

# **Cleveland Cord Blood Center Biologics License Application (BLA)**

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Medical Director**



Cleveland Cord Blood  
CENTER



# **Background:**

## **Cleveland Cord Blood Center**

A non-profit public cord blood bank. Established in 2007 with generous philanthropic funding from the Abraham J & Phyllis Katz Foundation and Dr. Donald J. & Ruth Weber Goodman Philanthropic Fund.

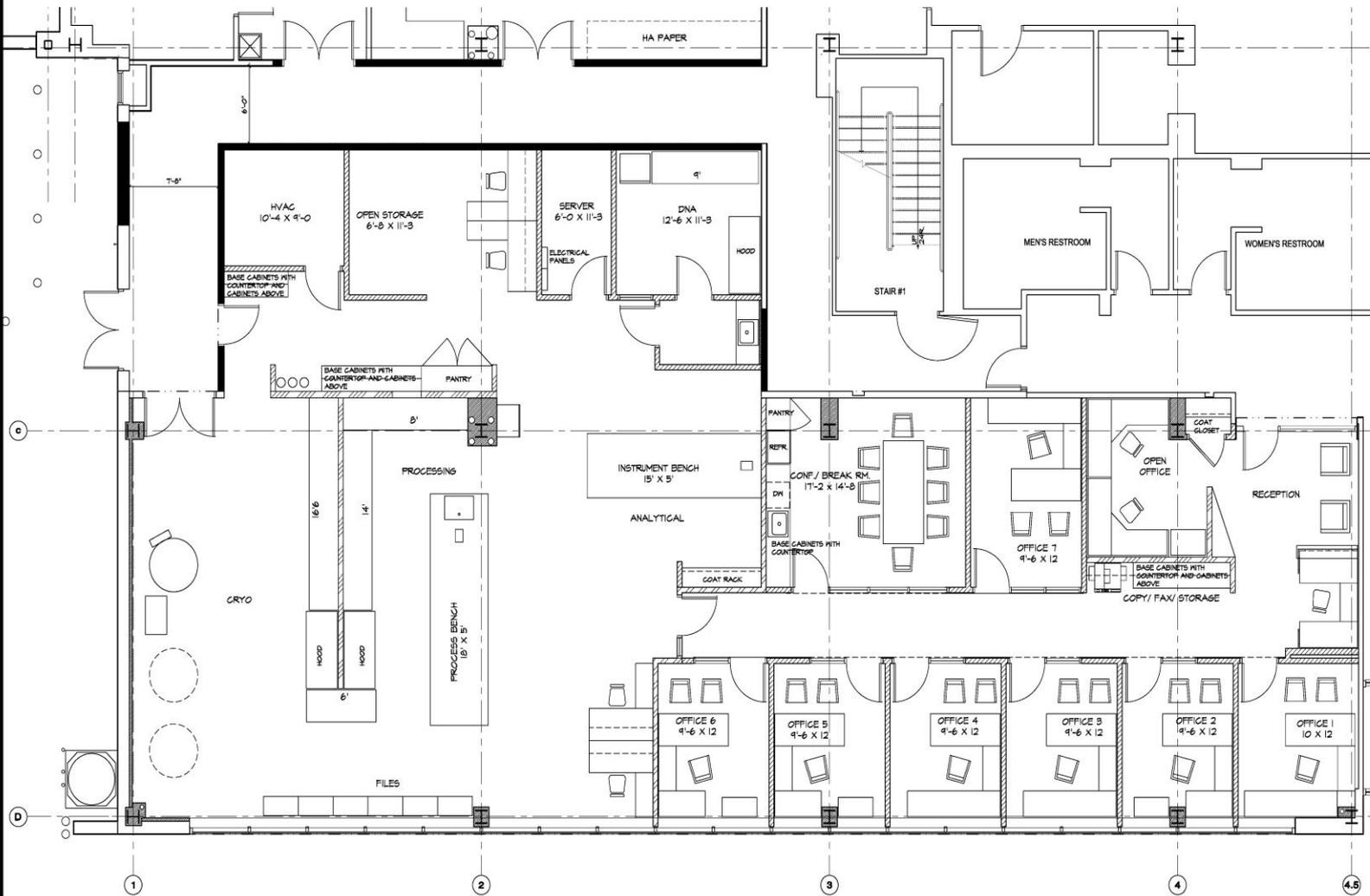
Space build out, equipment installed; First collection Cleveland Clinic Hillcrest Hospital Jan 2008 and Fairview Hospital Aug 2008.

