



County of Los Angeles
CHIEF EXECUTIVE OFFICE

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WILLIAM T FUJIOKA
Chief Executive Officer

October 31, 2014

To: Supervisor Don Knabe, Chairman
Supervisor Gloria Molina
Supervisor Mark Ridley-Thomas
Supervisor Zev Yaroslavsky
Supervisor Michael D. Antonovich

From: William T Fujioka
Chief Executive Officer

Board of Supervisors
GLORIA MOLINA
First District
MARK RIDLEY-THOMAS
Second District
ZEV YAROSLAVSKY
Third District
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Fourth District
MICHAEL D. ANTONOVICH
Fifth District

STATUS REPORT ON THE PROPOSED CONSOLIDATED CORRECTIONAL TREATMENT FACILITY SITE PLAN EVALUATION (ITEM NO. 24, AGENDA OF AUGUST 5, 2014 – CONTINUED FROM AGENDA OF JULY 29, 2014)

Item No. 24 on the August 5, 2014 Board agenda, recommends actions needed to carry out Supervisors Molina and Antonovich's May 6, 2014 motion to further refine and develop performance criteria and initial design of Vanir Construction Management's (Vanir) Option 1B, which proposed design and construction of a Consolidated Correctional Treatment Center (CCTF). Additionally, the Board directed the Chief Executive Office (CEO) and Department of Public Works (DPW) to return in 90 days with potential cost savings and efficiencies to reduce the overall capital cost of the proposed Project.

AECOM Inc. (AECOM) has evaluated Vanir's Option 1B, and has identified potential strategies to reduce overall capital costs. We are enclosing AECOM's report to provide the site plan considerations, schedule and phasing considerations, and analysis of strategies to improve efficiencies. AECOM will continue to refine these strategies, and we will report back to the Board in 90 days with a status update on their progress.

If you have any questions regarding this matter, please contact Santos H. Kreimann at (213) 974-1186.

WTF:SHK:DJT
TJ:MJD:rp

Attachment

c: Executive Office, Board of Supervisors
County Counsel
Public Works
Sheriff

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SITE PLAN EVALUATION



AECOM

LOS ANGELES COUNTY

CONSOLIDATED CORRECTIONAL TREATMENT FACILITY

FINAL REPORT: OCTOBER 17, 2014



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1 SUMMARY & OVERVIEW

Executive Summary

Working with County stakeholder agencies, the first step of AECOM's Scoping Documents services for the County of Los Angeles' Consolidated Correctional Treatment Facility (CCTF) is a Los Angeles County Jail Plan Independent Review and Comprehensive Report performed in collaboration with Vanir Construction Management, hereinafter referred to as Option 1B, April 2014, which was approved by the Board of Supervisors on May 6, 2014. The proposed CCTF project is a \$1.967 billion, 4,860-bed new facility with other Sheriff and County support functions on the site of the existing Men's Central Jail, and Central Arraignment Court.

County stakeholders agreed that achieving occupancy of the CCTF within a reduced schedule should be a key aspect for consideration as part of the AECOM Site Plan Evaluation effort. This was in response to multiple issues including the Department of Justice's monitoring of County jail facilities, and its June 4, 2014 statement of intent to seek court oversight of the jails related to mental health care conditions. Additional issues include the County's need to improve disabled access and the escalation of construction costs over time. Strategies to achieve earlier occupancy included increasing the portions of the site that could be utilized for construction by allowing:

- Early demolition of the 1970's jail and providing interim off-site housing
- Demolition of the 4-story parking/bus garage and providing more interim/long-term replacement parking.

The net result is Option 1B, November 2014, which achieves CCTF occupancy sooner than the corresponding dates of the baseline scheme. One of the effects of achieving occupancy sooner, using the above, is an increased disruption to existing operations and utilization of temporary facilities for inmate housing, Court Line, parking, and bus maintenance. These operational items are the subject of current and future research in collaboration between the Chief Executive Office, Sheriff's Department, Department of Public Health, Department of Mental Health, Department of Public Works, Superior Court, Probation Department, and AECOM.

2 SUMMARY & OVERVIEW

Introduction to the Report

This Site Plan Evaluation Report has 4 parts: **Summary and Overview, Site Plan and Options, Analysis, and Strategies Going Forward.**

Summary and Overview includes an executive summary, the introduction to the report, the background of the project and purpose of the Site Plan Evaluation exercise, the process and methodology utilized for involvement and input from stakeholders, and the list of County and consultant participants.

Site Plan and Options focuses on the overall site plan requirements, the existing site conditions, project and site plan goals, and the alternative versions evaluated.

Analysis presents schedule and phasing considerations, project and construction cost considerations, and describes the assumptions and results of the analysis.

Strategies Going Forward reviews strategies for improving first-cost and ongoing operational cost efficiencies as the AECOM scoping document project progresses. This section identifies unresolved issues that the County and the consultant will address going forward to support implementation of the selected site plan concept. The final outcome will then present emerging design criteria. Finally, next steps in the scoping and overall process are identified.

3 SUMMARY & OVERVIEW

Background Purpose

In May 2014, the County of Los Angeles Board of Supervisors approved the LA CCTF Site Plan Evaluation Report authored by Vanir Construction Management dated April 21, 2014, selecting Option 1B with a 2-tower configuration. This is a \$1.967 billion, 4,860-bed new Consolidated Correctional Treatment Facility (CCTF) on the site of the existing Men's Central Jail. In August 2014, AECOM's contract to prepare Scoping Documents for this design-build delivery project including temporary relocation of parking to a site in Chinatown was approved by the Board of Supervisors. In addition to program verification and preparation of criteria documents, the Board requested that AECOM prepare this Site Plan Evaluation and report back to the Board with the identification of areas of opportunity for potential cost savings and efficiencies, and a plan to explore such efficiencies. See Section 11, Strategies to Improve Efficiencies for further efficiencies detail.

The purpose of the Site Plan Evaluation was to review the recently prepared Architectural Program developed by Vanir and to identify potential improvements in function, schedule, operations, and construction costs. The first step was to understand the Vanir study, and the intent of Option 1B, April 2014. Subsequently, at a high-level, AECOM began the process of reviewing the type and quantity of spaces to achieve the mission of the facility and examined options for housing inmates with behavioral health disorders. While still in process, this evaluation is intended to identify areas of opportunity to reduce capital and life cycle costs, condense the construction schedule, understand and mitigate the disruption of operations inherent in development on an occupied site, and enhance the overall development of the site. The result of this re-examination is presented in this report.

4 SUMMARY & OVERVIEW

Process & Methodology

The approach to the Site Plan Evaluation process was an inclusive one: In the spirit of team building and open communication of ideas and concepts, a “charrette” workshop approach was used in meetings with the County of Los Angeles. Stakeholder meetings of 30–35 participants allowed attendees to give and receive feedback, thus gaining and refining ideas and concepts. In addition, AECOM held regular review meetings with Vanir, management meetings with the Department of Public Works and program orientation and clarification meetings with the Department of Mental Health, the Department of Public Health, the Chief Executive Office, and the Sheriff’s Department. Meetings with break-out groups were then reported on at the large stakeholder charrettes so that all participants were informed of developments. Besides these charrette and regular review meetings, Jay Farbstein & Associates, an AECOM consultant, is currently conducting programming meetings with the Sheriff’s Department. These meetings consist of two tracks of multiple session workshops with user groups to verify and clarify program. AECOM anticipates completion of the programming workshops by early in the 1st Quarter of 2015. After the completion of the programming sessions and compilation of the data, findings will be provided to cost estimators to generate a cost based on the revised programming information.

