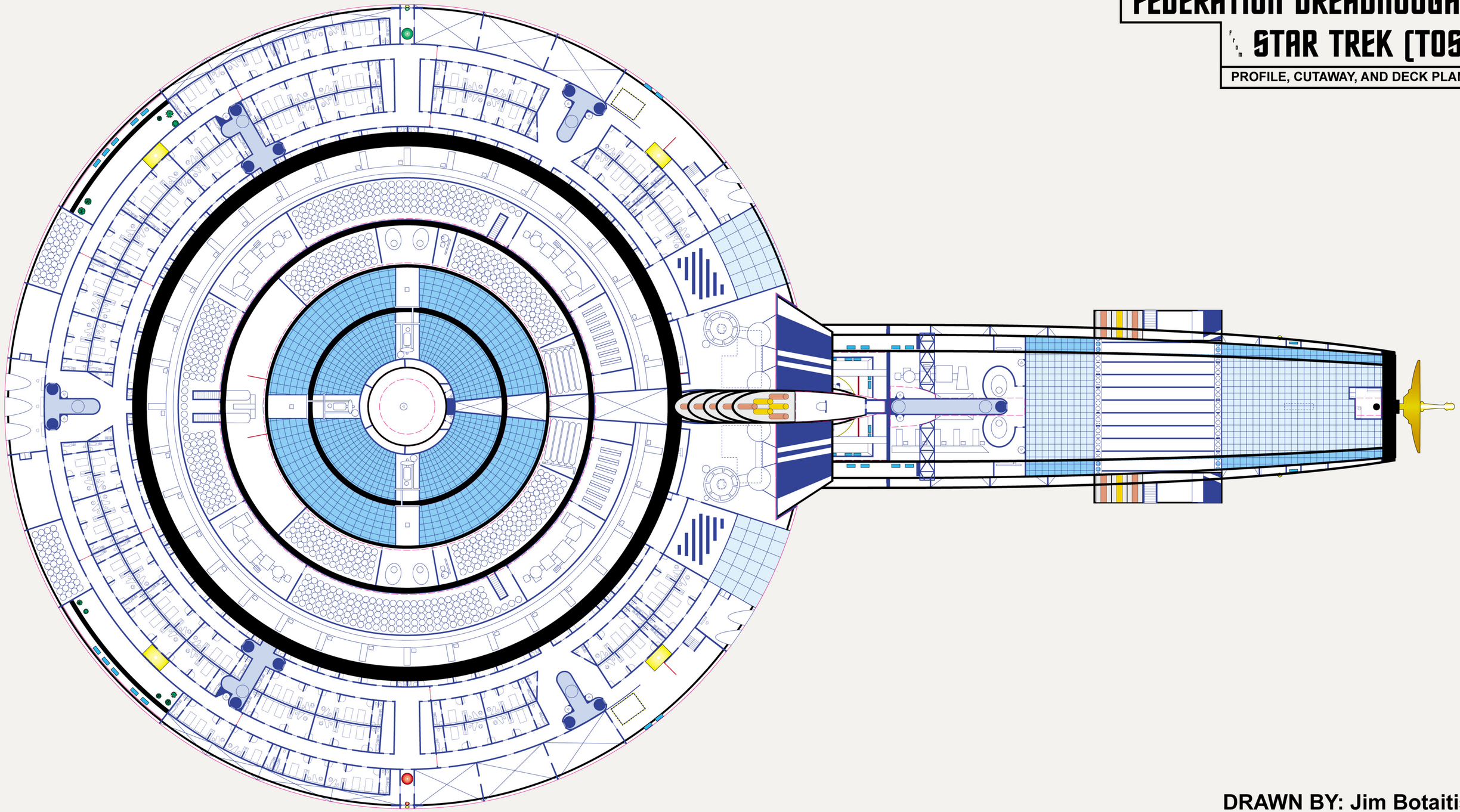
FEDERATION DREADNOUGHT

From STAR TREK (TOS)

PROFILE, CUTAWAY, AND DECK PLANS



DRAWN BY: Jim Botaitis

STAR TREK - FEDERATION DREADNOUGHT

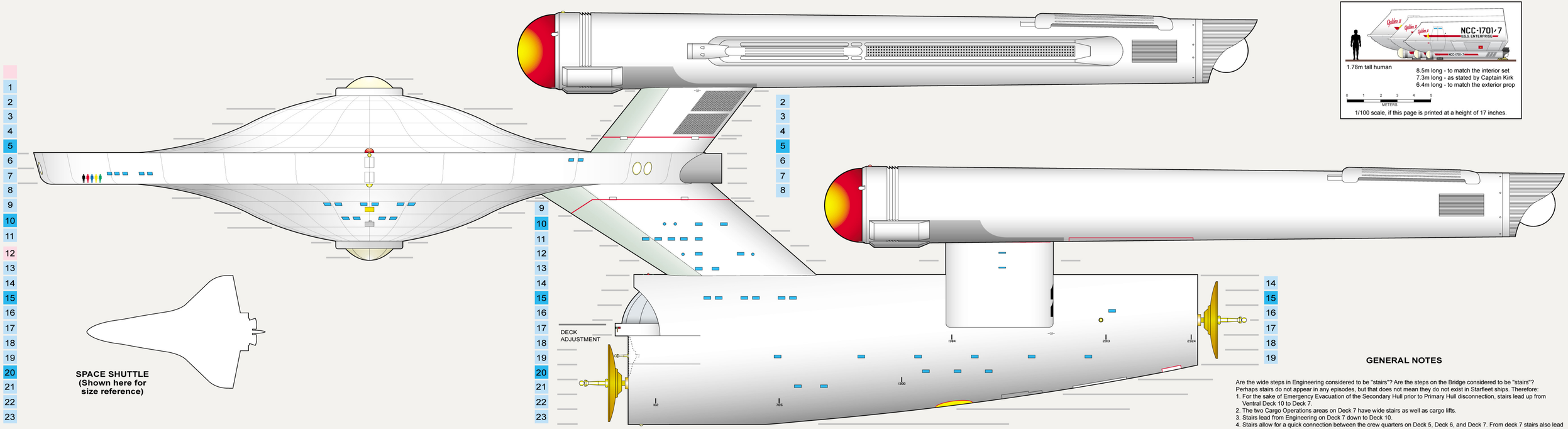
LAYOUT: PORT PROFILE **PAGE 1 of 24**

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0 5 10 15 20
METERS



SPACE SHUTTLE
(Shown here for size reference)

1.78m tall human

8.5m long - to match the interior set
7.3m long - as stated by Captain Kirk
6.4m long - to match the exterior prop

0 1 2 3 4 5
METERS

1/100 scale, if this page is printed at a height of 17 inches.

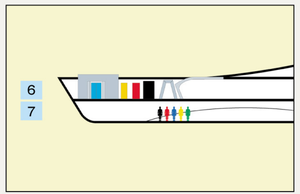
BACKGROUND HISTORY

This project is an extrapolation of the U.S.S. ENTERPRISE drawings developed in the year 2020. Those drawings were governed by 3 criteria:
(1) The 11-foot-2.08-inch (3.4-meter) studio model,
(2) The Writer's Guide, and
(3) The 79 episodes plus the original pilot.
There are no such criteria to guide these drawings, but the basic design philosophy is to complete the ships Franz Joseph (FJ) developed for his Technical Manual in the same style as his Heavy Cruiser blueprints. The goal is to try and fit all the components inside the hull.
But what are "all the components"? What is the role of a "Dreadnought" in the STAR TREK universe?

A "Dreadnought" was a type of ship on Earth in the early 20th Century. They were designed with an "all-big-gun" philosophy. As weapons and armor improved, the advantages faded. It could also be called a "Battle cruiser."

According to Star Fleet, a "Dreadnought" is a heavily armed starship. But more than that, it also has elaborate Electronic Warfare capabilities. The EW abilities are a result of the surplus power that is available from all the power generation systems in the ship.

This layout retains the lines as established by Franz Joseph. However, the shape of the Hangar Bay doors was adjusted slightly. Also, the leading edge of the neck - connecting the Primary Hull to the Secondary Hull - was moved forward slightly. Finally, some windows were moved and others were added. This FJ design appeared in the movies on various displays on the Bridge of the U.S.S. ENTERPRISE.



CONSTRUCTION NOTES

In CHARLIE X we saw how thick the walls are and also what is in the walls. The DESILU plans show walls that are 1 foot (0.3 meters) thick and sometimes even thicker. I decided to make all walls, decks, and hulls 1 foot thick, never thinner. In a few places, the walls are even thicker.

As with my Heavy Cruiser plans, I started at the edge of the Primary Hull (see image at left), where the height of 2 decks, the thickness of 1 floor, and the thickness of 2 hulls have to fit in this part of the saucer. Note that there is no undercut on the Primary Hull of a Dreadnought ship.

The edge of the Primary Hull on the Dreadnought is thicker, but we don't know how thick. Fortunately, the FJ drawing states the Secondary Hull is 30 meters in diameter. The light grey horizontal lines in the profile drawing (above) represent the floors. In order to maintain a constant and reasonable ceiling height (that is to say, the spacing between the lines), the Secondary Hull could contain 9, 10, or 11 decks. Extrapolating these three possibilities across the rest of the ship revealed that the spacing which allowed 10 decks to fit well within the Secondary Hull was the only spacing that also fit well within the rest of the ship. That spacing even aligned with the edge of the Primary Hull remarkably well. That spacing - the ceiling height - was 9 feet (2.74 meters). All the DESILU set details fit except for the 10-foot walls. There was only one adjustment made to this. The Hangar Bay's Flight Deck was shifted down slightly.
The dark grey horizontal line shows that adjustment.

The Separation Plane between the Primary Hull and the Dorsal Engine resulted in an upward shift of Dorsal Decks 2, 3, and 4.
Also, the Separation Plane between the Primary Hull and the Secondary Hull resulted in a downward shift of Decks 9 to 23.

Since disconnection equipment is located on Deck 8 and Deck 9, it makes sense to keep this area clear of crew and difficult to access except by authorized personnel.

The main sensor at the rear (the "Deflector Dish") has a Tractor Beam Controller built into it, as well as Electronic Warfare systems.

The original Franz Joseph drawing does not show an Impulse Engine for the Secondary Hull, but that would be required for that portion of the ship to have full maneuverability and independence. I suggest the two engine pylons are unusually wide so as to allow impulse engines to be placed inside them. If you accept this, then:
The Secondary Hull can operate independently. The only thing it lacks is sufficient crew quarters for extended-duration missions.

GENERAL NOTES

Are the wide steps in Engineering considered to be "stairs"? Are the steps on the Bridge considered to be "stairs"?
Perhaps stairs do not appear in any episodes, but that does not mean they do not exist in Starfleet ships. Therefore:
1. For the sake of Emergency Evacuation of the Secondary Hull prior to Primary Hull disconnection, stairs lead up from Ventral Deck 10 to Deck 7.
2. The two Cargo Operations areas on Deck 7 have wide stairs as well as cargo lifts.
3. Stairs lead from Engineering on Deck 7 down to Deck 10.
4. Stairs allow for a quick connection between the crew quarters on Deck 5, Deck 6, and Deck 7. From deck 7 stairs also lead to the main Recreation area on Deck 8.
5. Stairs allow access to the Hangar Bay door machinery and to the Shuttlecraft Maintenance area.

Aside from these stairs, the rectangular ladders (within rectangular alcoves) and the triangular ladders (within circular alcoves) supplement the turbo-elevator system. If that system fails, or in some other emergency, ladders alone would not be very efficient; it is easier to carry something up stairs than up a ladder.

There are external features that do not need to be marked: hatches for the Phasers, hatches for the Photon Torpedo Launchers, and the Primary Hull / Warp Engine disconnection line, to name a few.
These drawings attempt to make sense of the markings that ARE visible on the studio model of the ENTERPRISE, all of which are then extrapolated onto the Dreadnought.

More notes relevant to each deck appear on the following pages.

Contradictions and errors exist within the episodes. I am sure 100% continuity is not possible.

I hope these pages provide you with some pleasure, information, and ideas for contemplation / consideration.

If I missed something, please let me know.

Jim Botaitis
jbot@rogers.com
August 2020

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: STARBOARD PROFILE PAGE 2 of 24

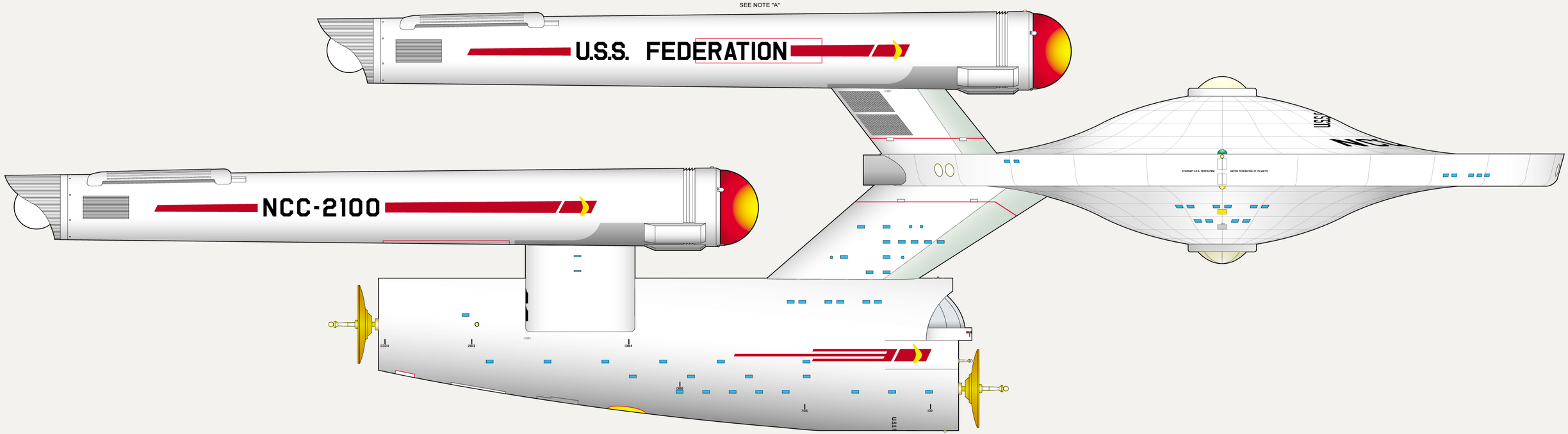
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0 5 10 15 20
METERS

SEE NOTE "A"



STAR TREK - FEDERATION DREADNOUGHT

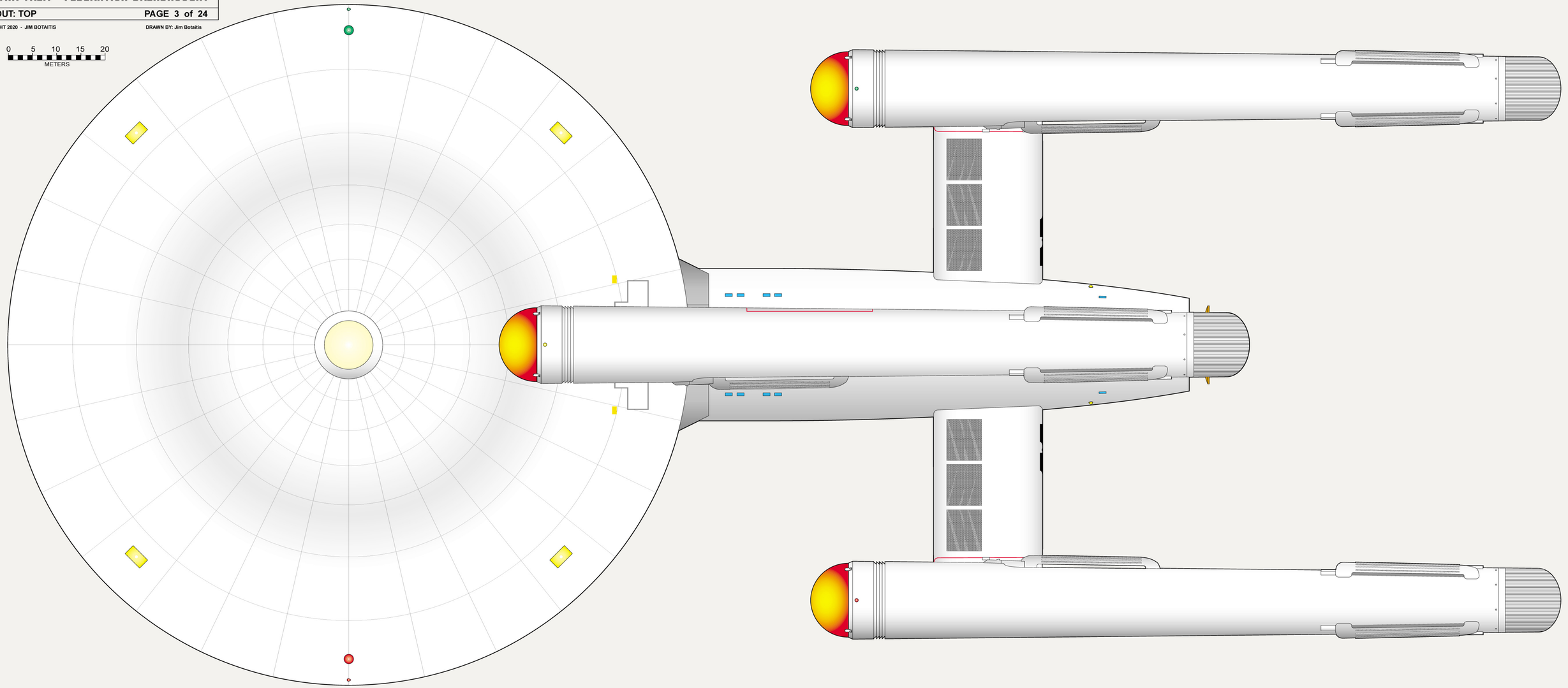
LAYOUT: TOP

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STAR TREK - FEDERATION DREADNOUGHT