Additional collection sites added: Piedmont Hospital, Atlanta, GA in late 2012 and Emory University in 2013.

5,870 CBU available for search. 5,670 CBU distributed for research.

Total philanthropic funding to CCBC to date: \$12.4M.

>250 CBU shipped to transplant centers in US and 13 countries.



<b>CCBC CURRENT</b> 3,667 SQ. FT	<b>CCBC PROPOSED</b> 912 SQ. FT	<b>TOTAL CCBC</b> 4,580 SQ. FT
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# CCBC Facility

Design and construction documents are instruments of service and part of an overall project. The use of these drawings and those incorporated herein is for the specific project stated herein. No other project or use is intended without the express written consent of Herschman Architects, Incorporated.

Date	Issue
08/08/07	TENANT REVIEW
08/08/07	TENANT REVIEW
08/08/07	TENANT REVIEW
08/08/07	REV.
08/04/07	REV.
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Drawn By: JLLI  
Project No.: 1047B

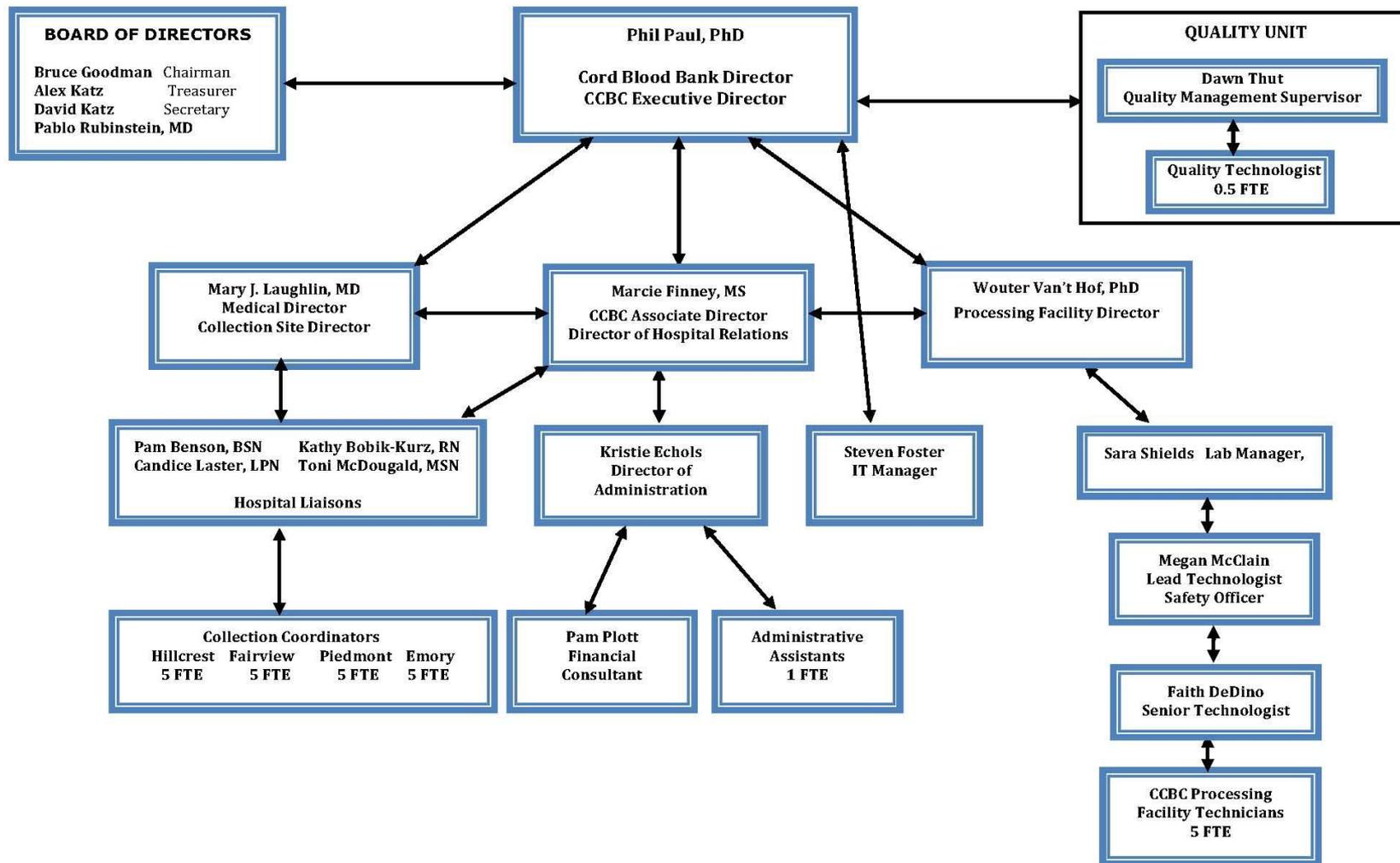