AECOM began with the collection and review of prior studies prepared by Vanir and others in order to understand the current approach, issues, site conditions and facilities. This gave AECOM an initial understanding of the philosophical approach and vision for the CCTF operations and other expectations. Large group workshop discussions allowed the team to discuss issues, present approaches and refine project strategy and direction. What was discussed and developed in these work sessions then served as the basis for an agenda for work to be accomplished in subsequent meetings. This process resulted in updating Option 1B as presented in this report.

The large group participated in the following major work sessions and charrettes:

- Charrette #1: July 23, 2014 – Confirm site plan goals and improvements to study
- Charrette #2: August 7, 2014 – Present site plan strategies, implementation strategies, and refine site plan goals
- Charrette #3: August 27, 2014 – Present expanded site development options and schedule impacts
- Charrette #4: September 10, 2014 – Present refined site development options, schedule impacts, and cost factors
- Charrette #5: September 24, 2014 – Present draft Site Plan Evaluation Report
- Charrette #6: October 9, 2014 – Present responses to comments and review of Site Plan Evaluation Report

5 SUMMARY & OVERVIEW

Participants

COUNTY AGENCIES

Chief Executive Office

Santos Kreimann, Deputy Chief Executive Officer
Jan Takata, Senior Manager
Tracey Jue, Manager
David Turla, Principal Analyst
Matthew Diaz, Senior Analyst

Sheriff's Department

Terri McDonald, Assistant Sheriff
David Fender, Chief
Kelley Fraser, Commander
Gary T.K. Tse, Director
Marjory Jacobs, Lieutenant
Kelly Porowski, Lieutenant
Tab Rhodes, Lieutenant
Edward Matzen, Clinical Nursing Director II
Kelly Chiu, Facilities Project Manager

Department of Public Works

Massood Eftekhari, Deputy Director
Jim Kearns, Assistant Deputy Director
Te-Ling Chou, Capital Projects Program Manager
Logan Frame, Capital Project Manager
Alicia Ramos, Capital Project Manager
Omar Nabahani, Project Manager (Consultant)
Steve Wagner, Project Manager (Consultant)

Department of Public Health

Holly McCravey, Director
Yanira A. Lima, Program Manager

Department of Mental Health

Dr. Stephen Shea, M.D., Director, Jail Mental Health
Dr. Michael Maloney, District Chief
Dr. Sara Hough, Program Head
Dr. David Kidwell, Supv Psychiatrist
Dr. Jeff Marsh, Supv Psychiatrist
Dr. Joseph Mirkovich, Supv Psychiatrist
Elvia Trujillo, Analyst

COUNTY CONSULTANTS

Fehr & Peers (Traffic Studies)

Netai Basu, Principal

Placeworks (EIR)

Bill Halligan, Principal

Vanir Construction Management

Andrew Freeman, Market Segment Leader, Justice
Scotty Galloway, Area Manager
Rob Nash, Senior Project Manager
Candyce Roberts, Project Manager

AECOM

AECOM Technical Services

Roger Lichtman, Senior Vice President, Principal in Charge
Beverly Prior, Vice President, Design Leader
Richard Hansen, Vice President, Senior Project Manager
John Van Whervin, Manager I, Project Manager
Nina Gladstone, Associate Principal, Project Architect
Yiling Deng, Associate, Job Captain
Kenneth Golovko, Vice President, Eng. Manager
Harley Hanson, Associate Vice President, Civil Engineer
David Voda, Senior Associate, Management Support
Betty Sulistio, Senior Administrative Assistant, Project Admin
Bruce Omtvedt, Architect III, Detention Designer
Jaylen Yang, Sr. Associate, Sr. Architect
Sofia Tata, Senior Associate, Programmer
Rafael Alvarez, Associate, Technical Support
Behorkh Rahmati-Govari, Designer II, Technical Support
Seyoon Oh, Designer I, Technical Support
Anita Wong, Designer I, Technical Support
Greg Weimholt, Principal, Associate Engineering Lead
Andrew Reed, Principal, Mechanical Engineer
Paul Alves, Senior Associate, Structural Engineer
Jack Campbell, Associate, Fire Safety Engineer
Brent A. Leif, Manager, Construction Services Specialist
Raymond Zunino, Construction Manager

Jay Farbstein & Associates

Jay Farbstein, Principal Programmer
Greg Barker, Senior Programmer
Erin Persky, Programmer
Brenda Epperly, Principal Medical Planner

Cumming Corporation

Bill Rodgers, Managing Principal
Scott Feeney, Managing Director
Jerry Piersall, Vice President