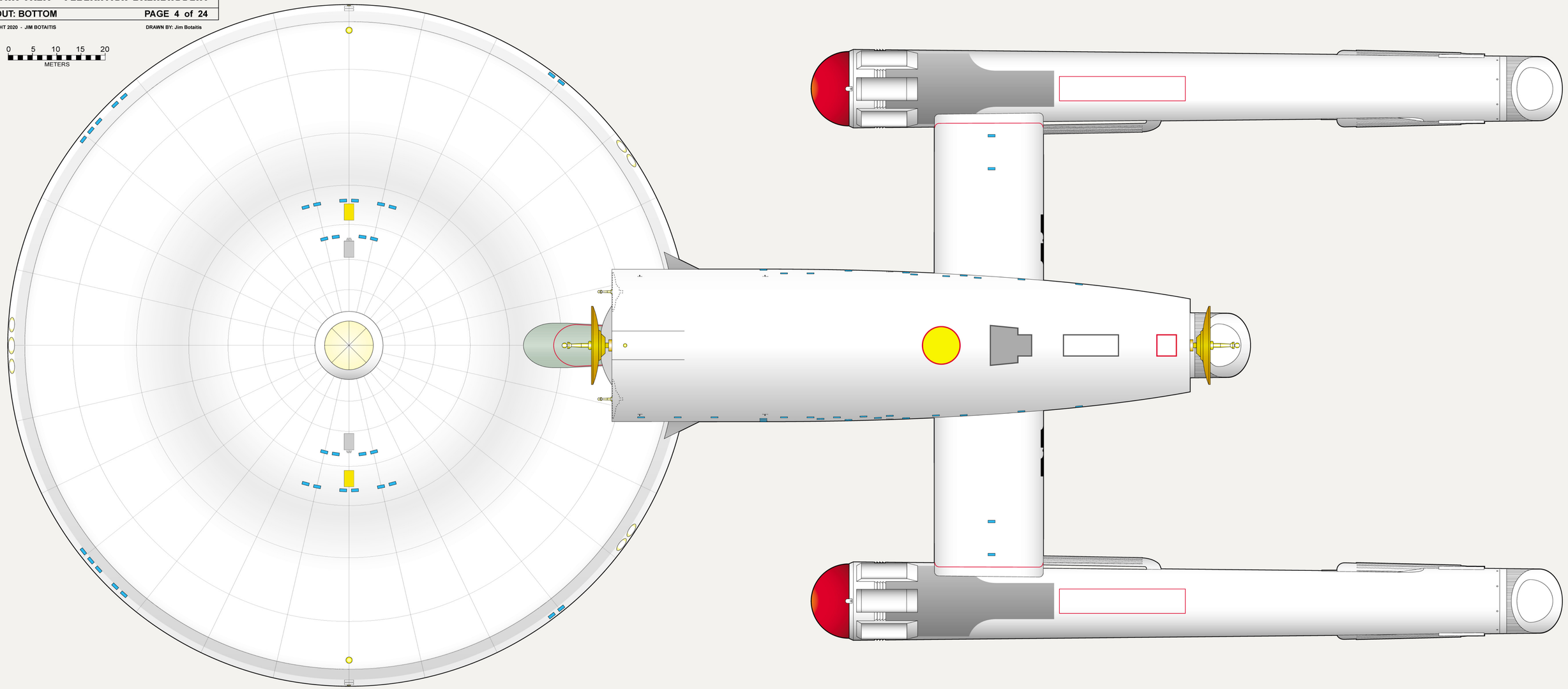
LAYOUT: BOTTOM PAGE 4 of 24

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METERS



STAR TREK - FEDERATION DREADNOUGHT

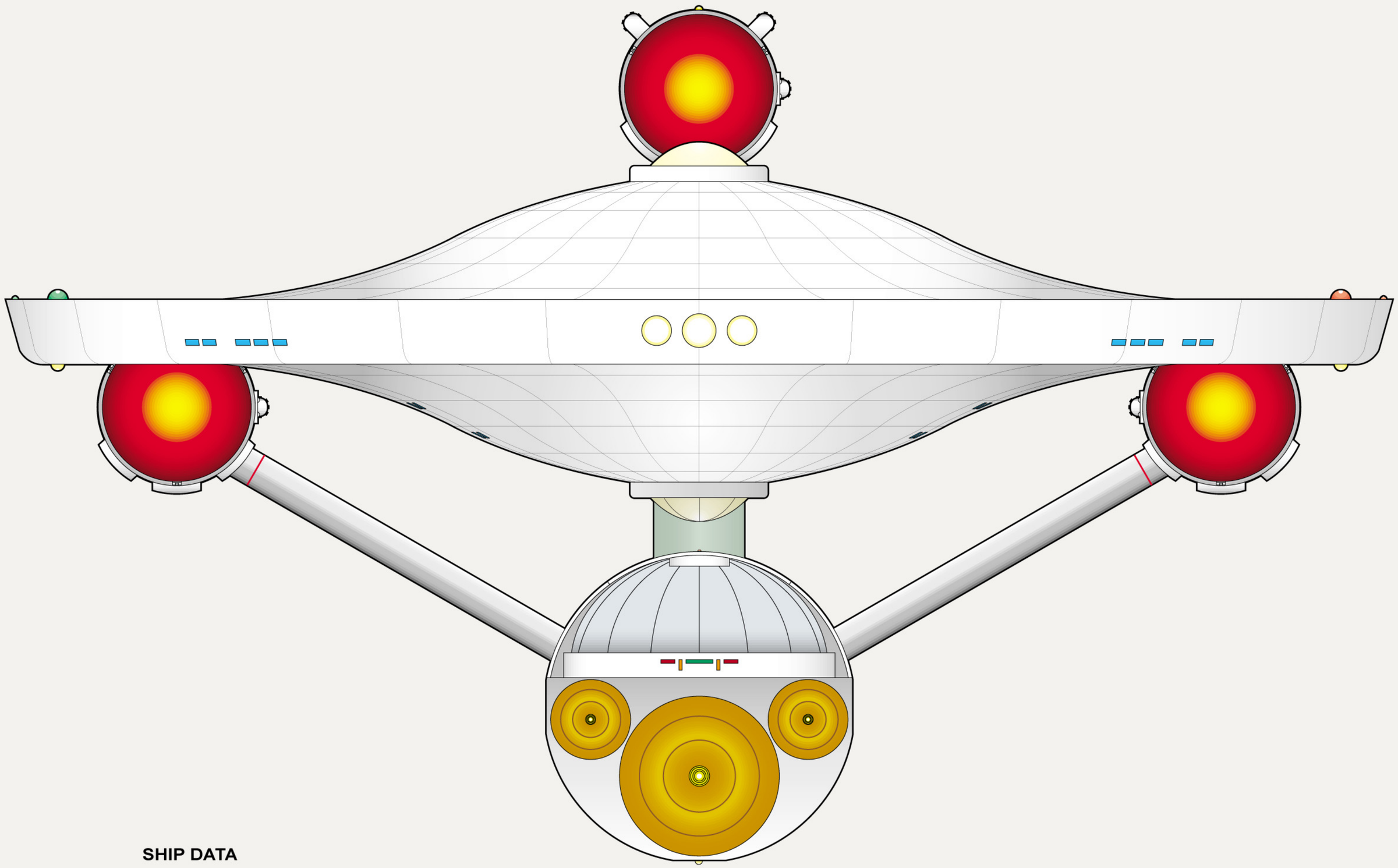
LAYOUT: FRONT **PAGE 5 of 24**

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SHIP DATA

LENGTH:	320 m
WIDTH:	140 m
HEIGHT:	87 m
TRANSPORTERS	
6-person:	4
22-person:	5
cargo:	2
SHUTTLECRAFT:	8
PHASERS	
banks of 2:	5
TORPEDO TUBES:	2

SHIP'S COMPLEMENT (PRIMARY HULL)

OFFICERS	47
ENLISTED	381
TOTAL :	428

SHIP'S COMPLEMENT (SECONDARY HULL)

OFFICERS	8
ENLISTED	64
TOTAL :	72

STAR TREK - FEDERATION DREADNOUGHT

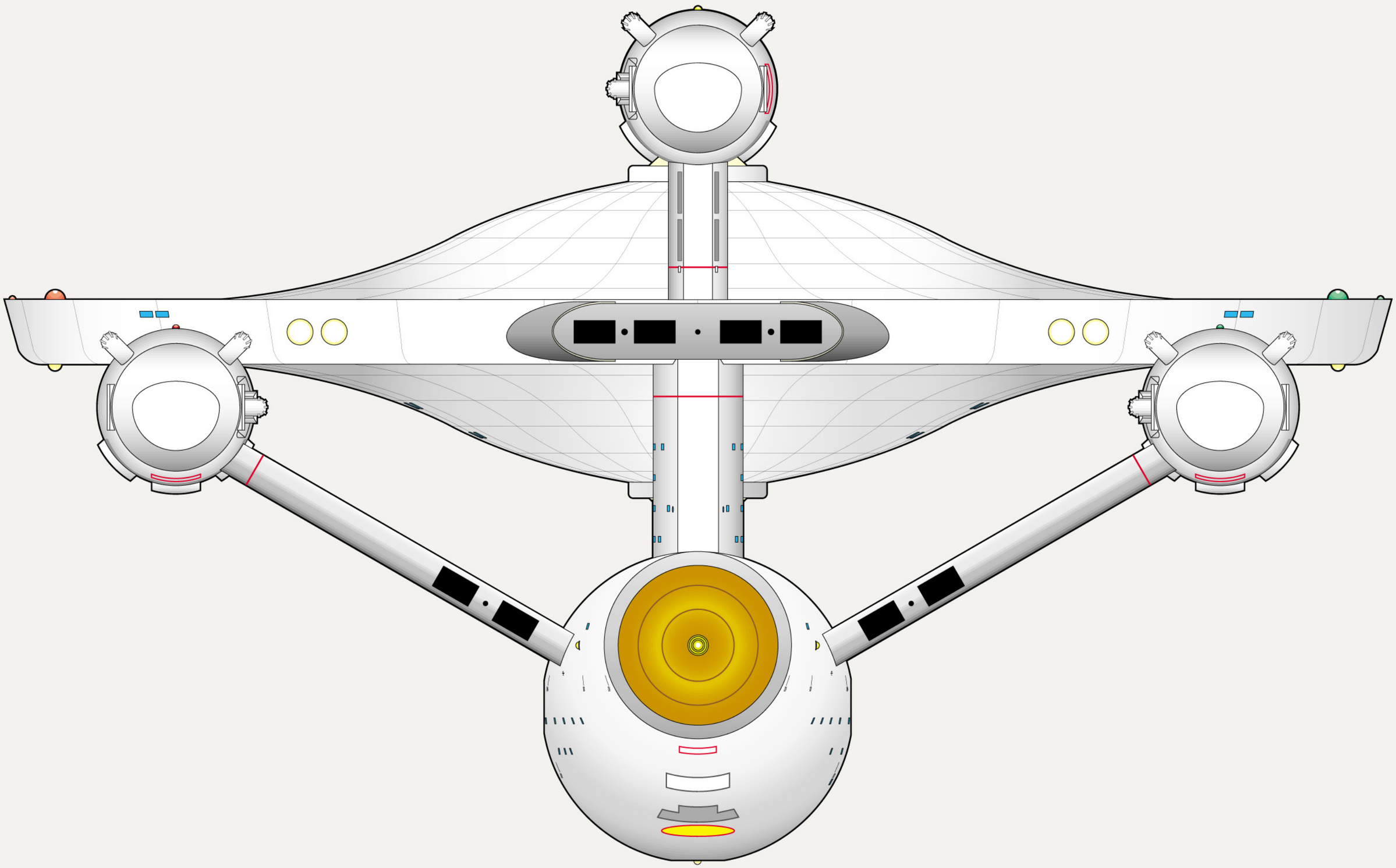
LAYOUT: REAR **PAGE 6 of 24**

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ACCOMMODATIONS

DECK 4 - Ring A - 6
Ring B - 12

DECK 5 - Ring A - 6
Ring B - 12
Ring C - 14
Ring D - 20

DECK 6 - Ring A - 12
Ring B - 20
Ring C - 24
Ring D - 30
Ring E - 32
Ring F - 40
Ring G - 34
Ring H - 32
Ring I - 12

DECK 7 - Ring A - 8
Ring B - 10
Ring C - 24
Ring D - 32
Ring E - 18
Ring F - 16

DECK 8 - 14

DECK 16 - 4

DECK 19 - 44

DECK 20 - 19

DECK 21 - 5

GRAND TOTAL : 500

SHIP'S COMPLEMENT

OFFICERS 55
ENLISTED 445

TOTAL : 500

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: PORT CUTAWAY **PAGE 7 of 24**

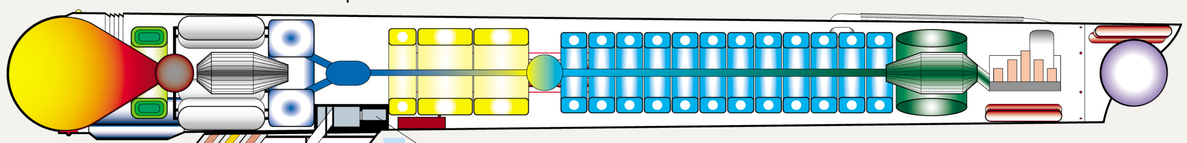
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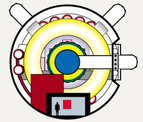
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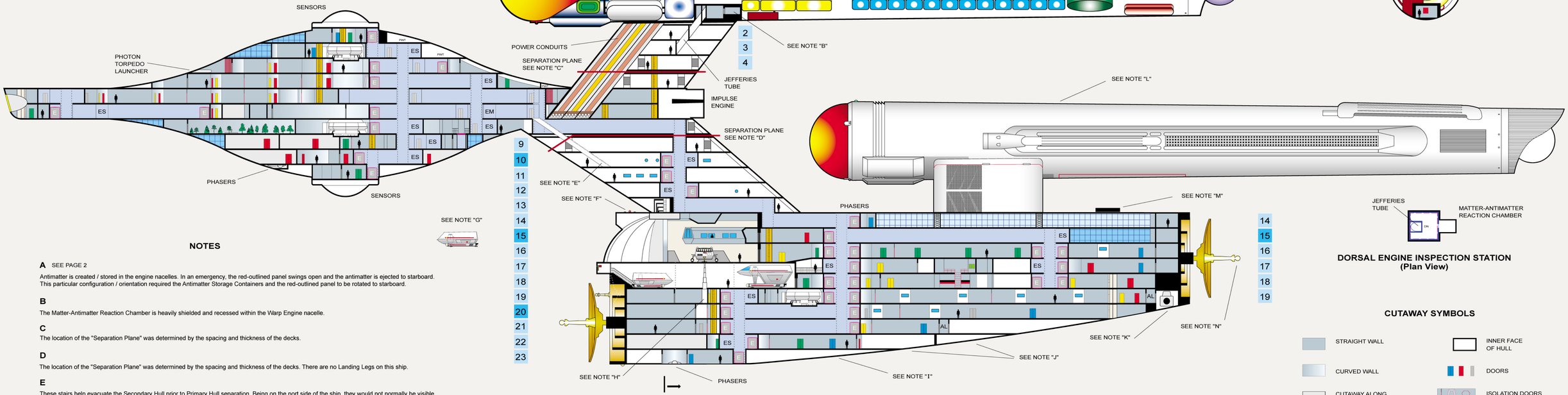
0 5 10 15 20
METERS

DORSAL ENGINE INSPECTION STATION
(Cross-section, Looking Aft)



DORSAL ENGINE INSPECTION STATION
(Cross-section, Looking Aft)





DORSAL ENGINE INSPECTION STATION
(Plan View)

HANGAR BAY
(Cross-section, Looking Aft)

SEE PAGE 23

NOTES

A SEE PAGE 2

Antimatter is created / stored in the engine nacelles. In an emergency, the red-outlined panel swings open and the antimatter is ejected to starboard. This particular configuration / orientation required the Antimatter Storage Containers and the red-outlined panel to be rotated to starboard.

