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Title: ANIMAL HOLDING AND BREEDING FACILITY

Serial No: 3-141D-15/A1

Pages: 6 + Plan

Notes: NRDL

U. S. NAVAL RADIOLOGICAL DEFENSE LABORATORY
San Francisco 24, California

A1-2
3-141D-15/A1
JIO:lps
JUL 27 1956

From: Commanding Officer and Director
To: Chief, Bureau of Ships
Via: (1) Commander, San Francisco Naval Shipyard
(2) District Public Works Office, Twelfth Naval District
(3) Commandant, Twelfth Naval District

Subj: Animal Holding and Breeding Facility (SSDP-12ND 1135),
Request for Category Change

Ref: (a) USNRDL Public Works Construction Program, FY 1958 submission
(b) BuShips Notice 11010 Ser 770-37 of 29 May 1956
(c) COML2 ltr ND12-001:SM:ua Ser 10414 of 19 Jul 1956

Encl: (1) USNRDL Durg S-56-840
(2) Description of Proposed Facility
(3) Revised Estimate of Cost

1. The Animal Holding and Breeding Facility Request is herewith re-submitted in accordance with reference (c).
2. The present animal facility, Building 707, is overcrowded for present needs. Due to earth settlement, ground moisture condition, and temporary type construction, there is a serious animal health problem in the winter, with pneumonia developing in the animals due to excess moisture. The animal feed frequently mildews before use, causing feed waste and occasional animal sickness due to spoiled food. The danger of epidemics among the animals is serious. The scientific program needs more animals than the present facility can furnish. More extensive studies in the effects of neutron radiations, which are of extreme importance to the Navy, Army and Air Force, will require the use of progressively more animals.
3. Reference (a) is the Shore Station Development Program, FY 1958 submission, which included a new animal facility at a cost of \$680,000, and reference (b) established a BuShips priority of "Essential" for this project in FY 1958. Enclosures (1), (2) and (3) delineate additional detailed requirements and revised cost estimate for the new animal facility.
4. The previous planned location of the proposed animal facility was in an area of the present railroad marshalling yard, thus requiring completion of the excavation and fill project (SSDB 12ND 682, First Increment) and relocation of the railroad marshalling yard (SSDB 12ND 1106) before construction of this facility could be started.

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5. In view of the pressing need for this new animal facility, it is requested that the category be changed from "Essential" to "Urgent" for FY 1958, and that the location be changed as shown on enclosure (1) to permit construction before completion of the excavation and fill and railroad yard relocation projects. The relocated position is approximately 400 ft. southwest of the former planned position and is within the assigned laboratory area. It is also requested that the estimated cost be increased to \$750,000 as shown on enclosure (3). The increased cost is due to (1) the increasing cost trend in this type of construction, and (2) additional utility service costs in the relocated position.

R. A. HINNERS

A. O. DORITY
By direction

Copy to:
SFNS w/encls
Advance copy to BuShips w/encls

DESCRIPTION OF PROPOSED ANIMAL BREEDING AND HOLDING FACILITY
(SSDB 12ND 1135)

COMPONENT A. Central Facility

The central holding and breeding facility will be a two-story, high strength reinforced concrete structure of 20,000 sq. ft. floor area. The building will be vermin-proof and fire-resistive construction and will be provided with all utilities. Construction will be typical veterinary and biological laboratory, with rounded corner tile or magnesite floors and wainscot. Floors will be sloped and provided with adequate drains, and washdown water connections will be provided. Rooms will have a 10' ceiling height with metal lath and plaster ceiling and upper walls. Plaster in dog areas will be sound absorbent type. Extra wide door openings are required, 5 ft. wide in cage washing and feed rooms and 4 ft. wide in all other animal rooms. All general lighting and convenience outlets will be vapor proof type; in the surgery room explosion proof electrical work will be required and other hospital operating room explosion safeguards will be provided. Complete air conditioning is required, including filters, ventilation, heating and cooling, and humidity control, with drafts held to a minimum. Re-circulation between rooms is not permitted. Separate room temperature control to $\pm 2^{\circ}$ F adjustable from 60° to 80° F, and humidity control adjustable from 20% to 80% is desired. An emergency heating means is required for the rat and mouse colony rooms in the event of failure of the air conditioning system or steam supply. Design for general floor loading of 200 pounds per square foot and 400 pounds per sq. ft. in the storage room is required and a freight elevator of 4,000 lbs. capacity is required.

Following is a tabulation of approximate specific area requirements:

1. Enclosure and shielding for 1 MEV X-ray Unit	20'x30' (full bldg. height)
2. Office and record room	150 sq. ft.
3. Laboratory	150 " "
4. Kitchen	100 " "
5. Cage sterilizer	600 " "
6. Storage (food and cage)	600 " "
7. Walk-in refrigerator	200 " "
8. Mouse breeding colony (3 rooms)	2,000 " "
9. Rat " " "	3,000 " "
10. Isolation rooms (3)	700 " "
11. Rat holding room	400 " "
12. Mouse " "	400 " "
13. Dog holding (4 rooms)	1,500 " "
14. Dog ward (sick)	250 " "
15. Monkey	400 " "
16. Hamster	350 " "
17. Rabbit	400 " "
18. Guinea pig	250 " "
19. Surgery room	200 " "
20. Locker rooms, heads, halls, service rooms, etc.	