6 SITE PLAN & OPTIONS

Existing Conditions

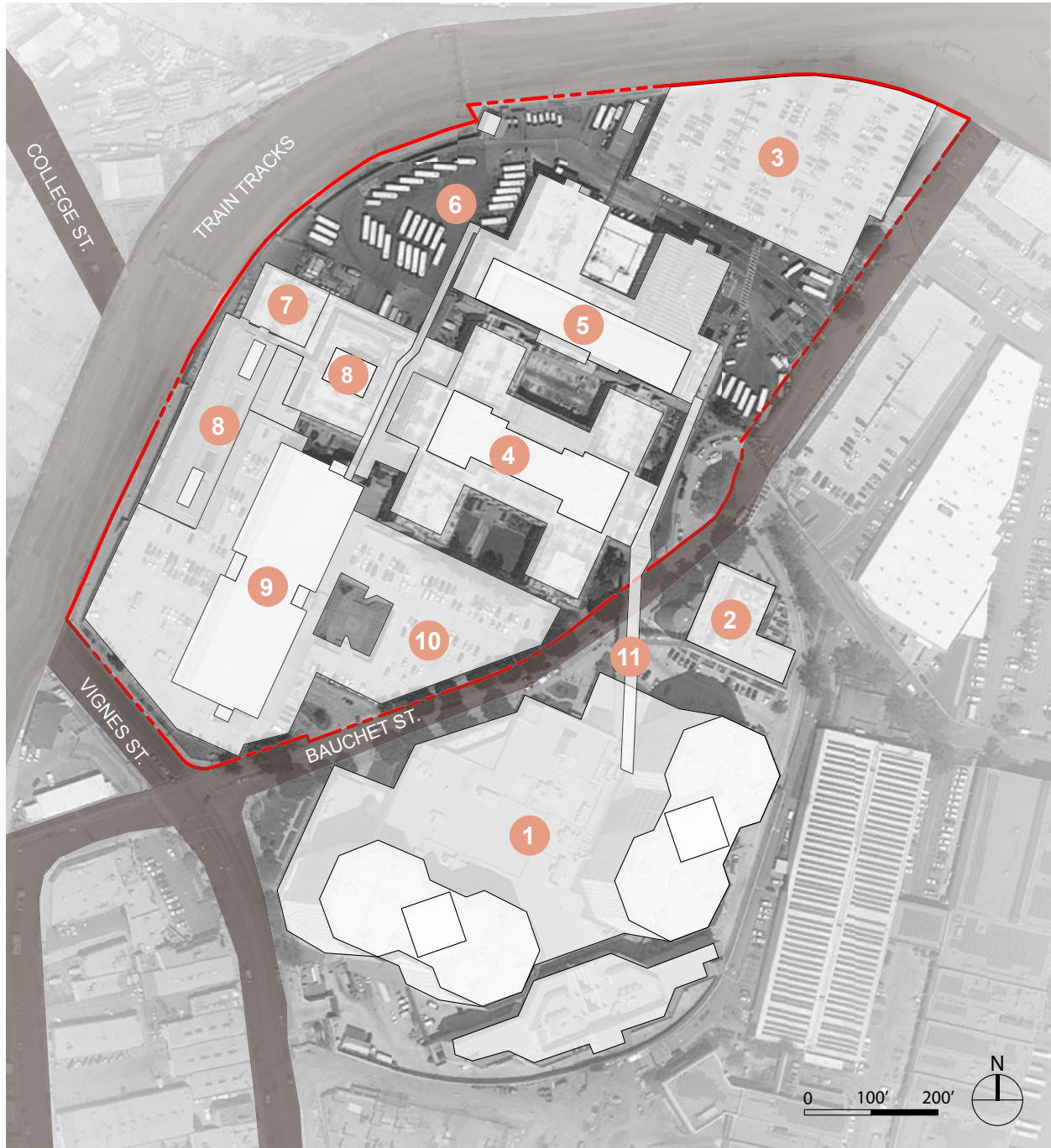
The proposed Consolidated Correctional Treatment Facility (CCTF) will be built on a portion of the downtown Los Angeles County jail complex. The site is bordered by Bauchet Street to the east, Vignes Street to the south, and train tracks to the west and north. Total site area is approximately 771,400 square feet or roughly 17.7 acres with a relatively flat topography. Across Bauchet Street to the south is the Twin Towers Correctional Facility (TTCF) consisting of the two jail towers, the Inmate Reception Center and the Correctional Treatment Center. MCJ and TTCF are connected by a secure enclosed bridge that spans across Bauchet Street. The MCJ site is currently a highly developed site with existing facilities and utilities which will affect construction of the new CCTF.

The MCJ site includes the following primary facility structures described below and indicated on the following diagram:

1. Original 1960's 4-story jail facility with central kitchen, infirmary (addition on the southwest end) and central heating plant. The central heating plant simultaneously serves all buildings on the MCJ site, as well as, the Twin Towers Correctional Facility campus.
2. A 1970's 4-story jail addition with Court Line connected to the 1960's jail located roughly at the center of the site. Secure bus loading yard adjacent to the Court Line at the west end of the 1970's structure.
3. A 4-story staff parking structure, bus parking, and bus maintenance/transportation facility located at the northeast end of the site.
4. A 2-story Central Arraignment Court and 2 level public parking structure located at the south end of the site.
5. An off-site central cooling plant located across Bauchet Street to the south which serves the MCJ and the TTCF campus.

A preliminary assessment of structural, mechanical and electrical considerations for site development is presented in the Appendix.

SITE DIAGRAM - EXISTING



LEGEND:

- | | |
|--|--|
| 1. TWIN TOWERS CORRECTIONAL FACILITY | 6. COURT LINE AND BUS QUEUING |
| 2. CENTRAL COOLING PLANT | 7. CENTRAL HEATING PLANT |
| 3. PARKING GARAGE AND BUS MAINTENANCE FACILITY (4 STORY) | 8. INFIRMARY |
| 4. MEN'S CENTRAL JAIL 60'S BUILDING | 9. CENTRAL ARRAIGNMENT COURT |
| 5. MEN'S CENTRAL JAIL 70'S BUILDING | 10. PARKING DECK (2 STORY) |
| | 11. BRIDGE CONNECTION BETWEEN TWIN TOWERS AND MEN'S CENTRAL JAIL |

7 SITE PLAN & OPTIONS

Site Plan Goals & Requirements

To verify the site plan approach, the AECOM team first reviewed the overarching goals of the program presented in Vanir's report and reviewed with Vanir to understand the background and intention of the goals. In the process of charrettes with County stakeholders, additional site planning criteria emerged. First and foremost, County stakeholders agreed that achieving occupancy of the CCTF treatment housing earlier should be a key goal of the Site Plan Evaluation. This was in response to multiple issues including the Department of Justice's monitoring of County jail facilities and its June 4, 2014 statement of intent to seek court oversight of the jails related to mental health care conditions. Additional issues include the County's need to improve disabled access, and the escalation of construction costs over time.

This goal became the key driver of the charrettes and the work effort in between those sessions. In order to reduce the overall duration for earlier occupancy of the CCTF, the programmatic phasing needed to be amended.

A range of strategies were reviewed and in that process, options were refined by the following constraints:

- Buildings and functions that must remain on site and operational during the CCTF construction are the 1960's jail facility which houses inmates and food services facilities that serve the inmates on this site as well as those at the Twin Towers Correctional Facility, the central heating plant that serves the existing site (also in the 1960's jail facility) as well as the Twin Towers Correctional Facility and the infirmary which houses inmate patients for whom there is no alternative off-site temporary housing.
- Options that only allowed a single tower were rejected as inconsistent with the Board of Supervisors' intent in its selection of Option 1B, the two-tower concept.

Acceptable strategies to achieve earlier occupancy and to provide for a larger portion of the site to be set aside for future development included:

- Early demolition of the 1970's jail and providing interim off-site housing and interim off-site Court Line.
- Requirement that any replacement operation for Court Line either be on-site or in close proximity to the existing.

The site plan and overall project goals will continue to evolve in the Scoping Documents process as part of working with stakeholders and identifying areas of efficiency and potential cost savings/reductions. The original study goals and expanded site planning goals are presented in the chart on the next page.

**CCTF Goals
from April 2014**

1. Close and demolish Men's Central Jail
2. Plan a Treatment Facility
3. Plan for flexibility
4. Meet the requirements of the U.S. Department of Justice Memorandum of Agreement (USDOJ MOA)
5. Provide treatment program space and staff at the Housing Unit level
6. Limit inmate movement by bringing services to the inmate.
7. Meet the requirements of the Americans with Disabilities Act (ADA)
8. Maximize wheelchair accessible housing for Medical Outpatient Specialty Housing (MOSH) inmates
9. Plan the building to facilitate an integrated approach to inmate programming, treatment and management

**Site Plan Evaluation
Expanded Goals for
November 2014**

10. Shorten total project schedule for earlier CCTF occupancy
11. Retain 60's jail and infirmary until on-site replacement housing is constructed
12. Retain undeveloped site area for flexibility of future operations
13. Collocate the Medical Outpatient Specialty Housing (MOSH), the Correctional Treatment Center (CTC) and the Clinic
14. Locate the CTC and the Clinic for optimal access from the CCTF and the Twin Towers
15. Limit operational disruptions and challenges of displacement of functions and beds
16. Maximize staff efficiency
17. Leverage technology to maximize efficiencies
18. Site efficiencies will cater to visiting/visitors of the facility. Other efficiencies will include enhanced cafeteria services, video visitation, and other areas to be addressed.