B

The Matter-Antimatter Reaction Chamber is heavily shielded and recessed within the Warp Engine nacelle.

C

The location of the "Separation Plane" was determined by the spacing and thickness of the decks.

D

The location of the "Separation Plane" was determined by the spacing and thickness of the decks. There are no Landing Legs on this ship.

E

These stairs help evacuate the Secondary Hull prior to Primary Hull separation. Being on the port side of the ship, they would not normally be visible in this view, but their location is shown for clarification. See Page 17 for more info.

F

These 3 lights could be Hangar Bay flight control lights or Tractor Beam status lights, or formation lights for the ship.

G

The Shuttlecraft used here measure 28 feet (8.5 meters) in length, as suggested by the size of the interior set. The studio prop was 21 feet (6.4 meters) which was about 3/4 of the intended size. Kirk mentioned the Shuttlecraft is 24 feet (7.3 meters) long. A larger Shuttlecraft requires a larger Turntable / Lift. Also, a larger Shuttlecraft requires the Lift to reach down 2 levels.
The turntable is big enough to hold a Cargo Shuttle.
The standard complement for a Heavy Cruiser is 4 Shuttlecraft; for a Dreadnought, the standard complement is 8.

Special thanks to Dana E. Lubich for permission to display the Cargo Shuttle design which Dana developed 30 years ago.

H

The Shuttlecraft Lift is not necessarily hydraulically operated. This symbol could also represent anti-gravity equipment.

I

The round hatch is for access to the Emergency Transporter room. That area can also provide access to the oversized cargo hold (see Note "J" below).

J

The long rectangular hatch and the polygon hatch on the underside of the Secondary Hull are for oversized cargo. They open into a large cargo space which has its own airlock.

K

The Ion Storm Pod is located at the rear most hatch on the underside of the Secondary Hull.

L

The details of this pylon and engine are shown on Page 8.

M

This is the Deuterium Refueling hatch, located between the 2 red lines which run along the spine of the Secondary Hull.

N

The Tractor Beam Emitter is built into the rearward-facing Sensor Dish.

O SEE PAGE 8

The Matter-Antimatter Reaction Chamber is heavily shielded and recessed within the Warp Engine nacelle.

P SEE PAGE 8

Antimatter is created / stored in the engine nacelles. In an emergency, the red-outlined panels swing open and the antimatter is ejected down and outward.

CUTAWAY SYMBOLS

- STRAIGHT WALL
- CURVED WALL
- CUTAWAY ALONG WALL
- RAILING
- ROUND LADDER ALCOVE
- RECTANGULAR LADDER ALCOVE
- JEFFERIES TUBE
- INNER FACE OF HULL
- DOORS
- ISOLATION DOORS
- PRIVACY SCREENS
- STAIRS
- TREE, SHRUB
- CUTAWAY THROUGH DECK
- CUTAWAY ACROSS WALL
- CUTAWAY THROUGH DOOR

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: STARBOARD ENGINE PAGE 8 of 24

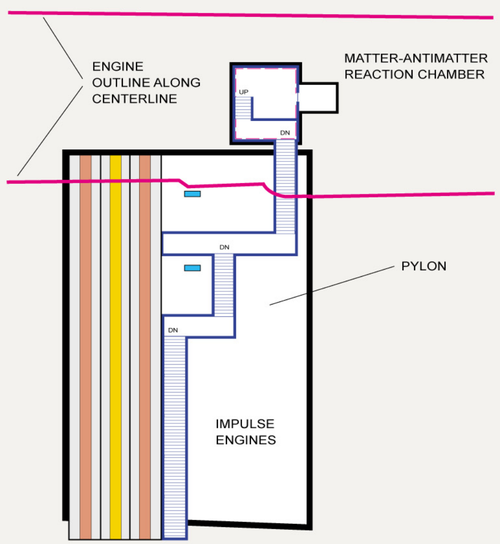
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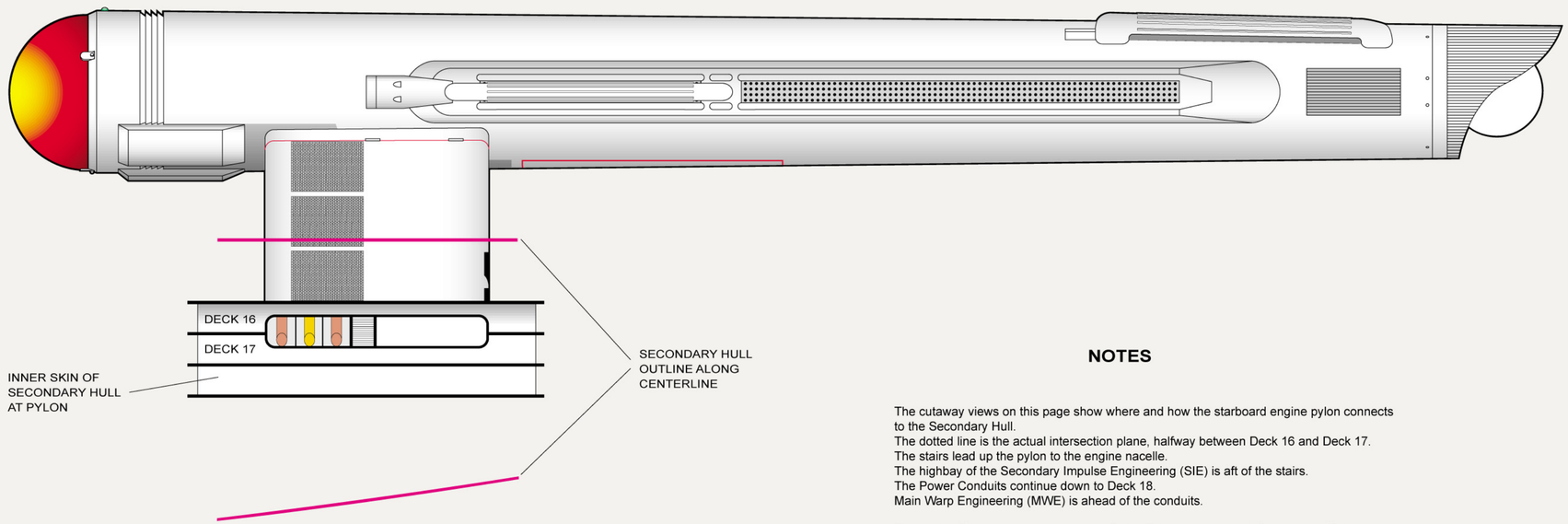
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0 5 10 15 20
METERS

STARBOARD ENGINE INSPECTION STATION (Plan View, Including Pylon Details)



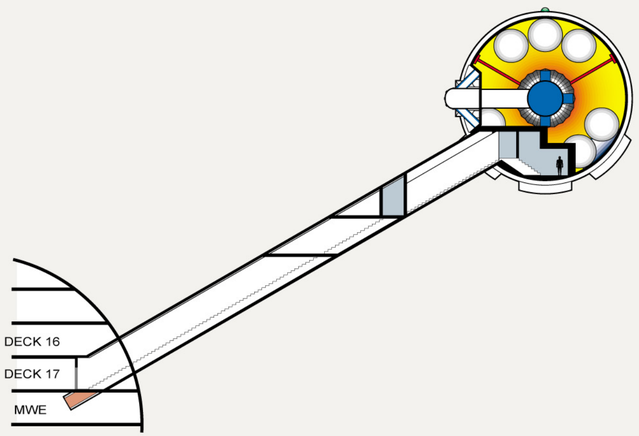


NOTES

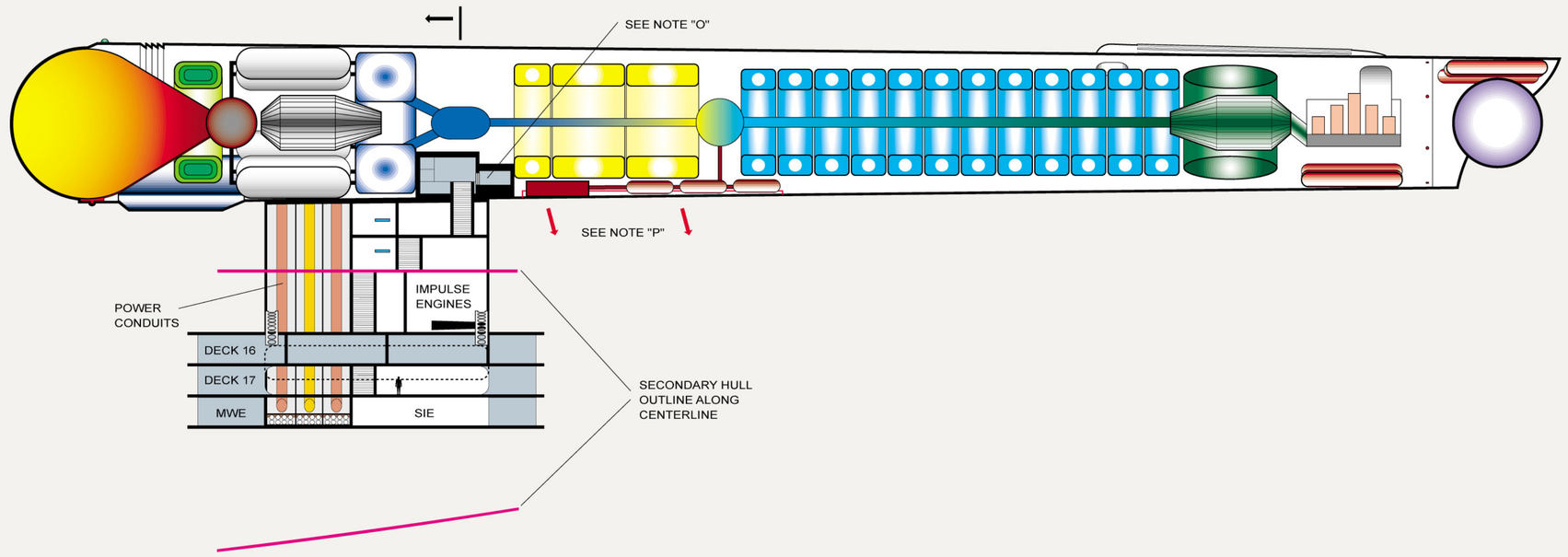
The cutaway views on this page show where and how the starboard engine pylon connects to the Secondary Hull.
The dotted line is the actual intersection plane, halfway between Deck 16 and Deck 17.
The stairs lead up the pylon to the engine nacelle.
The highbay of the Secondary Impulse Engineering (SIE) is aft of the stairs.
The Power Conduits continue down to Deck 18.
Main Warp Engineering (MWE) is ahead of the conduits.

The angle of the pylon is very low; a Jefferies Tube is not needed. Stairs are sufficient.
Access to the Impulse Engines is also via these stairs.

STARBOARD ENGINE INSPECTION STATION (Cross-section, Looking Forward)



STARBOARD ENGINE INSPECTION STATION (Cross-section, Looking Forward)



STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 1 and 2 **PAGE 9 of 24**

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NOTES

ENGINE INSPECTION STATION
The Matter-Antimatter Reaction Chamber is recessed within the dorsal engine nacelle. It is heavily shielded and can only be reached via Jefferies Tube. The power conduits lead to Engineering on Decks 6 and 7.

DECK 1
The upper sensor dome feeds data directly to the various science laboratories on Deck 2. That data is then relayed to the various command stations on Deck 3.

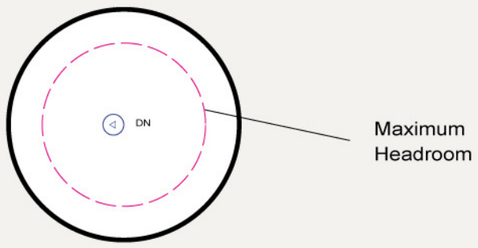
DECK 2
The science laboratories are physically partitioned, but the equipment and the data are all interconnected. The labs are surrounded by the fresh water tanks and pump machinery rooms. These water tanks continue down to Deck 3. There are more water tanks in the lower levels of the Primary Hull and the Secondary Hull.

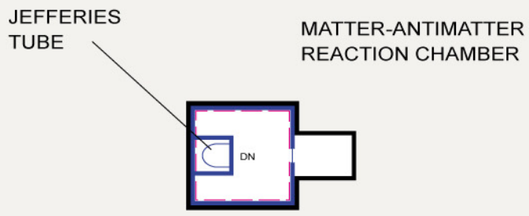
DECK 2 (continued)
Water functions as a passive shield against radiation, micro-meteorite punctures, and boarding attempts, should the normal methods of protection fail.

During hostilities or emergencies, this area is used to help coordinate activities.

This deck is reached by one turbo-elevator and two ladders.

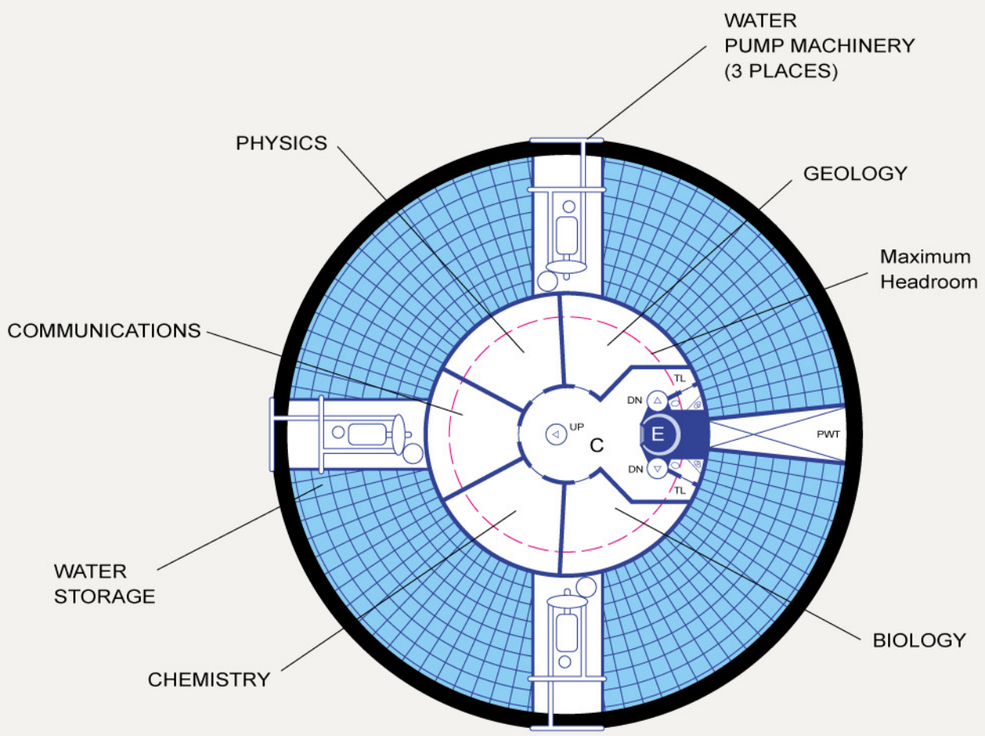
DECK 2 DORSAL
The Jefferies Tube passes through this level, but does not provide access to this level. There is not much on this level except additional shielding, but if access is necessary, a ladder from Deck 3 can be used.