Enclosure (2) to USNRDL ltr 3-141D-15/A1, JIO:lps of JUL 27 1956

COMPONENT B. Kennel

A kennel is required to house 150 dogs, 100 with individual enclosures and outdoor runs, and two rooms with space for 25 dog cages in each room. The kennel will be adjacent to and accessible from the central facility. The kennel will consist of a one-story reinforced concrete building of approximately 7,000 sq. ft., 10' ceiling, with windows and exposed joist, non-combustible roof structure. Sloping floors with adequate drain and washdown connections are required. Floor and wainscot covering of tile or magnesite are desired for ease of cleaning. Minimum lighting and convenience outlets are required. Winter heating to 70° F is required. Fenced outdoor runs are required adjacent to indoor enclosures, with sloping concrete deck, drainage and washdown facilities, and with wire enclosure. Each indoor run shall be 6 ft. x 6 ft. and each outdoor run shall be 6 ft. x 10 ft. Each animal run shall be separated solid from adjacent runs up to 4 ft. high to prevent spread of disease. Hallways 6 ft. wide are required. Fencing for outdoor runs shall be 7 ft. high and 2 runs shall have top wire covering.

COMPONENT C. Incinerator and Crematory

An incinerator and crematory building of approximately 400 sq. ft. is required in the vicinity of but not adjacent to the central facility Component A. A reinforced concrete structure mounted on a concrete slab, provided with floor drain and washdown connection is required. Incinerator should be large enough to dispose of 200 pounds of animal matter, plus 400 lbs. of animal waste and papers per day. The crematory should be large enough to hold carcasses 5 ft. long by 3 ft. wide by 2 ft. high and constructed with adequate means of recovering all ash for analysis purposes. Means will be provided for the control of flue ash, odors, toxic aerosol and gases. Necessary utilities and safety features for the protection of personnel are required.

ESTIMATE OF COST

Exterior Services (includes rr crossings)

300' - Steam and condensate in concrete trench @ 60-	\$ 18,000
200' - Domestic water	2,000
300' - Gas	1,200
300' - Sanitary sewer	2,400
250' - Sprinkler main and P I valves	3,000
Electric service, including transformers	12,000
Security fencing	500
Roads and walks	2,500
2 Fire hydrants @ 400-	<u>800</u>
	\$ 42,400

COMPONENT A. Main Structure

File foundation, 160 piles @ 150-	\$ 24,000
Concrete work	
Floors and roof - 370 cu. yds.	
Walls - 160 " "	
File caps - 40 " "	
X-ray shield - 200 " "	
	<u>770 cu. yds. @ 80-</u>
	\$ 61,700
Reinforcing steel, 50,000 lbs. @ \$.15	8,000
Roofing, 200 squares @ 22-	4,400
Doors and frames, 50 @ 400-	20,000
Stairs, 3 @ 200-	600
Elevator, 4,000 lbs.	25,000
Tile work, 30,000 sq. ft. @ 1.50	45,000
Metal lath and plaster, 3,000 sq. yds. @ 5-	15,000
Walk-in refrigerator (2,000 sq. ft.)	10,000
Air-conditioning, 20,000 sq. ft. @ 4.50	90,000
Lighting and power, 400 fixtures @ 100-	40,000
100 convenience outlets @ 20-	2,000
50 HP electric service @ 50-	2,500
Plumbing, 10 fixtures @ 300-	3,000
40 floor drains @ 50-	2,000
1 drinking fountain 300-	<u>300</u>
	5,300
Fire protection sprinklers, 20,000 sq. ft. @ \$.70	14,000
Miscellaneous unlisted items	<u>5,000</u>
	TOTAL \$372,500

Enclosure (3) to USNRDL ltr 3-141D-15/A1, JIO:lpb of JUL 27 1956

COMPONENT B. Kennel

Concrete work	
Structure, 200 cu. yds. @ 80-	\$ 16,000
Animal runs, 7,000 sq. ft. @ \$.60	4,200
Reinforcing steel, 60,000 lbs. @ \$.15	9,000
Roof structure, 7,000 sq. ft. @ 1.50	10,500
Roofing, 70 squares @ 22-	1,540
Windows, 110 @ 50-	5,500
Doors, 4 @ 200-	800
Floor drains, 60 @ 50-	3,000
Water service	300
Heating system, 7,000 sq. ft. @ \$.40	2,800
Lighting and Electrical	
70 fixtures @ 50-	3,500
6 outlets @ 30-	180
Fire protection sprinklers, 7,000 sq. ft. @ \$.70	4,900
Fencing, 7' high, - 1400' @ 3-	4,200
Tile work, interior, 8,000 sq. ft. @ 1.50	12,000
Concrete drainage trench, exterior, - 400' @ 10-	4,000
Miscellaneous unlisted items	<u>7,000</u>
TOTAL	\$ 89,420

SUMMARY OF ESTIMATED COST

Exterior Services	\$ 42,400
COMPONENT A - Main Structure	372,500
Collateral	140,000
Kennel - Structure and outdoor runs	89,420
Collateral	10,000
Incinerator and Crematory	40,000
Collateral	<u>10,000</u>
	\$704,320
Demolition of Building 707 and restore site	5,000
A & E Design	30,000
Administration and Overhead	<u>10,000</u>
TOTAL	\$749,320
Rounded to	\$750,000