8 SITE PLAN & OPTIONS

Option 1B Site Plan

The proposed Los Angeles County Consolidated Treatment Facility Option 1B, April 2014 as approved by the Board of Supervisors is a 2-tower concept developed in a 2-phase process with projected construction completion in 2026 (see Section 9 regarding variance from original report). Selecting Option 1B with two towers was a rejection of the height of a 1-tower, 1-phase Option 1B .

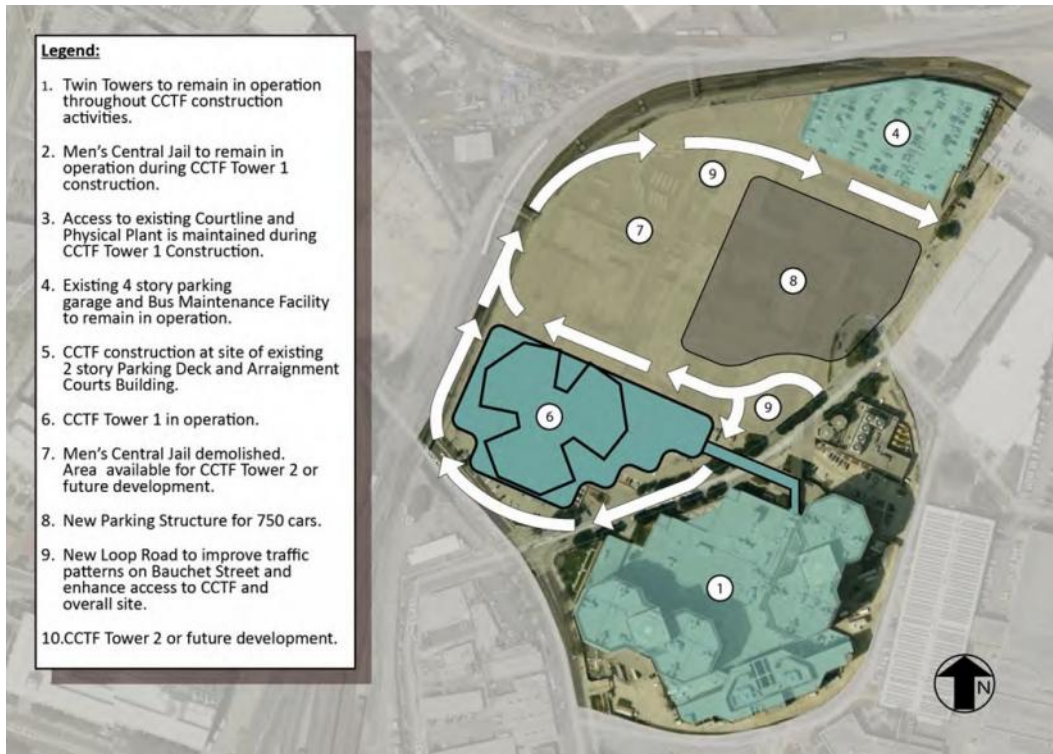
The Site Plan Evaluation process has evolved from Option 1B, April 2014 into the updated Option 1B, November 2014 version which plans for earlier occupancy of the CCTF.

Option 1B, April 2014 and Option 1B, November 2014 are described below regarding the siting and implementation steps. Option 1B, April 2014 is illustrated with the diagram from the April 2014 report. Option 1B, November 2014 is illustrated with a site zoning diagram followed by on-site implementation diagrams that clarify the intended on-site phasing.

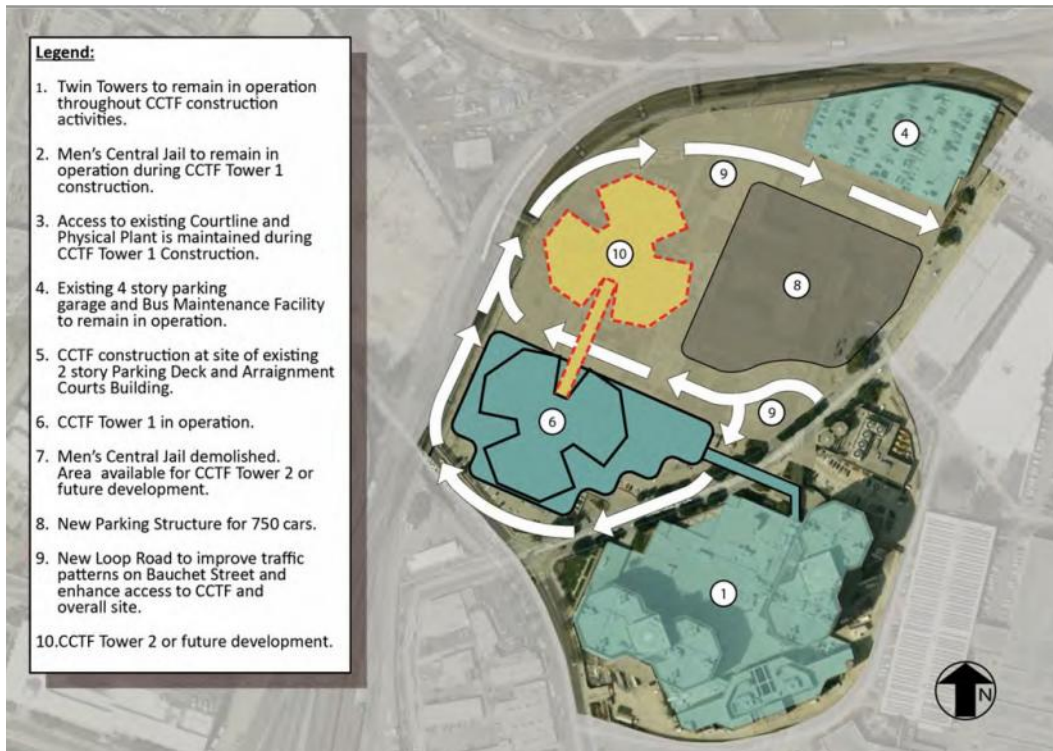
It's important to note that some of the implementation requirements are off-site.