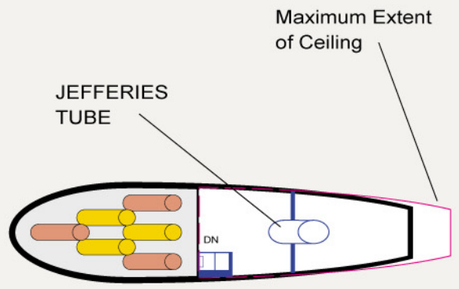


ENGINE INSPECTION STATION

DECK 1: UPPER SENSOR DOME



DECK 2: SCIENCE LABORATORIES



DECK 2: DORSAL

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECK 3 **PAGE 10 of 24**

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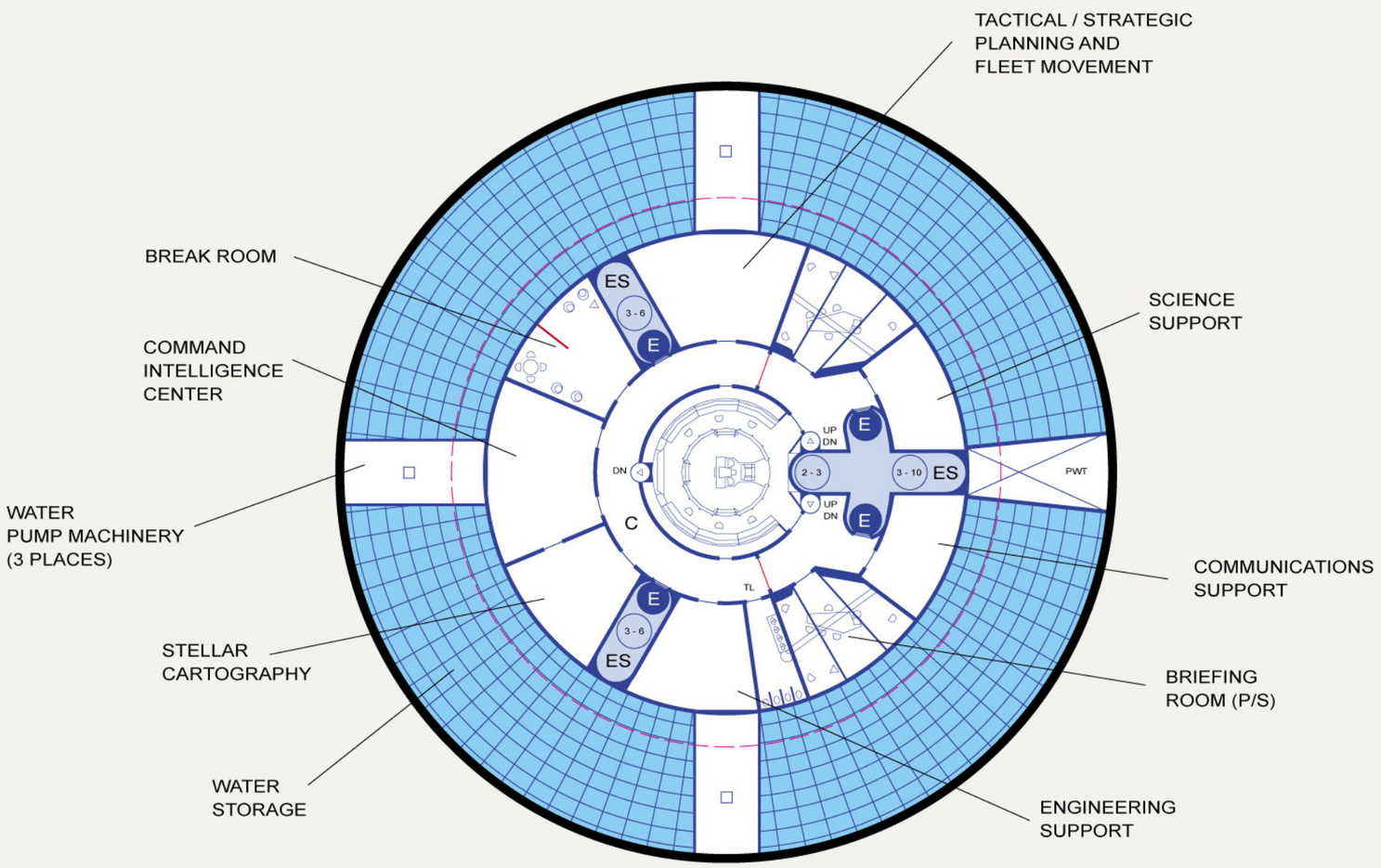
NOTES

DECK 3
The Dreadnought functions as a flotilla leader. The Bridge is the command / control center, but around it are other stations befitting flagship operations and tactical coordination, and for processing data before it is forwarded to the Bridge.

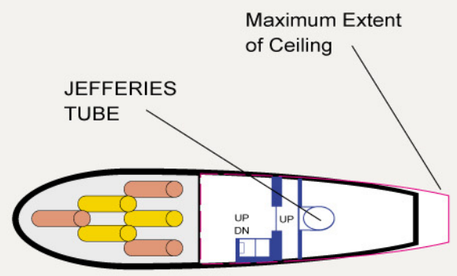
Around all these stations are more fresh water tanks and pump machinery rooms.

The three prongs of the radial turbo-elevator system starts at this level. They don't cross-connect until Deck 6.

DECK 3 DORSAL
The Jefferies Tube for accessing the Matter-Antimatter Reaction Chamber starts at this level. It is normally closed, and heavily shielded.
This level is reached by a ladder from Deck 4. The ladder continues up to Dorsal Deck 2, if access to Deck 2 is ever required.



DECK 3: BRIDGE / OPERATIONS CENTER



DECK 3: DORSAL

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECK 4 **PAGE 11 of 24**

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NOTES

DECK 4
The Dreadnought functions as a flotilla leader. As such, quarters are available for the senior officers of other ships, and their support staff. When not fulfilling that role, these quarters could be used by the senior officers of this ship, or V.I.P.

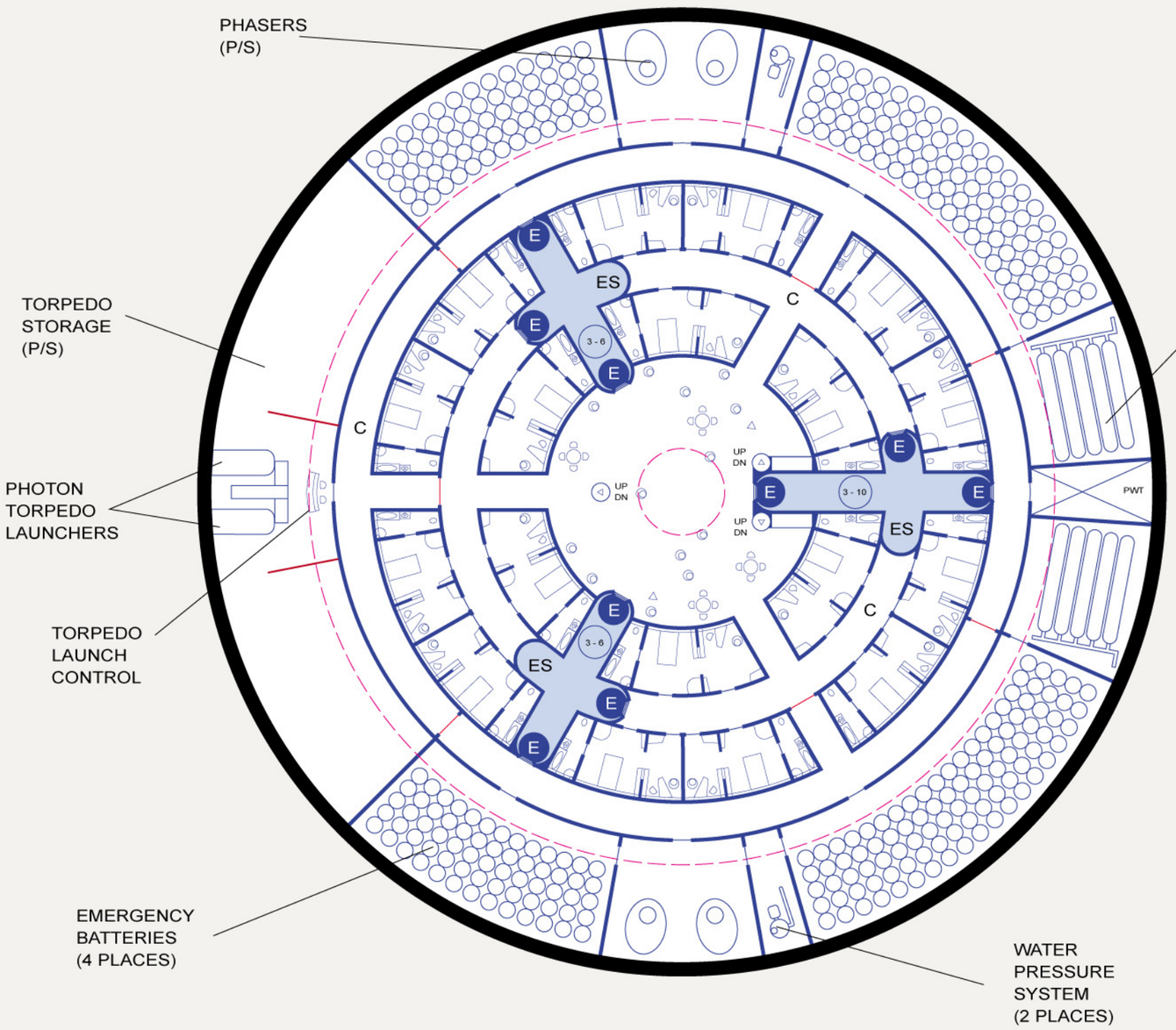
The Mess in the center has food delivered by conveyors connected to the food preparation area on Deck 8.

Around these quarters are Emergency Batteries, port and starboard Phasers, and the Torpedo Launch Control.

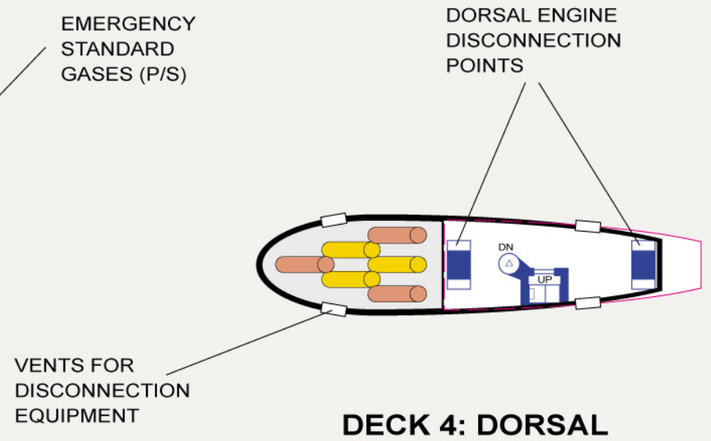
DECK 4 DORSAL
The disconnection equipment is located on this deck and the dorsal deck below. This area is kept clear and is difficult to enter except by authorized personnel. Access is from Engineering via a ladder. Then, another ladder leads up to the Jefferies Tube. This door to this other ladder is normally closed, and heavily shielded.

All the Crew's Quarters in the Primary Hull are laid out in rings. The rings are labeled from the center outwards, starting with A, then B, then C, and so on.

Many of the beds shown could be bunk beds. If so, the ship could easily help with rescue missions, diplomatic missions, or help evacuate / transport colonists if such a need should ever arise.



DECK 4: FLAG OFFICER'S AND STAFF QUARTERS



DECK 4: DORSAL

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECK 5 **PAGE 12 of 24**

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0 5 10 15 20
METERS

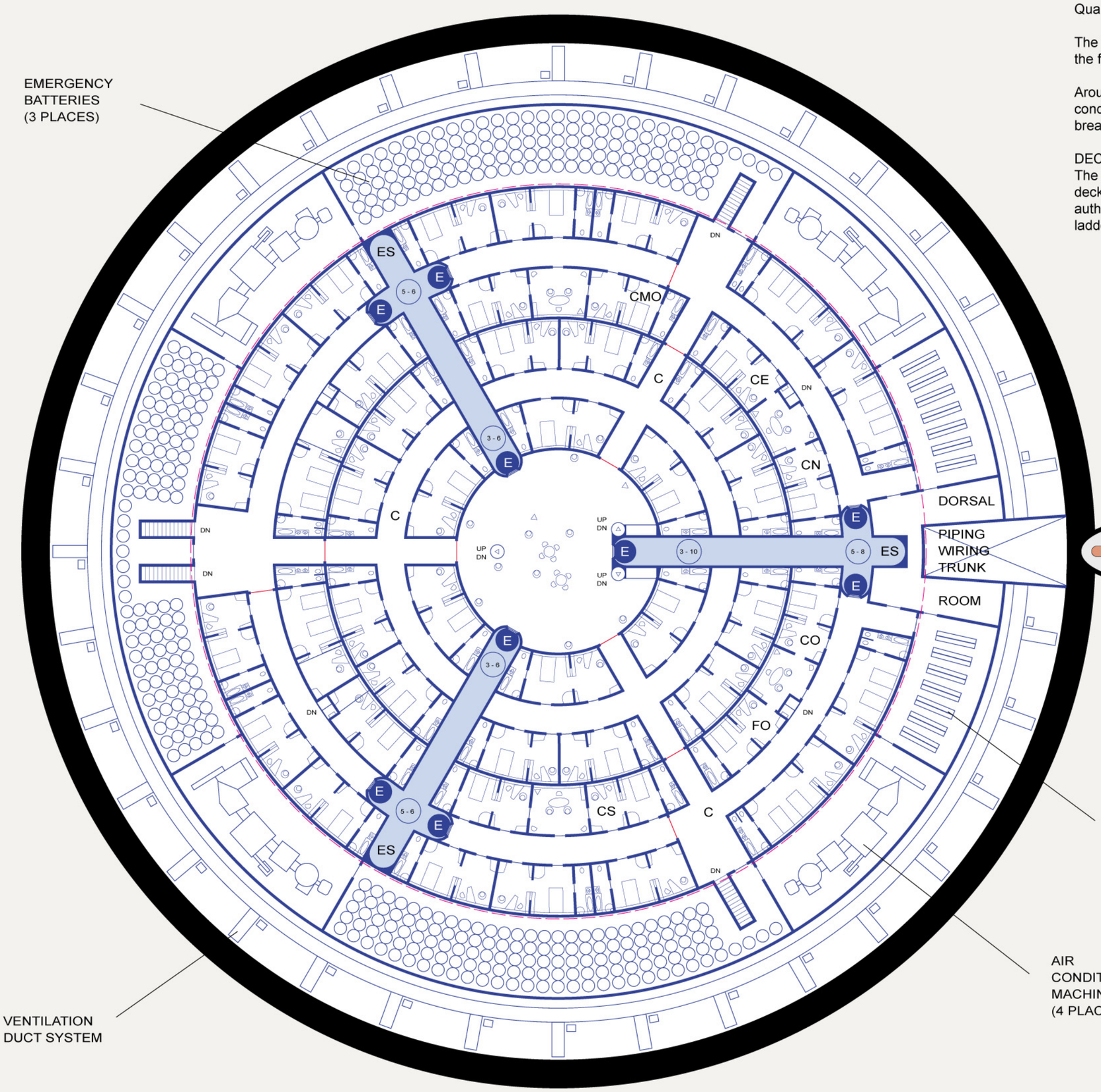
NOTES

DECK 5
Quarters for the senior and junior officers are located on this deck.

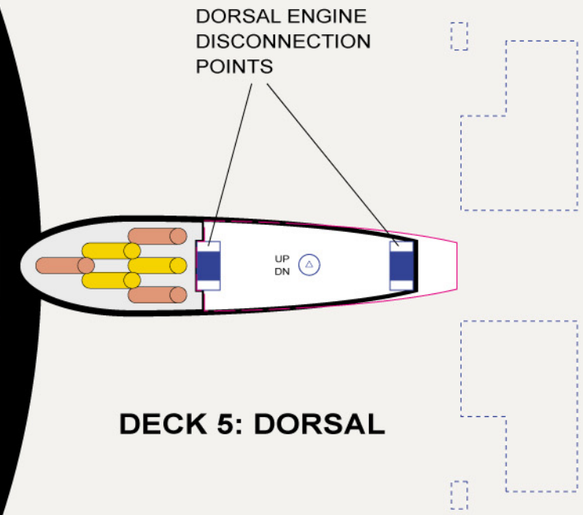
The Mess in the center has food delivered by conveyors connected to the food preparation area on Deck 8.

Around these quarters are more batteries, as well as the air conditioning and ventilation system. At the rear are the circuit breakers and the piping / wiring trunk.

DECK 5 DORSAL
The disconnection equipment is located on this deck and the dorsal deck below. This area is kept clear and is difficult to enter except by authorized personnel. Access is from the Engineering section via a ladder.



