
Lt.Col. Mason
Comdr. Tracy

Committee #5 (FA) - (chapters 5, 6, 9 and 11)
Chairman - Col. Brewster
Col. Conrad
Lt.Col. Horton

Committee #6 (Air) - (chapters 5 and 7)
Chairman - Col. Edwards
Col. Hillsinger
Col. Grant
Col. Dalbey
Comdr. Tracy
Maj. McWhorter

Committee #7 (Supply) - (chapters 2 sec II, 5 and 10)
Chairman - Lt.Col. Martin
Maj. Pixton
Maj. Simmonite

HEADQUARTERS
ASSAULT TRAINING CENTER
ETOUSA (PROV)

16 June 1943

CONFERENCE ON ASSAULT-LANDING DOCTRINE

PHASE 4. ADAPTATION OF F.M.31-5 TO ASSAULT TRAINING CENTER'S MISSION

COMMITTEE ASSIGNMENTS

1. In addition to the committee set up in "Directive for Phase IV", dated 14 June 1943, the following committee is appointed:

Chairman Col.Lock
Gen. Cota
Col. Brewster
Col. Cleaves
Col. Dalbey
Col. Edwards
Col. Lee
Lt. Col. Adams
Lt. Col. Chase
Lt. Col. Horton
Lt. Col. Mason, USMC
Lt. Col. Zeller
Maj. McWhorter
Maj. Pixton
Capt. Murphy

2. It will be called the "Training Circular Committee", and it will take over from Committee #1 the mission of preparing a Training Circular on "Beach Assault Technique".

3. The work of this Committee will be given priority.

4. The Training Circular Committee will meet in the Conference Room