OPTION 1B, APRIL 2014

Conceptual Site Development - Initial Construction Complete and MCJ Demolished



Conceptual Site Development - Second Tower Construction



OPTION 1B, APRIL 2014

Siting

- Phase One CCTF on the site of the existing Central Arraignment Court building and public parking at the south end of the site
 - Phase Two CCTF on the site of the existing 1960's and 1970's jail facilities
 - Existing 4-story staff parking and bus maintenance building at the north of the site are retained
-

Off Site Preparation

Step 0. Construct off-site parking in Chinatown to accommodate parking loss from Central Arraignment Court; move courthouse functions to a temporary location or other location

On Site Sequencing

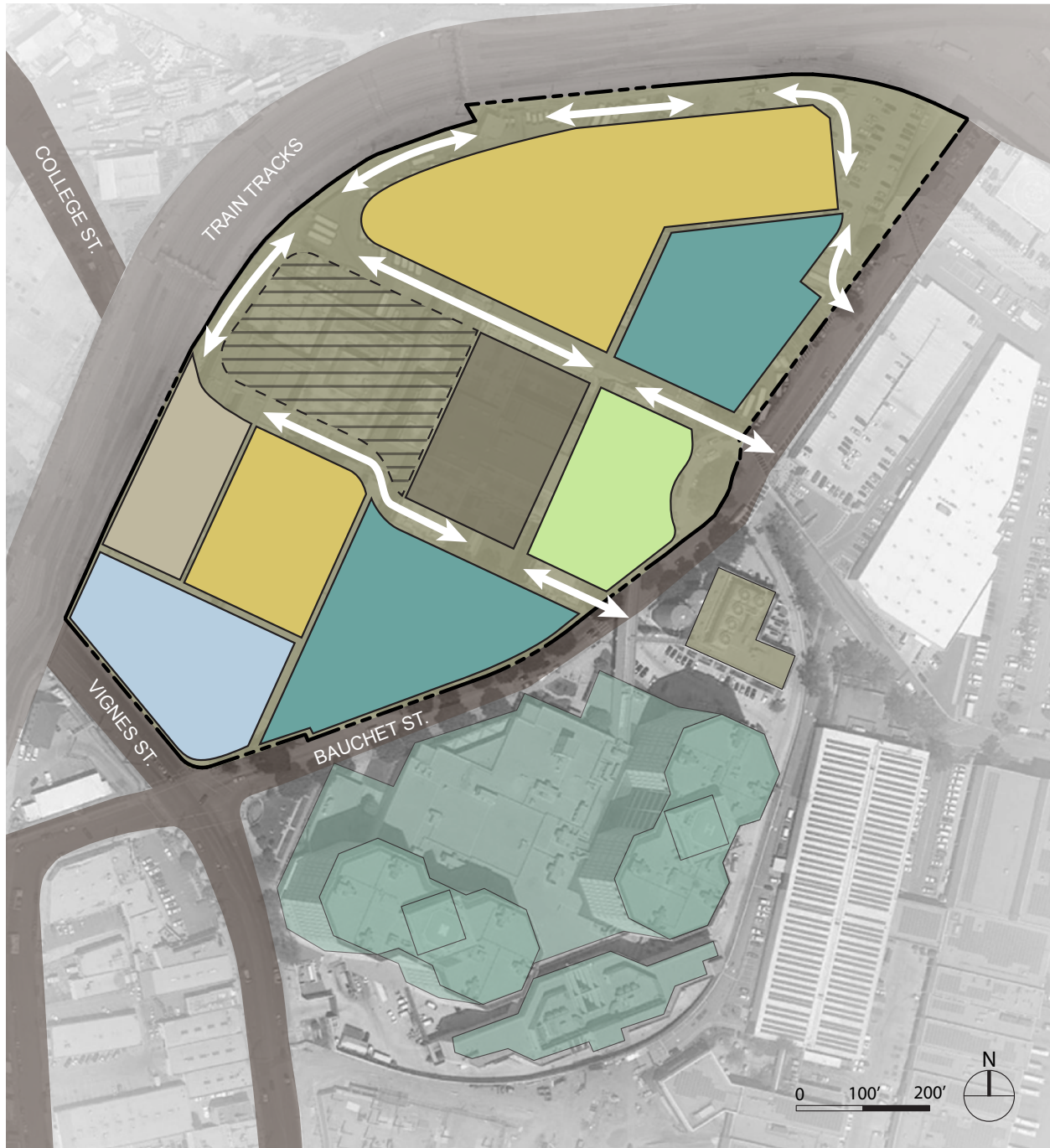
Step 1. Demolish Central Arraignment Court and associated parking

Step 2. Construct first CCTF tower













Step 3. Demolish 1960's jail

Step 4. Construct second CCTF tower, loop road, and on-site parking structure

SITE DIAGRAM - OPTION 1B, NOVEMBER 2014



LEGEND:

- | | | | |
|---|--|---|-----------------------|
|  | EXISTING TWIN TOWERS CORRECTIONAL FACILITY |  | NEW PUBLIC PLAZA |
|  | EXISTING CENTRAL COOLING PLANT |  | NEW LOADING / KITCHEN |
|  | NEW TREATMENT FACILITY |  | UNDEVELOPED |
|  | NEW CORRECTIONAL TREATMENT CENTER |  | NEW LOOP ROAD |
|  | NEW ADMINISTRATION AND SUPPORT |  | NEW TUNNEL CONNECTION |
|  | NEW PARKING WITH/ COURT LINE & BUS QUEUING |  | NEW SECURED SKYWAY |

OPTION 1B, NOVEMBER 2014

Siting

- CCTF built on the north and south of the site concurrently:
 - South:** on the site of the existing Arraignment Court building and public parking.
 - North:** on the site of the existing 4-story parking/bus garage and 1970's jail facility.
 - Parking, Court Line, and undeveloped area on the site of the existing 1960's jail facility.
-

Off Site Preparation

Step 0. Construct off-site parking in Chinatown to accommodate parking loss from Central Arraignment Court building and 4-story parking/bus garage; move courthouse functions to a temporary or other location; move 1970's jail inmates to temporary off-site housing; move bus maintenance, service yard, bus parking, and Court Line to temporary off-site location.

On Site Sequencing

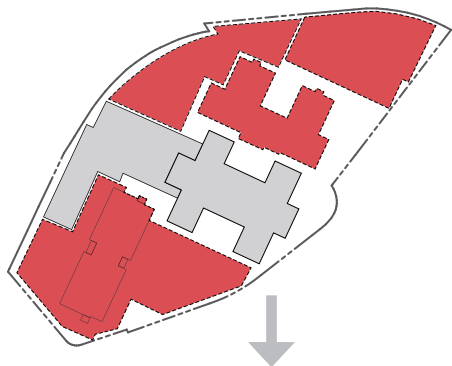
Step 1. Demolish Central Arraignment Court building with associated parking, 4-story parking/bus garage, 1970's building, and Court Line.

Step 2. Construct Correctional Treatment Facility, north loop road, and support functions on vacated site. Fire department access will be provided during construction.

Step 3. Demolish 1960's and 1970's jail facility, Infirmary, and Central Heating Plant.

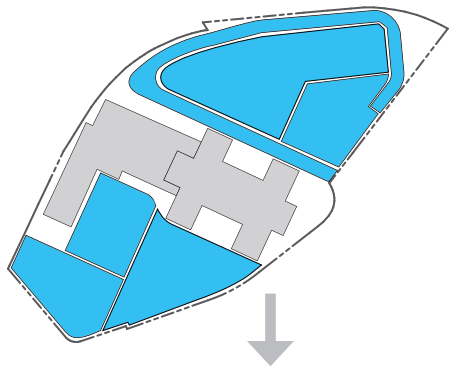
Step 4. Construct parking structure with Court Line below, public plaza, loading / kitchen, and loop road - retaining a portion of the land as undeveloped.