DECK 5: OFFICER'S QUARTERS



DECK 5: DORSAL

STAR TREK - FEDERATION DREADNOUGHT

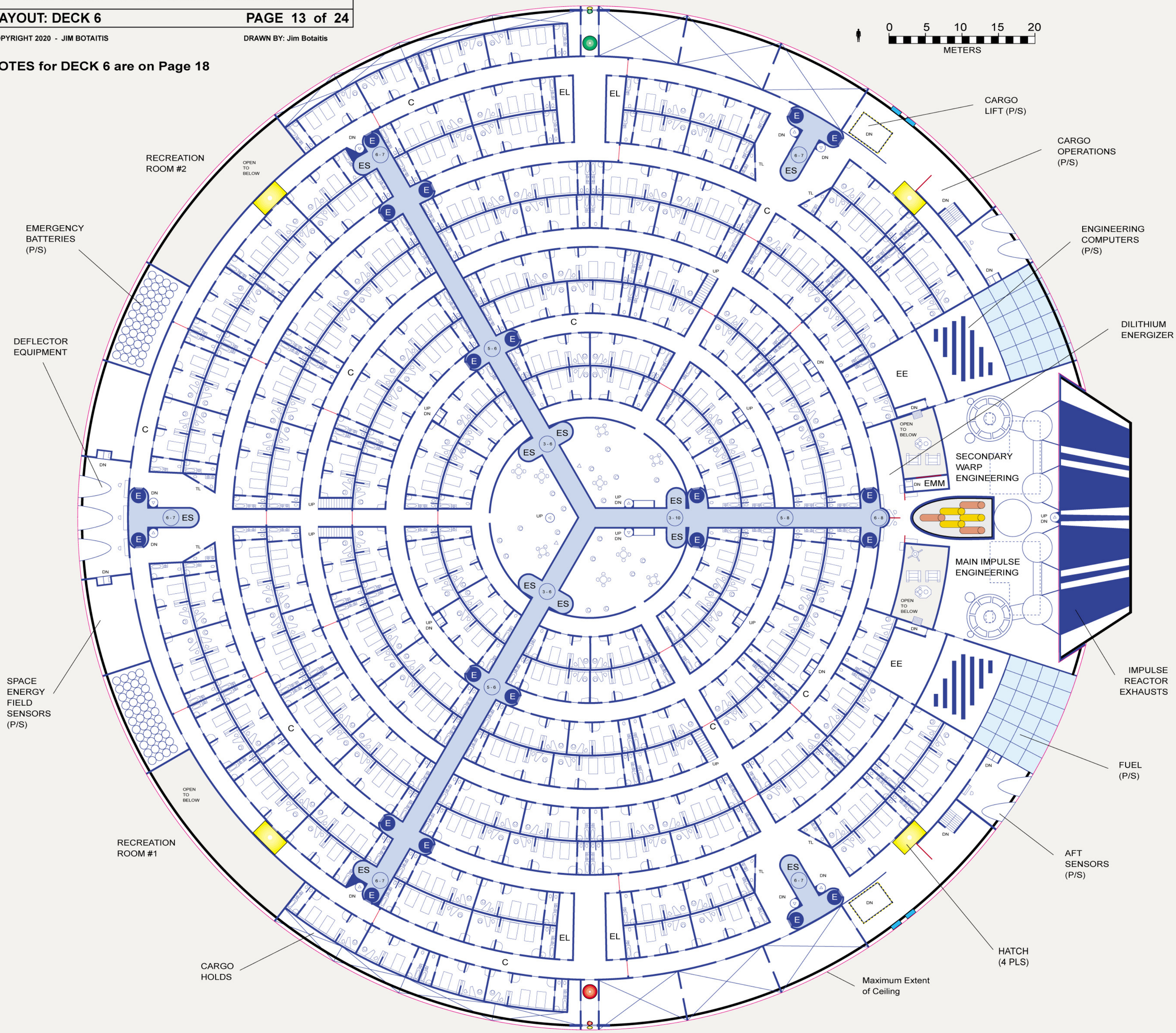
LAYOUT: DECK 6 **PAGE 13 of 24**

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NOTES for DECK 6 are on Page 18



DECK 6: CREW'S QUARTERS

STAR TREK - FEDERATION DREADNOUGHT

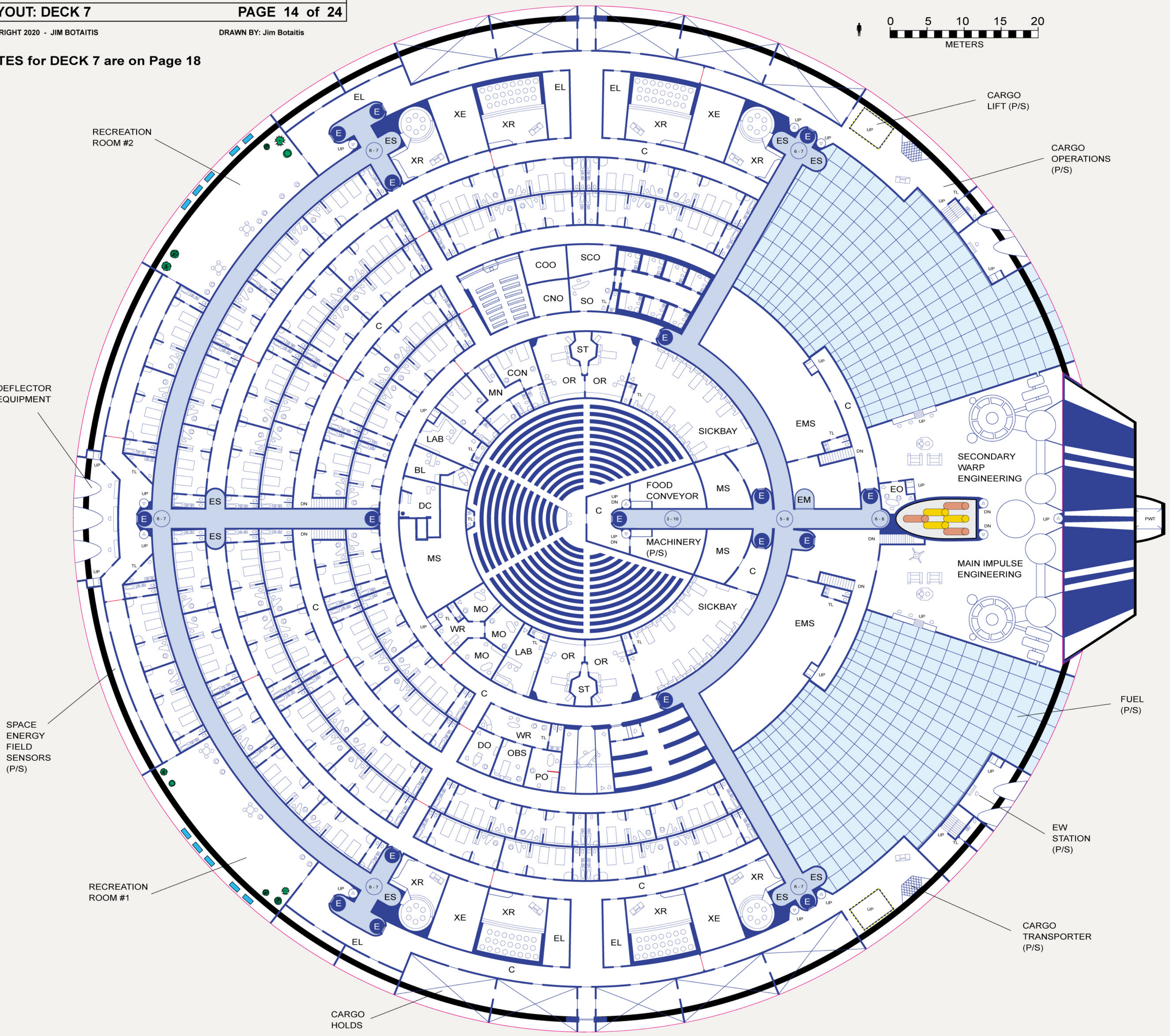
LAYOUT: DECK 7 **PAGE 14 of 24**

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NOTES for DECK 7 are on Page 18



DECK 7: CREW'S QUARTERS / CARGO / SICKBAY / ENGINEERING

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECK 8 **PAGE 15 of 24**

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0 5 10 15 20
METERS

NOTES

DECK 8
Many of these features are repeated from the layout of Deck 8 in the Heavy Cruiser design.

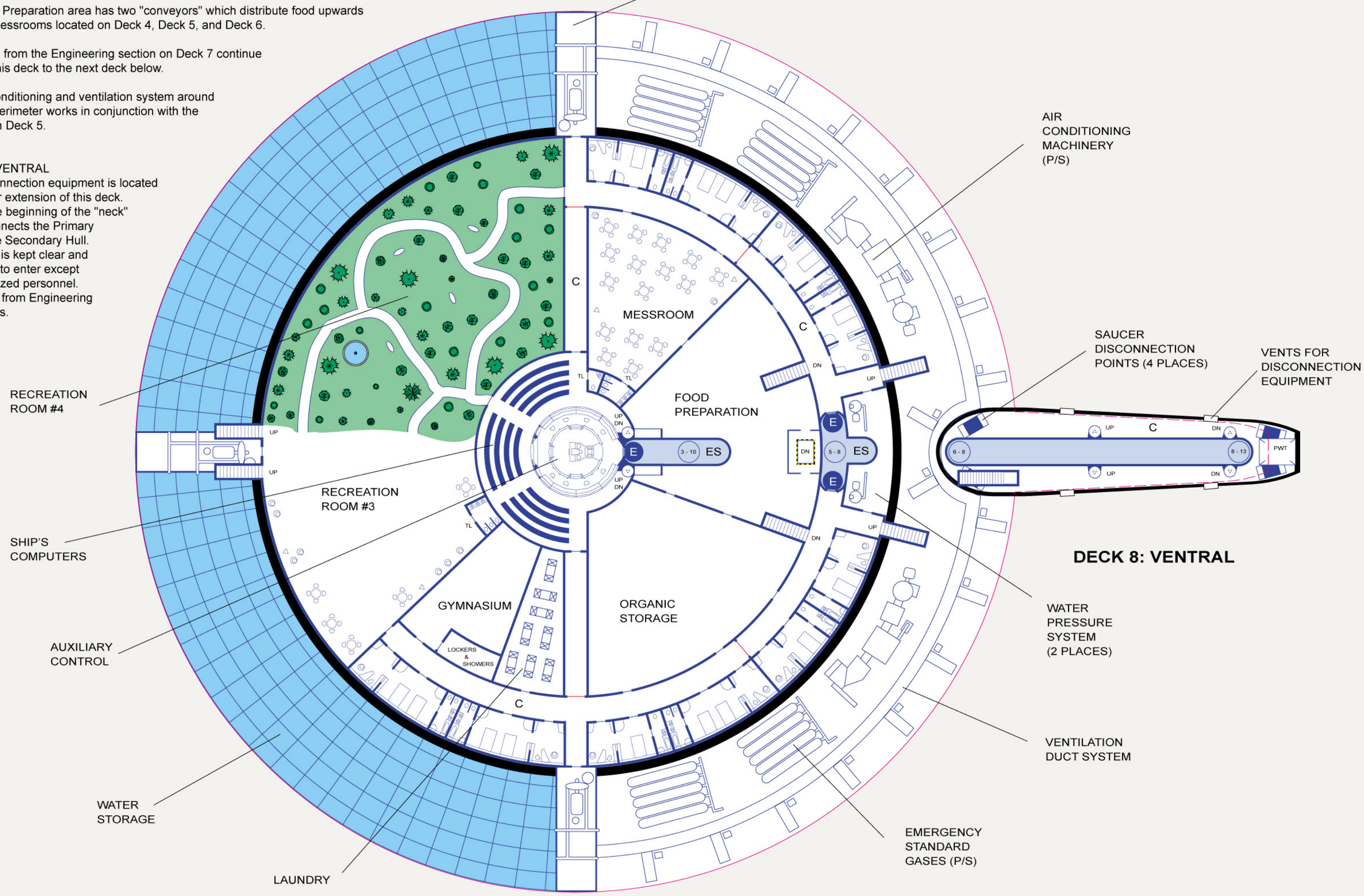
The Water Storage found here continues on Deck 9.

The Food Preparation area has two "conveyors" which distribute food upwards into the Messrooms located on Deck 4, Deck 5, and Deck 6.

The stairs from the Engineering section on Deck 7 continue through this deck to the next deck below.

The air conditioning and ventilation system around the rear perimeter works in conjunction with the system on Deck 5.

DECK 8 VENTRAL
The disconnection equipment is located in the rear extension of this deck. This is the beginning of the "neck" which connects the Primary Hull to the Secondary Hull. This area is kept clear and is difficult to enter except by authorized personnel. Access is from Engineering via ladders.



DECK 8: VENTRAL

DECK 8: ENTERTAINMENT / RECREATION FACILITIES

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECK 9 **PAGE 16 of 24**

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NOTES

DECK 9
The Water Storage found here is a continuation of the Water Storage on Deck 8.

Cold storage (mostly for food) is located at the rear and is accessed via a platform-lift from the food preparation area on Deck 8.

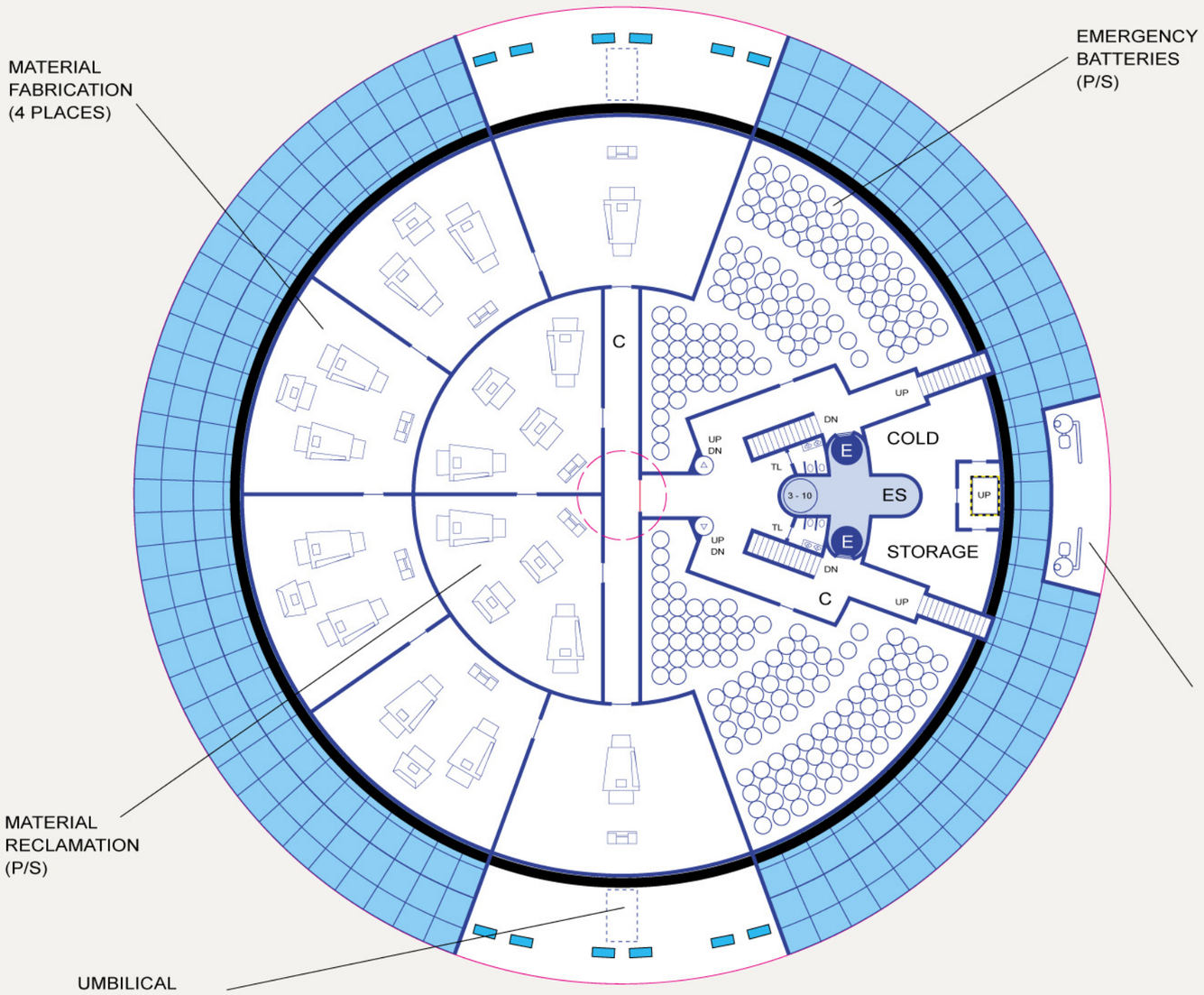
There are four hatches or ports on the Heavy Cruiser, but their distribution is asymmetric. For the Dreadnought, they have been redesigned. As on the Heavy Cruiser, they are not tall enough for crew to fit. Two of them are on Deck 9. The other two are on Deck 10.

The 2 hatches on Deck 9 probably have a function similar to the Umbilical Connection Panels as on the Space Shuttle (see images to right).

Material Reclamation and Fabrication takes up most of this deck and part of Deck 10. Material Reclamation and Fabrication is probably not a 100% efficient process. Therefore, these 2 hatches could allow for transfer of rare elements required in various manufacturing processes.

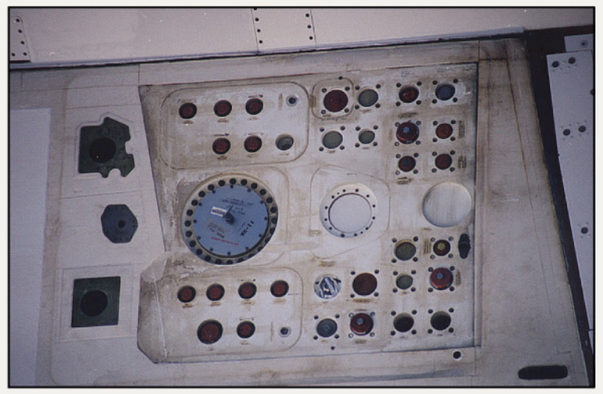
More batteries are located on this deck.

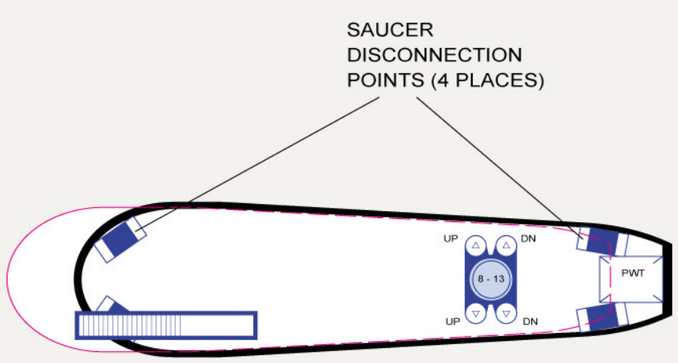
The stairs from the Engineering section on Deck 7 continue through this deck to the next deck below.