**CLEVELAND CORD BLOOD FOUNDATION**  
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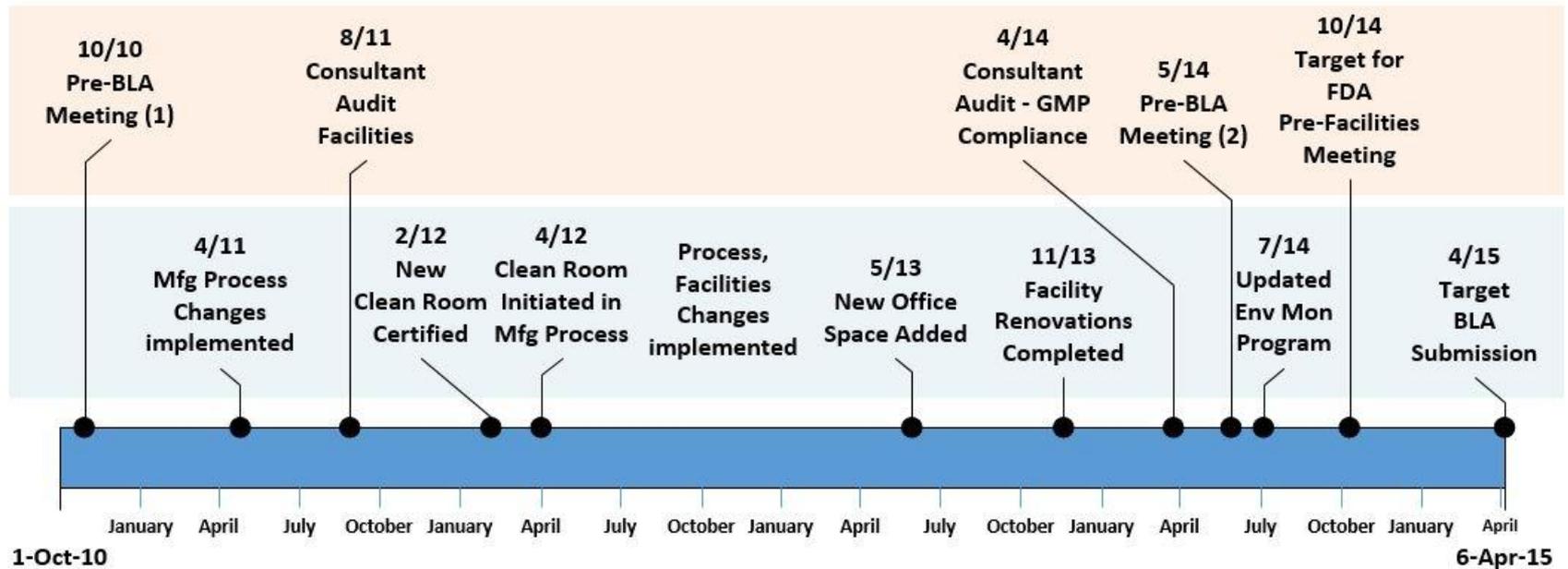


## CCBC Organizational Structure



# Timeline: CCBC BLA Application

## CCBC BLA Activities



# CCBC Engraftment and Outcome Reporting (CIBMTR)

CCBC Outcome Data Compared to NMDP	Number Alive	Platelet 20,000	Platelet 50,000	ANC 500	Acute GVHD	Chronic GVHD	Adverse Event
CCBC % Yes	60	77	60	93	60	21	20
NMDP % Yes	50	71	60	88	55	26	22

# CCBC Outcome Data

Single Unit Transplants for Hematologic Malignancies		
	Peds	Adults
mean TNC dose / kg	$9.5 \times 10^7$	$3.6 \times 10^7$
ANC > 500 by 42 d	96%	85%
mean days to ANC > 500	18 d	17 d
Host Recur/Residual	0	2
Alive at 100 d	61%	50%

# CCBC Consulting in BLA

- A consulting group was retained to complete a GTP/GMP gap analysis audit and regulatory consulting in advance of BLA submission.
- Specifically, the consultants have performed a review of firm's facilities and CMC documentation required for BLA in order to assess compliance with submission requirements prior to inclusion into application package.