PROGRESS DIAGRAM - OPTION 1B, NOVEMBER 2014



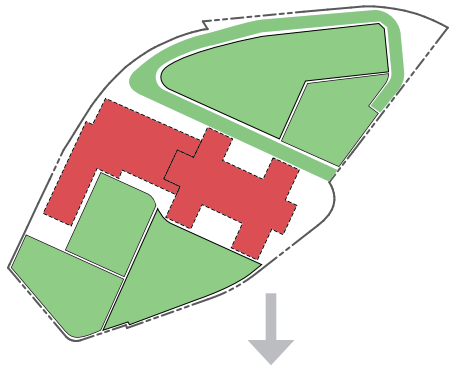
Step 1 - Start of Demolition

- Demo** Central Arraignment Court, Court Parking, 70's MCJ, 4-Story parking Structure, Court Line & Bus Maintenance Yard
- Remain** 60's MCJ, Infirmary, & Central Heating Plant



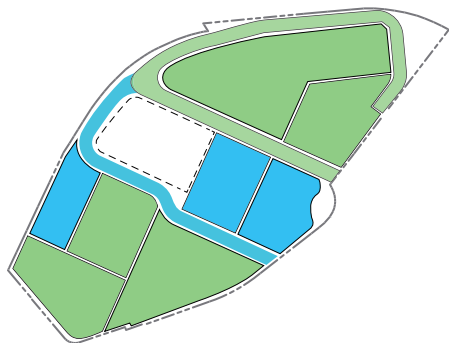
Step 2 - Construct

- Construct** Treatment Facility, Correctional Treatment Center, North Loop Road, Admin, & Support
- Remain** 60's MCJ, Infirmary, & Central Heating Plant



Step 3 - Demolition

- Demo** 60's MCJ, Infirmary, & Central Heating Plant
- Built** Treatment Facility, Correctional Treatment Center, North Loop Road, Admin, & Support



Step 4 - End of Construction

- Construct** Parking Structure (Court Line below), Public Plaza, Loading / Kitchen, South Loop Road
- Built** Treatment Facility, Correctional Treatment Center, North Loop Road, Admin, & Support

 Undeveloped

9 ANALYSIS

Schedule & Phasing Consideration

Option 1B, April 2014 had an anticipated construction completion date in 2026. It should be noted that this date has been validated from the ongoing report based on an alignment of procurement and construction start dates. A major driver for the duration of that option was the two phases of construction of the CCTF towers. However, as noted in the implementation description above, there are a number of factors that impact the overall project duration including the following:

- 1. Environmental Impact Report (EIR).** A project of this scale will require an EIR which has specified time periods for notifications, public review and comment. The EIR consultant, working with the County, will recommend the best approach and estimated timelines for EIR approval.
- 2. Off-site interim solutions.** Some off-site interim solutions may not require the remodel of existing or construction of new facilities if there is an operational solution. Those that do require construction, such as the interim parking structure in Chinatown, will be on a critical path for completion prior to demolition of the on-site use.
- 3. Design-Build team selection.** This process includes the development of scoping documents for each of the discreet bid packages, a 2-step Request for Qualifications and Request for Proposal process followed by recommendation to the Board of Supervisors, then contract approval for the selected design-build team.
- 4. Design and agency approvals.** While the project process can be expedited by designers and builders teaming together, state and local agencies must approve plans before construction can begin. Depending on the project type, those agencies can include local planning, State Fire Marshal, South Coast Air Quality Management District (SCAQMD), health, and building departments, the California Board of State and Community Corrections (BSCC) for facilities with inmates and the Office of Statewide Health Planning and Development (OSHPD) for the Correctional Treatment Center (OSHPD 4). OSHPD 4 refers to Office of Statewide Health, Planning & Development, General Requirements for Correctional Treatment Centers and Intermediate-Care Facilities. Each agency has special processes and time periods that must be planned for.
- 5. On-site demolition and site preparation.** Before construction of new facilities can begin, existing facilities must be vacated, hazardous material abated, demolished, and the sites prepared for the new construction project. The availability of the site to accommodate new construction within the reduced phasing is critical. Similar to new construction, demolition requires team selection/bidding, contracting, and a period for demolition of the buildings.
- 6. Construction.** Construction periods are influenced by the size of the project, the type of construction and the ease of construction. Construction periods can be expedited through early design packages (site prep and foundations), longer working hours and days and other strategies.

- 7. **Commissioning and move-in.** Prior to full operation, furnishings and equipment must be moved in, staff trained and the building fully commissioned to assure smooth, safe, and secure operations.
- 8. **Logistics.** The timing and intensity of operational affect on an occupied site will require careful sequencing of on-site and off-site activity that determines schedule milestones.

The graphic schedule on the following page shows estimated timing and key milestones for the proposed CCTF project. Precedent milestones and key process completion dates in order to begin the CCTF construction are indicated. For comparison purposes, the steps for Option 1B, April 2014 and Option 1B, November 2014 are presented in separate sections, one above the other.