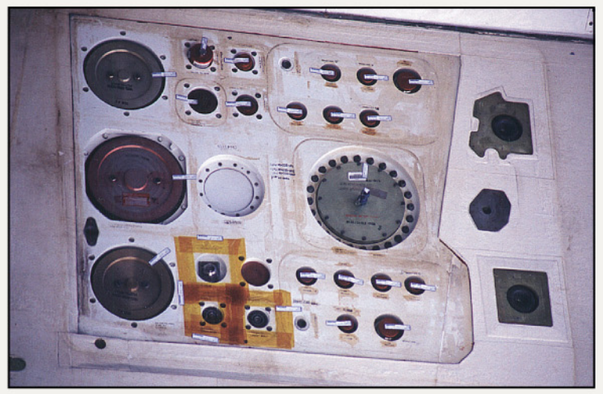
DECK 9: MANUFACTURING AND FABRICATING

DECK 9 VENTRAL
The disconnection equipment continues here from Deck 8. This area is kept clear and is difficult to enter except by authorized personnel. Access is from Engineering via ladders.





DECK 9: VENTRAL



STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 10 and 11

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NOTES

DECK 10
The ship's main Sanitary Waste Recovery System is located at the front of this deck.

The rest of this deck contains Material Reclamation and Fabrication machinery. Two more hatches (similar to the hatches on Deck 9, as mentioned on the previous page) could allow for transfer of rare elements required in various manufacturing processes.

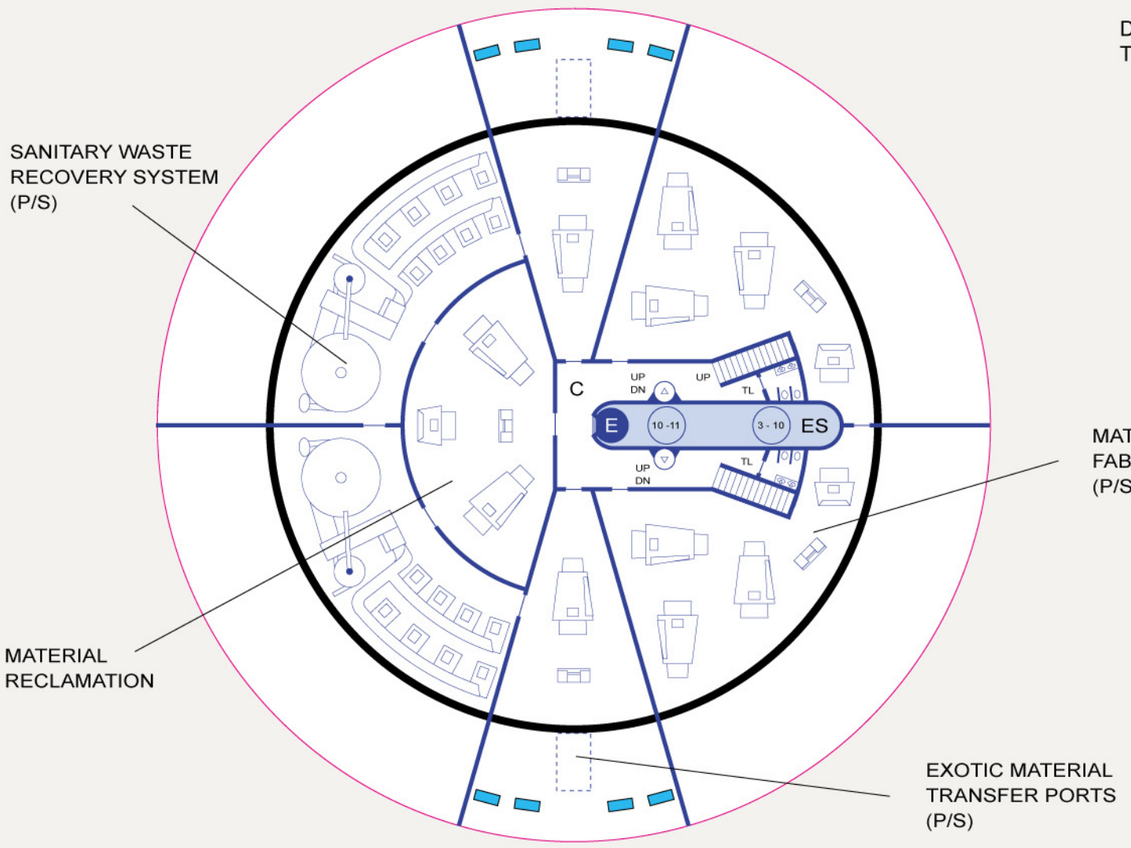
The stairs from the Engineering section on Deck 7 finally end on this deck.

DECK 10 VENTRAL
This is a Lounge.

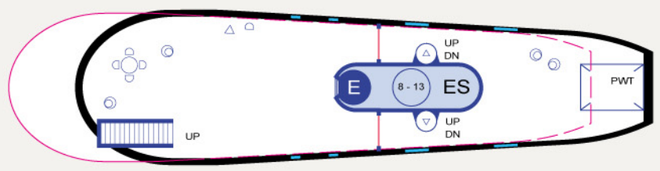
The stairs on the port side are used for evacuating the Secondary Hull prior to disconnecting the Primary Hull. They lead directly to Deck 7.

DECK 11
The forward Phasers and the Phaser Control Room are on Deck 11.

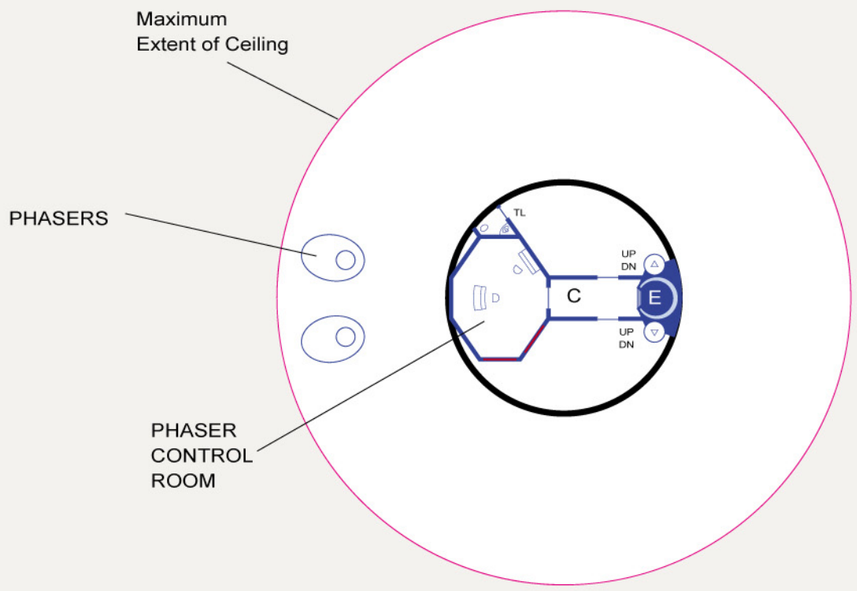
DECK 11 VENTRAL
This is a Lounge.



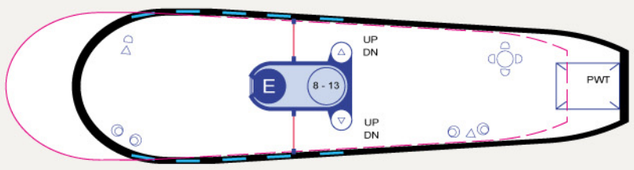
DECK 10: MANUFACTURING AND FABRICATING



DECK 10: VENTRAL



DECK 11: PHASERS AND PHASER CONTROL



DECK 11: VENTRAL

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 12 and 13 **PAGE 18 of 24**

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NOTES FOR DECK 6 AND DECK 7

DECK 6
The layout of this deck is similar to the Heavy Cruiser-class design but the diameter is 13 meters (43 feet) larger. The tri-radial symmetry is retained, but expanded. As on the previous decks, the turbo-elevator shafts are separated by 120°; the 3 prongs finally meet in the middle on this deck. Many turbo-elevator storage spaces have been added.

Because the outer corridor-arcs are so long, three access nodes have also been added between the three main horizontal spokes of the turbo-elevator system. Those nodes are connected from below, via the network on Deck 7. This system keeps the travel distance between any two points to less than a couple hundred feet or meters.

The FJ drawings show a few windows around the edge of the Primary Hull. Recreation Rooms are placed at the forward window locations. The Cargo Operations Centers are placed at the aft window locations. Stairs beside the Cargo Operations Centers lead down to Deck 7. Stairs within Ring D also lead up to Deck 5.

In the center are 3 relaxation areas. The one at the front is a Lounge. The other two are considered to be Messrooms because they are serviced by food dispensers which are directly connected to the Food Preparation area on Deck 8.

Environmental Lockers (EL) or storage spaces are distributed all around the deck. The 4 large rectangular escape hatches which exist on the Primary Hull of the Heavy Cruiser-class are retained (shown here in yellow).

The Space Energy Field Sensors are now located on either side of the Deflector Equipment in the bow of Deck 6 and Deck 7. These work together and can operate independent of the Main Sensor Dish.
Fore and aft sensors are located around the perimeter. Some cargo holds are also located around the perimeter.

Main gangways are at the port and starboard edges, on both Deck 6 and Deck 7.

The Main Impulse Engineering section and the Secondary Warp Engineering section are combined at the rear of the deck, ahead of the Impulse Engines. Environmental Engineering and Engineering Computers are on both sides of the engineering section.

DECK 7
There is no undercut on the Primary Hull of the Dreadnought.

Several shafts drop down from the turbo-elevator system on Deck 6 to serve Deck 7. On this level the shafts do not converge. Instead, the turbo-elevators travel in arcs around the hull, and then pop up to Deck 6 to serve the three access nodes between the three main horizontal shafts.
There is also one main shaft (just ahead of Engineering) which drops down to the Secondary Hull.

In the center are the ship's Main Computers. More computers exist in the center of Deck 8.
Aft of the computers is the machinery for the food conveyors. Outward from the computers are various labs, doctor's offices, and Sickbay.

The next ring outward contains an Armory, a Briefing Room, the Chapel, the main Brig, some crew quarters, and Engineering Machine Shops (EMS).

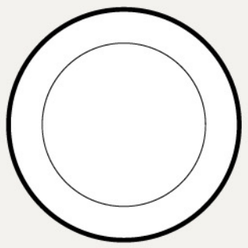
Outward from all that are four Transporters (for 6 people) and four Emergency Transporters (for 22 people).

The turbo-elevator maintenance shop (EM) is located starboard of the aft turbo-elevator shaft. On the port side are the stairs used for evacuating the Secondary Hull prior to disconnecting the Primary Hull.

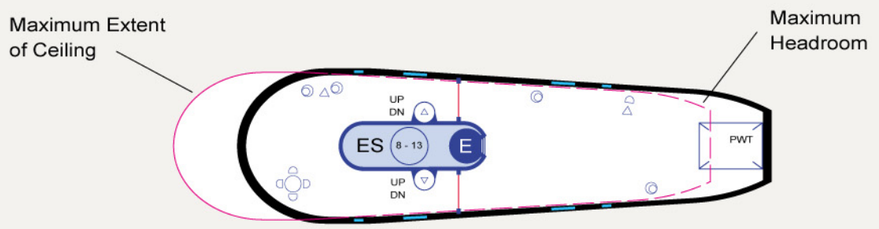
Aft of the EMS is the combined Warp and Impulse Engineering section, flanked on both sides by fuel tanks. The Chief Engineer's office is located at the front of Engineering on the starboard side.

In the outermost ring (just ahead of the port and starboard fuel tanks) is a Cargo Operations Centers, with a Cargo Transporter and a Cargo Lift. From here, cargo can be distributed to the various cargo holds in the outer perimeter of the hull.

Fore and aft sensors are located around the perimeter. Main gangways are on both sides, just as on Deck 6.



DECK 12: LOWER SENSOR DOME



DECK 12: VENTRAL

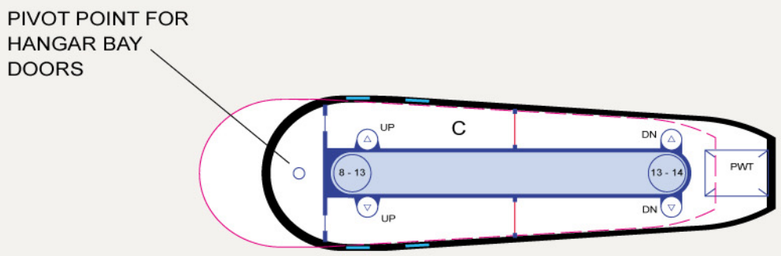
NOTES

DECK 12
The Lower Sensor Dome feeds data directly to the various science laboratories on Deck 2 (just like the upper sensor dome). That data is then relayed to the various command stations on Deck 3.

DECK 12 VENTRAL
This is a Lounge.

DECK 13 VENTRAL
The horizontal shaft of the turbo-elevator provides access between the Primary Hull and the Secondary Hull. This long traverse allows the turbo-elevator to reach aft beyond the Hangar Bay.

The pivot point for the Hangar Bay doors is located at the front of this deck.



DECK 13: VENTRAL

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 14 and 15 PAGE 19 of 24

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NOTES

GENERAL
All aspects of ships' operations as seen in the Primary Hull are repeated in the Secondary Hull, albeit to a smaller and lesser degree. On top of all that, the Secondary Hull also has to support the Hangar Bay, the Main Cargo Operations, and the Main Warp Engineering.
When separated from the Primary Hull, how does the Secondary Hull move when it is not in warp space? Franz Joseph made the Warp Engine pylons very wide, but there is no explanation as to why he did that. Therefore, I placed the impulse engines in the rear half of each pylon.

DECK 14
The Hangar Bay's Landing Tractor Beam is located at the front. Behind that is located the Air Conditioning Machinery, the Secondary Hull Topside Phasers, and Deuterium Tanks. A rarely used refueling hatch is located on the spine.

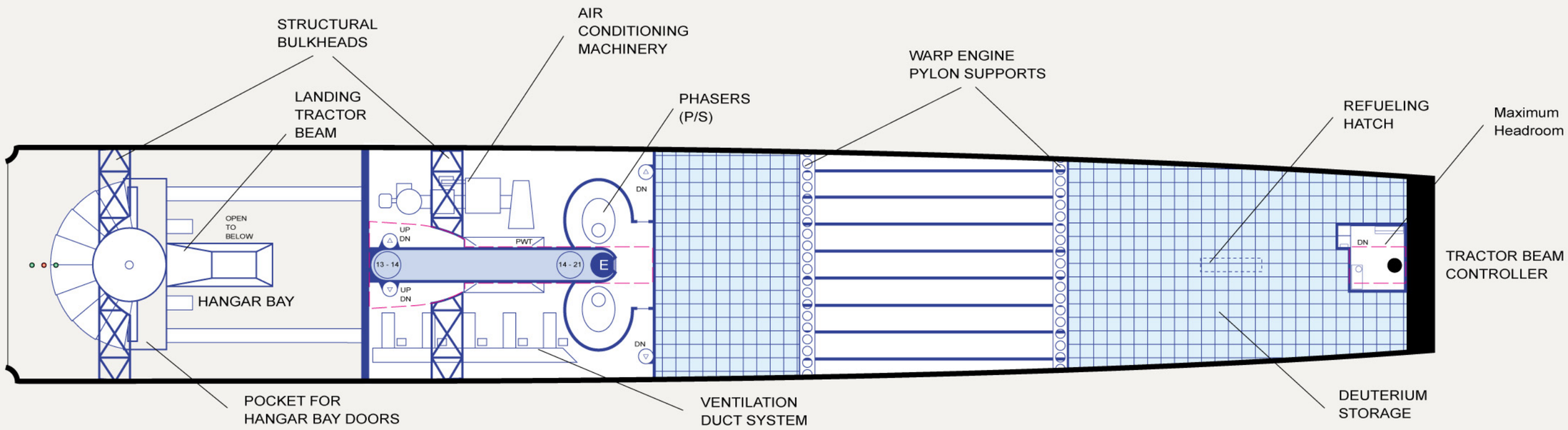
Structural bulkheads and engine pylon supports extend from here downwards for 2 or 3 levels.

DECK 14 (continued)
One of the three Controllers for the Main Tractor Beam system is located at the extreme rear. It can be accessed by ladder from below for maintenance purposes.
The other two Emitters are on Deck 18.