# CCBC Facilities Up-fit in BLA

- Equipment was purchased to provide adequate back-up for every function in the Processing Facility per FDA mandate.
- Per facilities gap analyses performed Aug 2011, designation and re-design of a clean room was completed to accommodate critical aspects of aseptic processing activities, including testing and staff training.
- Addition of a new receiving area was required, a second accessioning work area, and removal of all non-essential work stations from the Processing Facility.
- Leasehold improvements and security system costs necessary to expand our offices into approximately 1,900 square feet of additional space in our existing building.
- This has addressed the required space to add the new receiving area, a second accessioning work space, and move all administrative functions to a separate area.

# CCBC Facilities Costs in BLA

Total capital costs attributed to the FDA requirements:

- Purchase of lab equipment sufficient to provide a backup for every process: \$813,339;
- Renovations to lab to enclose clean room \$19,040; HVAC modifications to control humidity; \$15,972; remodel of lab to move all administrative functions to separate area \$51,877.
- Total **\$900,228.**

# CCBC Personnel Costs in BLA

- We have hired 3 new staff totaling \$297,268 compensation annually to specifically address the BLA.
- A Processing Facility Director was hired to focus on the BLA in addition to the duties of the Processing Facility.
- In addition, a Quality Control Technician was hired to assist in data collection and review for the Quality Unit.
- As we worked toward GTP/GMP compliance an additional Processing Facility Technician was hired as the responsibilities of the senior technicians have expanded and they were pulled off the bench to address the BLA.

# CCBC Consulting in BLA

- An outside consulting firm has completed an environmental assessment of the Processing Facility and clean room and has provided the required documentation for all equipment and systems.
- They have provided a detailed plan for the required testing including locations and frequency of testing based on particle counts, settle and touch plates, and room classifications.

# CCBC Audit for BLA

- An audit has been completed to identify GTP/GMP gaps in the existing process controls that require implementation or improvement prior to BLA submission.
- The manufacturing controls have been assessed to ensure that we can adequately demonstrate compliance with relevant FDA regulations or expectations prior to BLA filing.

# **CCBC Consultant Costs in BLA**

Consultants that have been hired to assist with gap analyses and guide BLA development: \$130,000

# CCBC Additional Requirements in BLA

- Document Management, Error Management and Laboratory Information;
- Systems software were purchased to allow us to establish an electronic system for document control, workflow, incident management, outcome reporting, and management of the audit process. The software will manage preventive maintenance and calibration as well as integrate with our Rees monitoring system and will establish a database for documentation of approvals and training.
- Additional costs incurred also include ongoing environmental monitoring to establish baselines and validation. The cost of renting additional space required to re-locate all administrative functions.

# CCBC Additional Costs in BLA

- Other costs incurred related to obtaining FDA licensure include Document Management, Error Management and Laboratory Information System software, implementation and training \$389,665.
- Additional costs related to ongoing compliance with FDA regulations include annual costs for environmental monitoring of \$1,950, additional rent \$42,863, and annual license fees for electronic Laboratory Information Systems of \$39,600. Ongoing depreciation of the additional equipment is approximately \$180,000 per year.

# CCBC: Impact of BLA on unit cost

- Based on 2013 we estimate banking 1350 units annually, therefore ongoing costs including depreciation of equipment over 5 years would increase our cost per unit banked by \$416.
- If we estimate our distributions at 75 per year then we would need to increase the price per unit by \$7,490 to offset the costs incurred with the submission and ongoing expenses of the BLA.

# Summary CCBC BLA

- The CCBC BLA has exerted a personnel and financial burden for which funding is not currently available.
- Rates of UCB CBU processing has slowed as personnel have been taken off the bench to complete work specifically for FDA BLA.
- We have spent nearly \$1.3M in capital improvements, consultants and other costs in preparation for submitting the BLA. We estimate \$600,000 ongoing costs annually without considering equipment depreciation.
- No improvement in quality of CBU with BLA.
- Business model may not be sustainable.