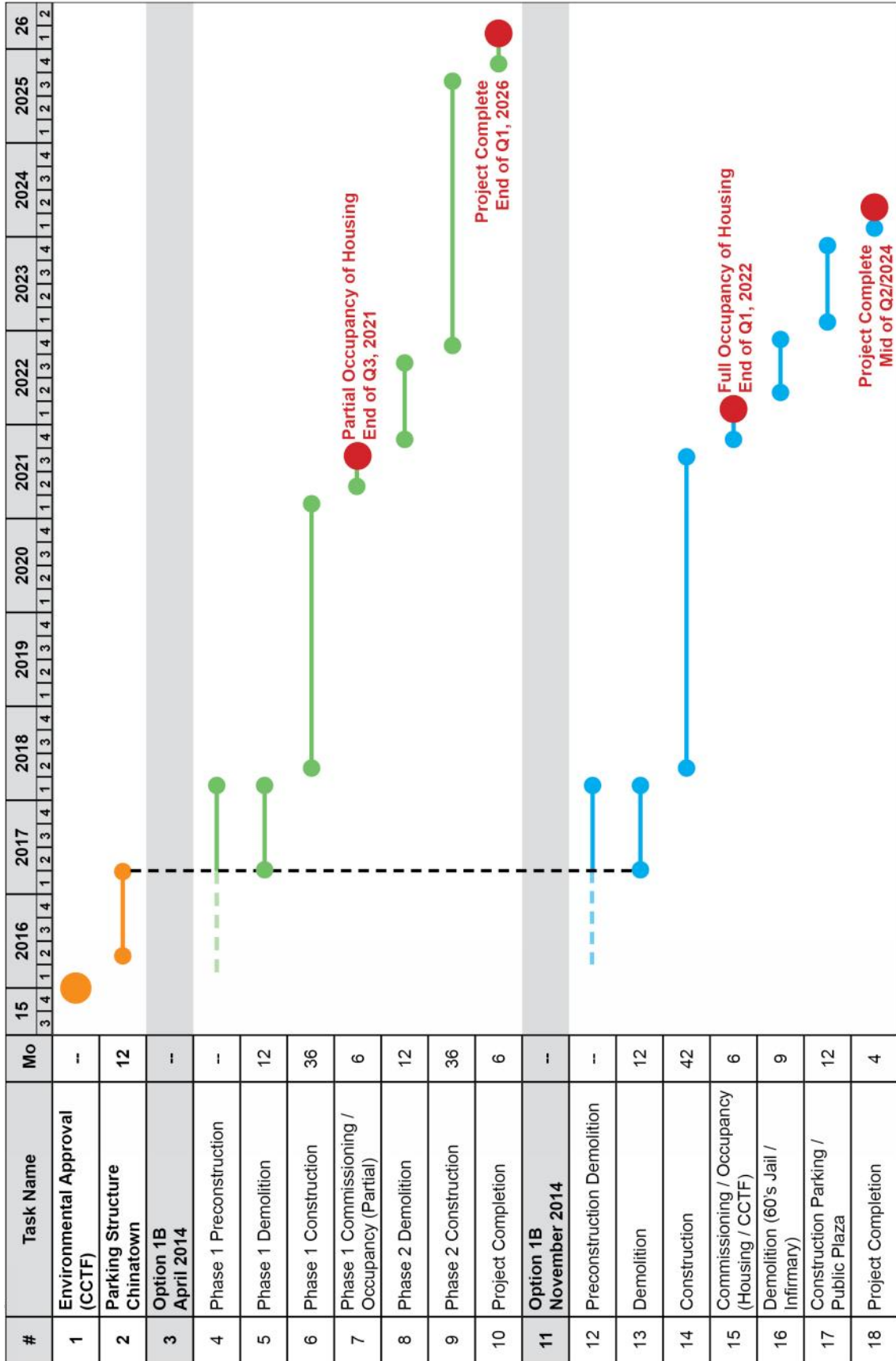
Note that the major CCTF construction start date is the same in both versions: Q2 2018. The construction duration for the CCTF Phase 1 in Option 1B, April 2014 is shown as 36 months (3 years) with a second phase of construction, also 36 months (3 years), and then completing and fully occupied in Q1 2026. The timing and intensity of operational impact on an occupied site will require careful sequencing of on- and off site activity that will impact schedule milestones. The construction duration for the CCTF in Option 1B, November 2014 is shown as 42 months (3-1/2 years) for the majority of the CCTF and occupancy Q1 2022. Total construction completion (parking structure, plaza, and Court Line) is projected to be Q2 2024.

Basis for estimating CCTF construction duration. The preliminary estimate of 42 months for construction duration in Option 1B, November 2014 is based on a number of factors. The first factor was a preliminary review of a variety of projects, completed in recent years and close in magnitude to Option 1B, November 2014. While each project has unique conditions and complexities as reflected in the range of projects in the list below, they represent preliminary reference points at this early stage of analysis.

Project	Construction Value	Construction Duration
LAX Midfield Terminal	\$1.2 billion	+/- 42 months
LAC/USC Hospital	\$600 million	+/- 48 months
California Health Care Facility, Stockton	\$600 million	+/- 32 months
NFL Facility in New Jersey	\$1.2 billion	+/- 36 months

The aforementioned project examples range from 32 to 48 months in construction duration. Therefore based on a contemplated approach to construct the north and south components concurrently, a projected +/- 42-month preliminary schedule duration is the currently projected construction period for this phase of the LA CCTF Option 1B, November 2014.

COMPARATIVE SCHEDULE



10 ANALYSIS

Project & Construction Cost

Using the program information AECOM, together with cost estimating consultant Cumming has validated the Option 1B, April 2014 version based on estimating experience of program requirements.

The Option 1B, April 2014 estimate of \$1.967 billion includes the proposed CCTF on the current site. The off-site parking structure cost is not included but is critical to the program as it is required to be constructed and be operational prior to commencement of any demolition activities on the current site.

The Option 1B, November 2014 evolution proposes the same program for the CCTF, as well as an increased interim off-site parking and increased on-site parking. Escalation is a percentage factor applied to the cost of construction to account for expected increased costs as the project continues. Using historical data and based on acceptable industry wide standards, escalation is factored into the cost of construction over the project duration. The Option 1B, November 2014 cost model has factored the associated escalation in line with the revised schedule.

An area of potential cost savings that may be realized is the reduced General Conditions for the design-builder due to a shortened construction schedule. Option 1B, November 2014 has a total schedule or duration of 42 months compared to the 72 months required for Option 1B, April 2014.

11 STRATEGIES GOING FORWARD

Strategies to Improve Efficiencies

The Site Plan Evaluation team has identified a number of opportunities for efficiency improvements in operational and construction cost. These and other options will be investigated in the next phases of AECOM's Scoping Document development. The following is a preliminary list of strategies:

1. Optimize Sheriff's staff ratios while supporting decentralized programming
 - Investigate the adoption of adopt a 128-bed Treatment Housing Unit configuration (with two 64-bed pods subdividable into 32-bed sub-pods) .
2. Stack similar functions and floor plans
 - Housing and Correctional Treatment Center floors that are stacked vertically improve construction efficiency and ease ongoing operations and maintenance.
 - Aligning like-construction avoiding mechanical, electrical, and plumbing system transfer levels and excessive code requirements for differing usage and construction types.
3. Separate buildings of different occupancy types and code requirements
 - Cluster buildings with different essential service/seismic/approvals processes to minimize code application where not required (e.g. OSHPD 4 Correctional Treatment Center (CTC)).
 - Allows for economical usage of differing building construction to better serve the intended purpose.
4. Limit excavation below existing basement depth (noted in April 2014 report as well)
 - Minimize costly excavation and substructure complexity along with avoiding extensive existing underground utility network.
5. Avoid soft stories
 - Programming to avoid placing the spaces with higher head height requirement under high rise elements helps control the structural design cost by avoiding the need to transfer load on two structural systems within the same building.
6. Use rooftops for outdoor program such as staff break areas, contact visiting, or other functions
 - With a congested site, the rooftops can afford cost effective opportunities for outdoor uses.
 - Rooftops designed for occupant loading can provide future flexibility for outdoor uses.
7. Shorten the schedule
 - With the expected increase in the construction costs for Los Angeles in the coming years, any opportunity to reduce the construction end date should yield cost savings.
 - Schedule reductions should be optimized so as to avoid increasing construction costs.
 - Allows stability in permanent facilities with stable populations sooner and a shorter period of disruption.
8. Increase the parking structure height
 - To minimize built up area and retain as much undeveloped land as possible.
 - Cost effective method within the heights to this project.