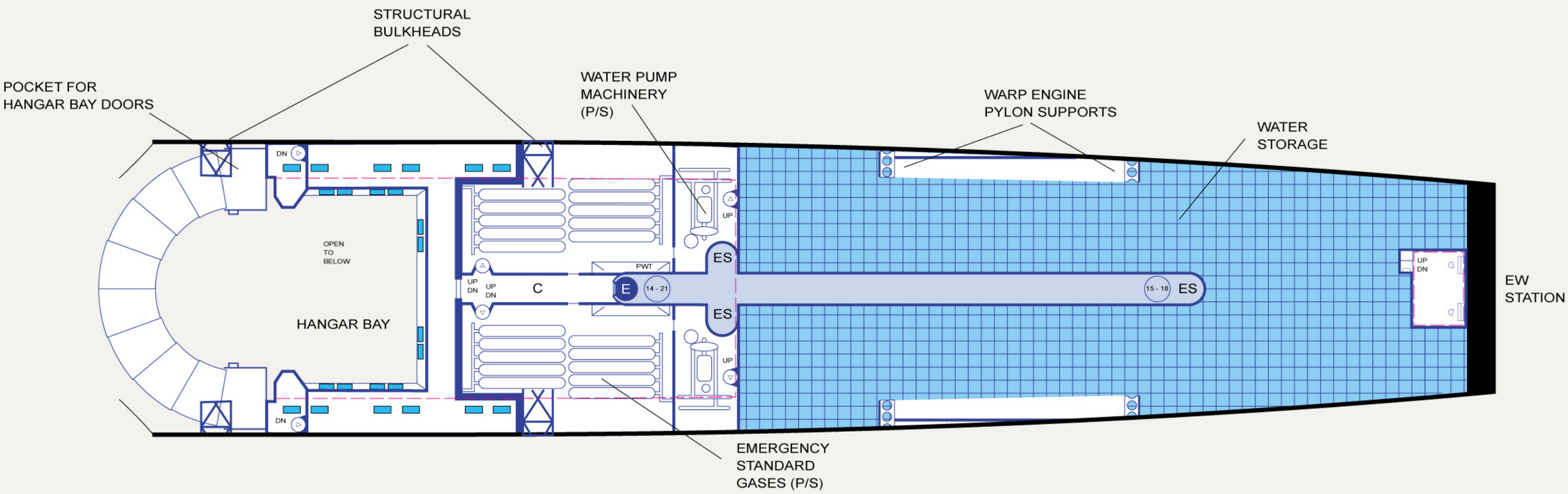
DECK 15
The Hangar Bay's Observation Gallery is located at the front. Behind it is the Emergency Standard Gases area for atmosphere control.

Water Pumps and Water Tanks fill out the rest of the deck.

One of the many Electronic Warfare stations is located at the extreme rear. It is accessed by ladder from other EW stations located on the decks below.



DECK 14: HANGAR BAY / STRONGBACK



DECK 15: OBSERVATION GALLERY

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 16 and 17 **PAGE 20 of 24**

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NOTES

DECK 16
The Flight Deck of the Hangar Bay is located here. The turntable and elevator is larger than on other starships, so as to accommodate larger shuttlecraft.

Behind the Hangar Bay is the Main Cargo Operations; this is not a full-time requirement. When there is no cargo to be moved, this area is used for greeting dignitaries, or as a staging area for Landing Parties.

Since the front part of this deck was lowered for the sake of the Hangar Bay, the floor is angled up just aft of the Cargo Operations Center. Oversized cargo doors allow large items to be moved out of the Hangar Bay, and then distributed throughout the cargo holds located on the rest of this deck.

At the aft end are a few crew quarters as well as more EW stations.

DECK 17
The forward portion of this deck is open to the Shuttlecraft Maintenance Area which is located on Deck 18.

Behind this is an area for oversized cargo. Catwalks help with moving larger items.

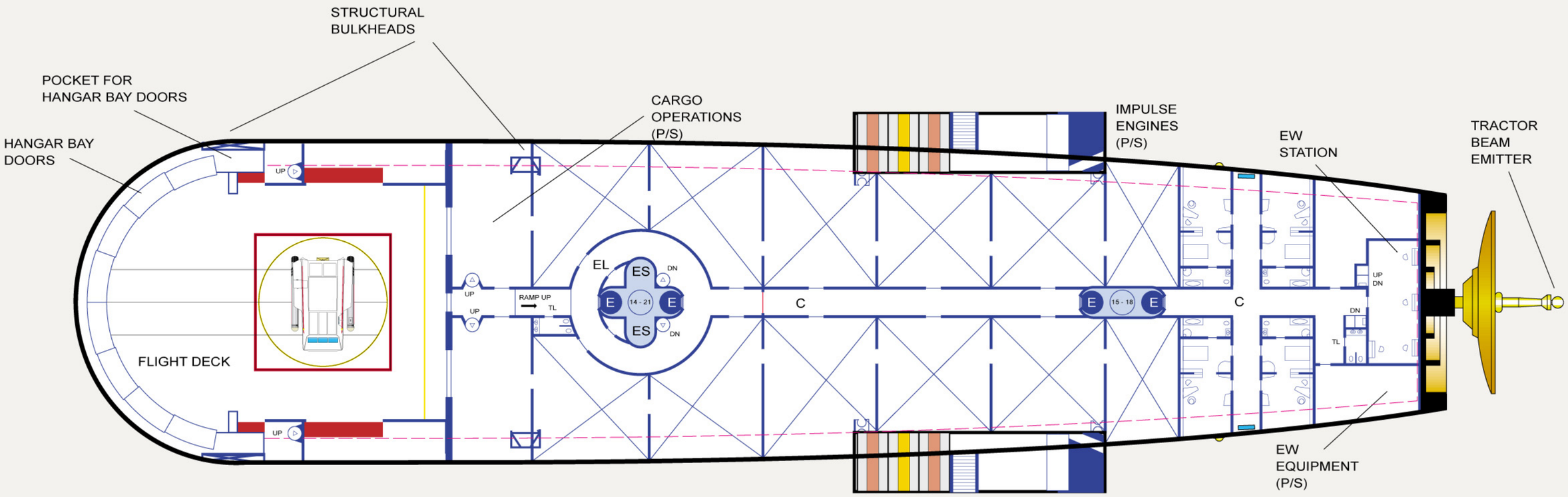
Behind the catwalks are Engineering Computers and Ship's Computers. The elevator and corridor lead aft to the Main Warp Engineering section. Access to the main engine nacelles exists via stairs which are located within the support pylons.

The Emergency Manual Monitor (EMM) oversees this area but it can only be accessed from the deck below.

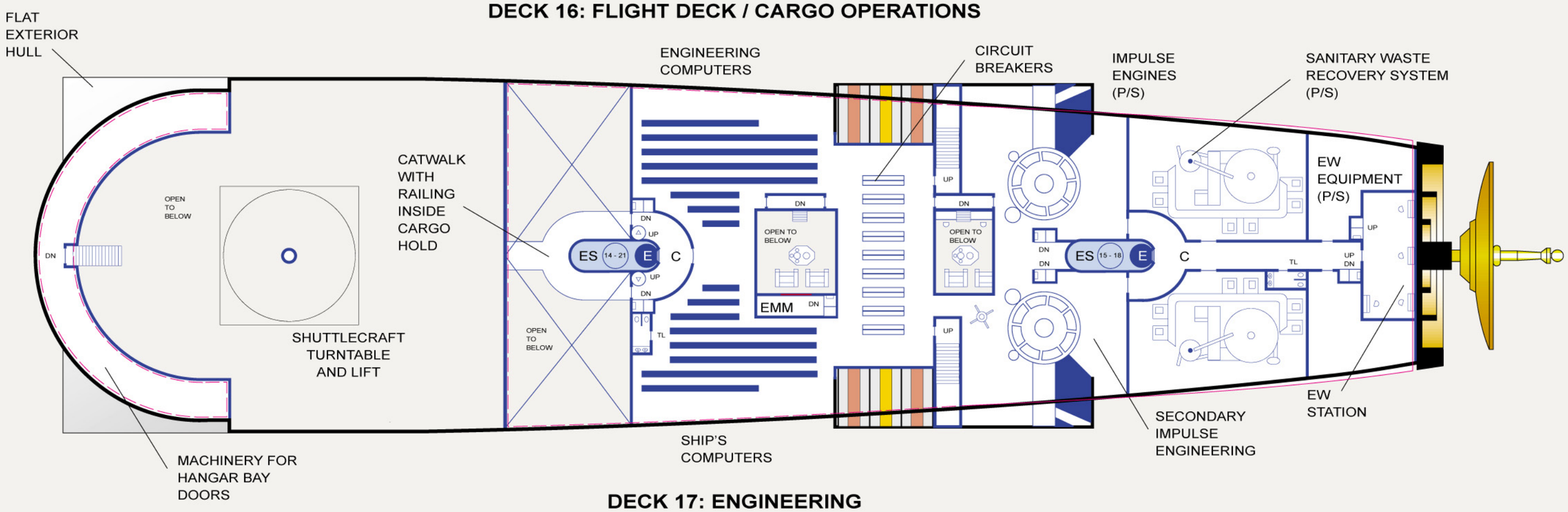
The Impulse Engines in the engine pylons are accessible from the Secondary Impulse Engineering section (located just aft of the Main Warp Engineering section).

Aft of this is the ship's secondary Sanitary Waste Recovery System.

At the rear are even more EW stations.



DECK 16: FLIGHT DECK / CARGO OPERATIONS



DECK 17: ENGINEERING

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 18 and 19 **PAGE 21 of 24**

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NOTES

DECK 18
The Shuttlecraft Maintenance area is also used for unloading oversized cargo. The oversized cargo area is just aft, through the oversized doors. The Shuttlecraft Maintenance area is also used to access the space where the Hangar Bay door retraction machinery is located.

The main levels for Warp Engineering and Impulse Engineering occupy the majority of this deck. Access to the EMM is via the starboard ladder.

Environmental Engineering is to starboard. Engineering Machine shops are to port. Just ahead of the shops is the Dilithium Energizer station.

Aft of the engineering section are a few circuit breakers to starboard, a small laundry area to port, and aft of those on both sides is some Material Reclamation and Fabrication machinery.

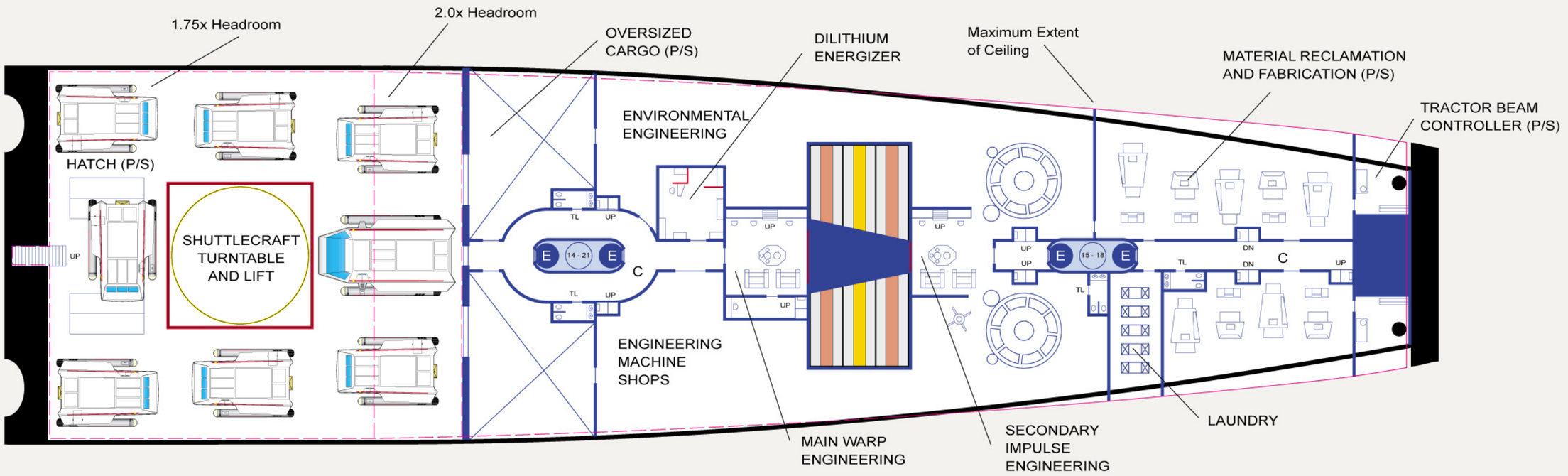
At the extreme aft end are the other two Tractor Beam Controllers (the first one is at the aft end of Deck 14). The Tractor Beam Emitter is in the rearward-facing Sensor Dish. The 3 Tractor Beam Controllers direct the Emitter so that the beam can locate and lock onto the object being towed.

DECK 19
The Shuttlecraft Maintenance Area is located at the front of this deck in the center. This area can also be accessed through the hatches in the floor on Deck 18.

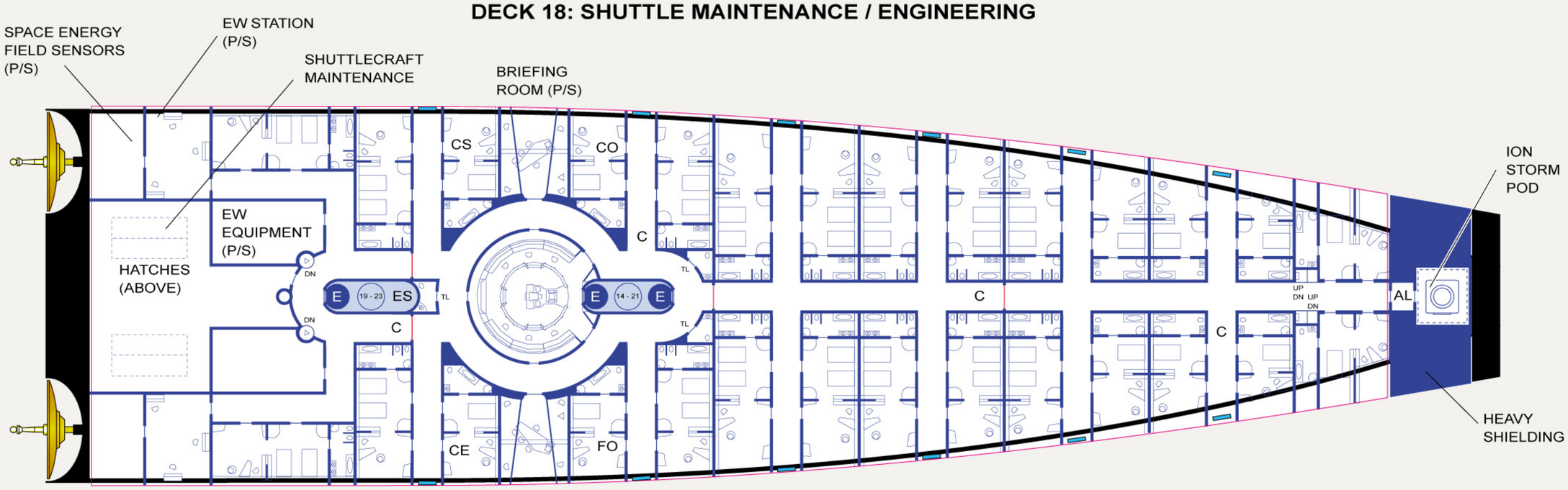
Space Energy Field Sensors are located on either side of the shuttlecraft maintenance area.
Electronic Warfare equipment is under (and aft of) the shuttlecraft maintenance area.
The centrally located stairs provide access to the turntable and elevator lift equipment; it could be gravitic or hydraulic.

The Secondary Bridge is located on this deck. It is surrounded by a few officer's quarters. The remainder are crew quarters.

At the very aft end of this deck is the access to the Ion Storm Pod.



DECK 18: SHUTTLE MAINTENANCE / ENGINEERING



DECK 19: SECONDARY BRIDGE / CREW QUARTERS

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 20 and 21 **PAGE 22 of 24**

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NOTES

DECK 20
More Space Energy Field Sensors and EW equipment are located on this deck, as well as EW stations.

Most crew quarters are on the starboard side, but there are a few on the port side too. The remainder of the port side is for food storage, food preparation, and a Messroom.

At the aft end is an Armory, a Weapons Training area, and a small Gym.

DECK 21
A secondary Sickbay is located on the port side of this deck. The crew quarters are for the nurses and doctors.

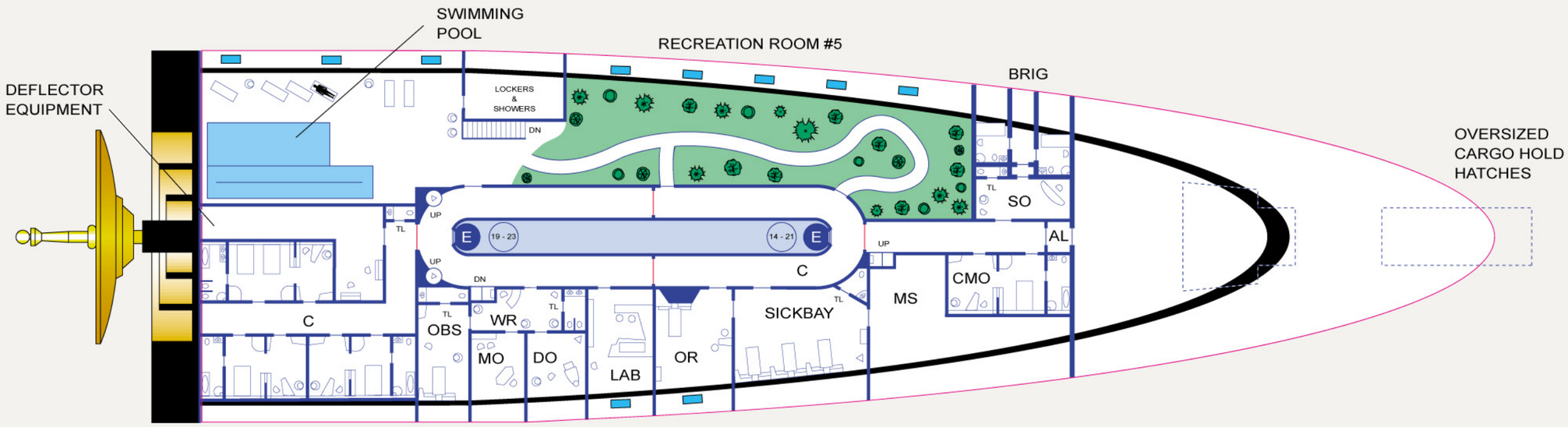
The starboard side has the Swimming Pool, Sun Deck, shower area, and a small Botany / recreation area.

A small Brig is aft of the recreation area.

The entire aft end of the deck is set aside for oversized cargo. It can be loaded via the large hatches located on the underside of the Secondary Hull.



DECK 20: CREW QUARTERS / FOOD PREPARATION



DECK 21: SICKBAY / RECREATION

STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: DECKS 22 and 23 **PAGE 23 of 24**

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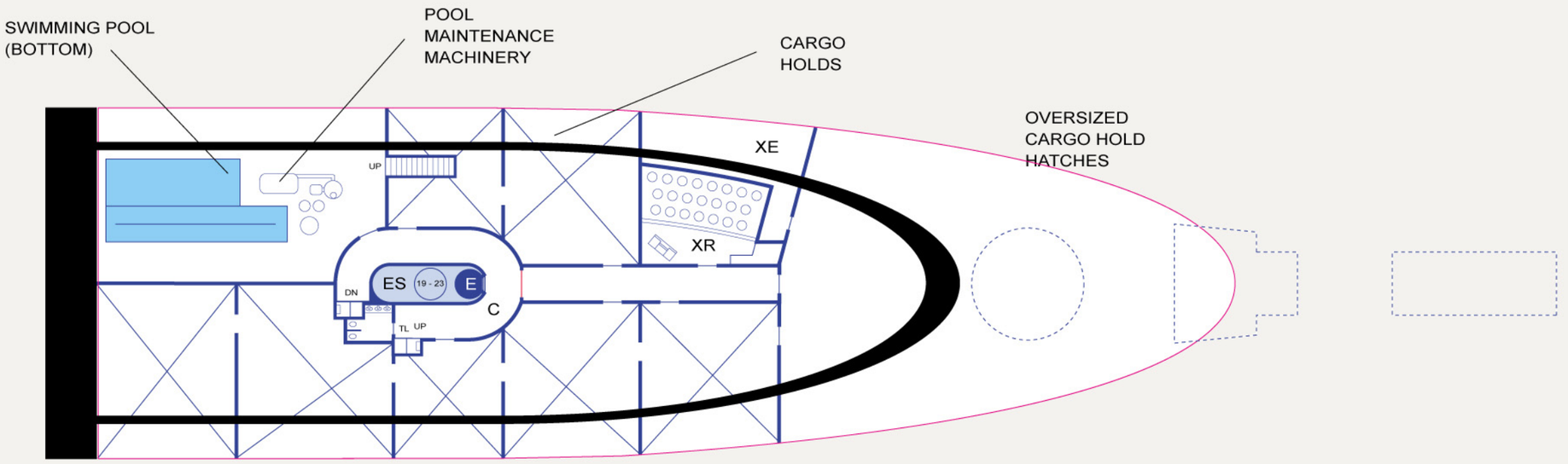
NOTES

DECK 22
The bottom of the pool, as well as pool maintenance equipment is located at the front of this deck on the starboard side.
Stairs provide access to this area from above; the stairs above are located beside the shower area, just ahead of the park access.

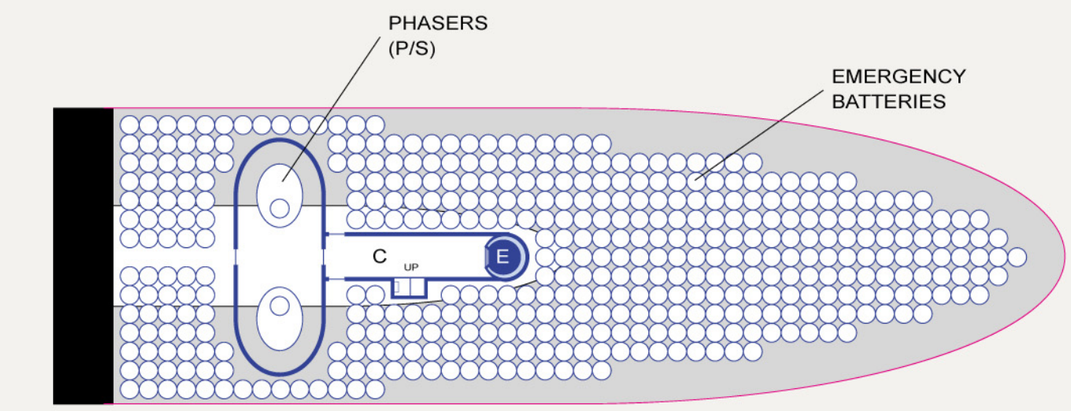
The remainder of this deck is set aside for cargo.

On the starboard rear side is an Emergency Transporter (for 22 people). At the rear are three large hatches which can be used for oversized cargo. They open to a large cargo hold which extends up to Deck 21. The third hatch is visible on Deck 21.

DECK 23
The Ventral Phasers are located here. They are surrounded by the Secondary Hull's Emergency Batteries.

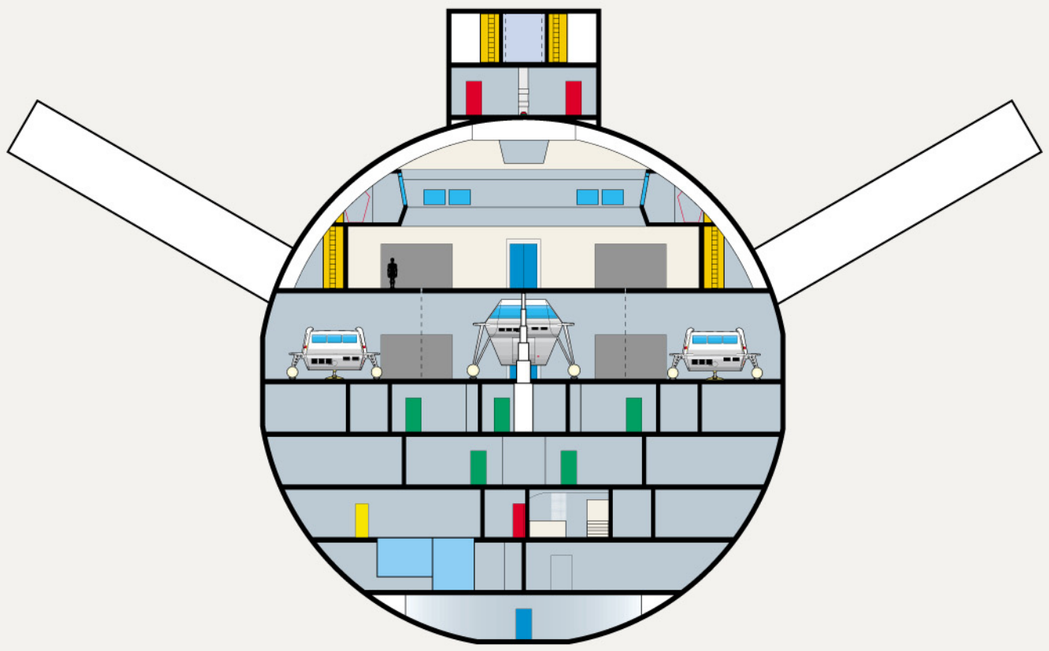


DECK 22: EMERGENCY TRANSPORTER / CARGO



DECK 23: PHASERS / BATTERIES

HANGAR BAY
(Cross-section, Looking Aft)



STAR TREK - FEDERATION DREADNOUGHT

LAYOUT: SYMBOLS, etc. **PAGE 24 of 24**

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DRAWN BY: Jim Botaitis

If printed 17 inches tall (from black-outlined edge to black-outlined edge) the scale of these drawings is 1/350.



GENERAL NOTES

When Matt Jefferies designed the U.S.S. ENTERPRISE, he wanted a smooth hull. He reasoned that if anything needed to be accessed, it would be done so from inside the ship. But if red rectangles and yellow circles exist on the hull, they must be there for emergency situations, quick identification, or some aspect of ship's operations.

Matt Jefferies understood that incredible energies would be required to propel a ship faster than light. If this is accomplished with antimatter, why store it in the habitable section of the ship? He and Gene Roddenberry both loved airplanes and understood the importance of isolating dangerous components, yet still making them accessible if required. Yes, Dilithium Crystals are stored in or near Engineering and help modify / channel the energy, but why does the antimatter need to be stored in or near Engineering?

The idea of a Bussard Ramjet was developed in 1960. This label was applied to the U.S.S. ENTERPRISE engines retroactively, after the series ended.
A Bussard Ramjet compresses matter for fusion. Therefore, the grey area on the engine nacelle could indicate where that matter is stored.
However, on the U.S.S. ENTERPRISE the matter is mixed with antimatter. Therefore, the red rectangle on the engine nacelle could indicate where the antimatter is stored.

The red rectangle on the engine nacelle could be an access hatch, or an "Emergency Jettison" hatch. Dialogue in various episodes corroborates the idea of disengaging, discarding, or jettisoning the warp engine nacelles. Dialogue also mentions ejecting the antimatter pod.

The idea of a "Warp Core" came along much later, when the U.S.S. ENTERPRISE was refit for the movies. Will Decker told Kirk, "This is an almost totally new ENTERPRISE."
The idea of "ejecting a Warp Core" was introduced in STAR TREK THE NEXT GENERATION. Why try to "retcon" these concepts?

The huge pipes / conduits (visible through the grille behind Engineering) was a set built with forced perspective to suggest immense size. The angle on the conduits suggests they continue up the pylons. This suggestion applies to this ship too.

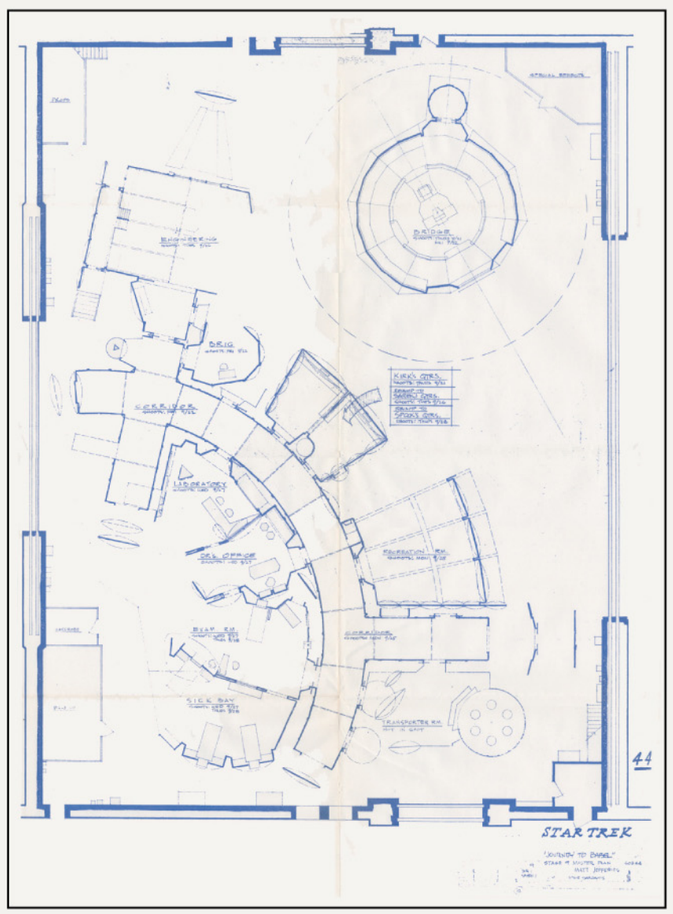
Regarding the antimatter:
CASE 1. Collect matter in the engine nacelles, send the matter to Engineering, mix it (in the habitable section of the ship) with antimatter (stored in the habitable section of the ship!), pass the energy through the Dilithium Crystals, then send the energy up to the engine nacelles to create the warp field.
CASE 2. Collect matter in the engine nacelles, mix it (in the engine nacelles) with antimatter (stored in the engine nacelles), send the energy to Engineering, pass the energy through the Dilithium Crystals, then send the energy up to the engine nacelles to create the warp field.

In both cases, energy is being transmitted. There is no need to move the fuel too (as in Case 1). Case 1 is unnecessarily complicated.
Case 2 is simpler, and as a bonus, the antimatter is kept away from the habitable section of the ship (as Matt and Gene intended).

ABBREVIATIONS

AL	-	AIRLOCK
BL	-	BIO LAB
C	-	CORRIDOR
CE	-	CHIEF ENGINEER
CMO	-	CHIEF MEDICAL OFFICER
CN	-	CHIEF NURSE
CNO	-	CHIEF NAVIGATOR'S OFFICE
CO	-	COMMANDING OFFICER
COO	-	COMMUNICATIONS OFFICER'S OFFICE
CON	-	CONVALESCENT WARD
CS	-	CHIEF OF SECURITY
CW	-	COLLAPSIBLE WALLS
DC	-	DECOMPRESSION CHAMBER
DN	-	DOWN
DO	-	DENTAL OFFICE
E	-	TURBO-ELEVATOR CAR
EE	-	ENVIRONMENTAL ENGINEERING
EL	-	ENVIRONMENTAL SUIT LOCKER
EM	-	TURBO-ELEVATOR MAINTENANCE
EMM	-	EMERGENCY MANUAL MONITOR
EMS	-	ENGINEERING MACHINE SHOPS
EO	-	CHIEF ENGINEER'S OFFICE
ES	-	ELEVATOR STANDBY / STORAGE
EW	-	ELECTRONIC WARFARE
FO	-	FIRST OFFICER
IC	-	INSPECTION CORRIDOR
LAB	-	LABORATORY
MN	-	DUTY NURSE
MO	-	DOCTOR'S OFFICE
MS	-	MEDICAL SUPPLIES
MWE	-	MAIN WARP ENGINEERING
OBS	-	OBSTETRICS
OR	-	OPERATING ROOM
P	-	PORT (LEFT)
PLS	-	PLACES
PO	-	PSYCHIATRIST'S OFFICE
PWT	-	PIPING / WIRING TRUNK
S	-	STARBOARD (RIGHT)
SIE	-	SECONDARY IMPULSE ENGINEERING
SO	-	SECURITY OFFICE
SCO	-	SECURITY CHIEF'S OFFICE
ST	-	STORAGE
TE	-	THEATER EQUIPMENT
TL	-	TOILET
WR	-	WAITING ROOM
XE	-	TRANSPORTER EQUIPMENT
XR	-	TRANSPORTER ROOM

THE DESILU STAGE AT THE SAME SCALE



PLAN SYMBOLS


CHAIRS


TABLES


DINING TABLE

SHOWER, TUB


DRESSERS


BED


ROOM PARTITIONS
- White circular grille
- Red hexagonal grille

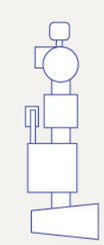
TOILET, SINK

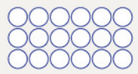

LADDERS


STAIRS, RAILING


WALL and DOOR


PHASERS


AIR CONDITIONING EQUIPMENT


BATTERIES


MEDICAL DIAGNOSTIC BED


CONTROL CONSOLES

CIRCUIT BREAKERS


COMPUTERS


WATER PRESSURE SYSTEM


LAUNDRY UNIT

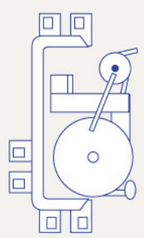

WATER PUMP MACHINERY

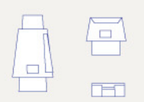
ISOLATION DOOR

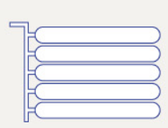

FOUNTAIN


HULL THICKNESS AT FLOOR LEVEL (Varies depending on hull curvature)

TREE, SHRUB


SANITARY WASTE RECOVERY SYSTEM


MATERIAL FABRICATION / RECLAMATION MACHINERY


STANDARD GASES


CURVATURE OF INNER FACE OF HULL
(Used to show the bottom of the Secondary Hull)