9. Optimize horizontal circulation
 - Programming adjacencies to deliver most effective staff connectivity measuring less inmate/patient movement.
10. Expand hours of treatment programs to reduce number of program rooms
 - Programmatic exploration of the impact of working practices and program operating hours on space requirements resulting in optimal efficiency.
11. Provide program space on the housing tier level as well as on the dayroom levels in order to reduce footprint and maximize use of building volume
 - The mezzanine/tier space could be used to provide program space while keeping the overall footprint of the building the same.
12. Design to support security staffing
 - Review the arrangement of secure spaces to help optimize the efficiency of security staff.
13. Decentralization of programming (as also proposed in the April 2014 report)
 - Providing the spaces and activities most often utilized adjacent to and accessible from the housing units. This allows for unescorted inmate/patient movement and places staff directly where they are working.
14. Study locations for medical equipment
 - There may be efficiencies in locating equipment on every floor or at interval floors.
 - Locate equipment only at the central clinic.
15. Review the April 2014 space program to reduce the overall building area
 - Some functions may currently be located at TTCF or other facilities.
 - Some functions may be collocated or shared.

12 STRATEGIES GOING FORWARD

Items to be Addressed and Resolved

The scoping documents team will work closely with the DPW, CEO, Sheriff's Department and other County agencies to strategize and assure that the following items are addressed and resolved before and during construction and when all of the buildings are complete.

1. Staff, professional visitor, and inmate visitor parking
 - Program for temporary and permanent parking needs.
 - Consider both on-site and off-site opportunities.
2. Traffic circulation
 - Consider temporary and long-term permanent traffic circulation and vehicular movements in the program development.
3. Construction parking, access, and laydown areas
 - Recognizing the size and restricted nature of the site, investigate potential areas where construction support activity may be reflected in the general contractor's pricing.
4. Courthouse
 - Program the existing and expected courthouse function into the integrated program for courthouse replacement.
5. Court Line function and location
 - Coordinate with the Sheriff to program the interim Court Line.
6. Bus transport aspects
 - Optimize the bus routing, parking and maintenance space requirements to be determined.
7. Administration/Support Services
 - Optimize the location and adjacencies of the support services and administration spaces relative to treatment functions.
8. Interim inmate housing
 - Coordinate with the County on phasing and timing of any temporary inmate housing requirements to align with proposed project schedule.
9. Central heating plant and cooling plants
 - Operational consideration of collocating with the central cooling plant.
 - Optimizing its siting relative to phasing and design of distribution systems.
 - Re-routing of main utility services on site to accommodate existing to remain facilities.
10. Full Life-Cycle Costing
 - Analyzing the full capital cost and cost of operation and finding the balance across the various approaches and options.
11. Areas of refuge
 - Programming the spatial requirements and associated adjacencies of the building code required areas of refuge.

12. Vertical operational relationships

- Validating the programmatic impact of vertical stacking of spaces and its associated capital cost advantage with the operational impact and associated support infrastructure
- Ensure adequate elevator access and quality.

13. Program development of CTC with MOSH

- Detailed understanding of the staff efficiency associated with the adjacencies between the CTC and the Clinic, and the Clinic and MOSH, and the potential for shared waste removal and laundry staging.

14. Fire and life safety review

- A detailed code analysis of the fire life safety implications of various programmatic adjacencies.

15. Sheriff's excluded functions

- A few existing Sheriff's Department functions on the Men's Central Jail Site were excluded in Option 1B, April 2014. Those items are the show-up room, Training Service Bureau and mobile ranges, and Facilities Services Bureau. A plan for whether to include on-site or to address with off-site facilities needs to be determined.

13 STRATEGIES GOING FORWARD

Emerging Design Criteria

During the Site Plan Evaluation process, testing of the site led to modeling building heights and masses. Since these were just tests rather than building designs, the focus in communicating Option 1B, November 2014 is as a zoning diagram, not representing shape, height, or mass. However, in that process, building development guidelines began to emerge and will be further developed in the next phases of the Scoping Documents. The guidelines are:

1. Respond to urban context and scale (height and bulk)
2. Vertically stack like housing units for efficient construction
3. Separate functions with higher code requirements to minimize construction cost impact
4. Provide efficient vertical and horizontal circulation
5. Align housing with inmate classification/needs
6. Produce outstanding correctional environment that supports therapeutic goals
7. Plan development to consider space, light, views, and recreational areas
8. Respect required adjacencies while also grouping functions with similar space, structural, and accessibility requirements
9. Leverage technology to increase efficiencies.
10. Provide efficient functional layout concepts, taking into account operational cost efficiencies

14 STRATEGIES GOING FORWARD

Next Steps

Concurrent with the development of this Site Plan Evaluation the AECOM team has begun the Survey, Inventory, and Data Analysis associated with the programming and building systems research and analysis. Key upcoming AECOM Scoping Documents task milestones are as follows:

- Program and building systems analysis – December 2014
- Definition and evaluation of building development – February 2015
- Recommended building layout – March 2015
- Design-builder procurement support – May 2015

Los Angeles County Department of Public Works, Chief Executive Office, Sheriff's Department, Department of Mental Health and Department of Public Health are working to facilitate the implementation of the proposed CCTF project. Key County activities are as follows:

- Completion of the environmental process.
- Development of the RFQ and RFP for design-build teams.
- Identifying and/or facilitating the development of interim facilities such as the off-site Chinatown parking structure, inmate housing, Court Line, Central Arraignment Court, bus garage and maintenance facility.
- Infrastructure studies to assess existing conditions.

PRELIMINARY ENGINEERING ASSESSMENTS

AECOM Structural Assessment

When considering the structural challenges for a project of this magnitude a variety of conditions must be considered. Things like, foundation methodology, lateral systems, existing conditions, and phasing are evident in any project. This project will also need to account for security restrictions, code limitations for a tall building, and medical facility requirements. Each of these elements will need to be dealt with at all levels of the design process.

- Foundation methodology will be dependent on preliminary geotechnical exploration findings
 - Given the size and weight of the towers, deep foundations seem likely. This will create challenges when protecting utilities, etc.
 - If there are contaminants in the soil, this will affect the desirability of basement spaces and underground techniques that call for soil removal and/or replacement.
 - Water Table information will affect waterproofing recommendations.
- Seismic considerations will have an impact on the structural system used for housing.
 - Precast Cell Units are secure and consistent, but they are heavy and will add additional seismic loading. They will also be difficult to lift to the highest floors. Precast Cells can be used for bearing/shearwalls.
 - CMU or cast in place units will not have the same lift considerations, but they will be constructed more slowly. Some of this concern could be offset by specialized pouring techniques like Tunnel Form construction, where reusable forms are used in the casting process and removed quickly. These are often effective on structures with repetitive plan and vertical elements. Note that these techniques do require that special care be taken when detailing reinforcement for shear walls, especially for high rise structures. Whatever construction sequence methods are used, they will still have a significant contribution to seismic mass. In addition, Tunnel Form type methods will limit the size and shape of many of the spaces and would very much drive Architectural solutions.
 - Steel Cells (concrete fill between steel plates), will go up quickly, will not have the same lift requirements as precast, will add less mass to the system, and will take the least amount of plan space. However, the units themselves tend to be more costly than the other two options. Steel Cells do not provide lateral capacity or bearing capacity (beyond a typical 2 level with mezzanine arrangement).
- Layout space will be a major concern given the phasing and space restrictions.
 - Materials and systems that require space for preparation will have to be carefully considered when investigating the final phasing plans.
- Clear sight lines are obviously imperative in certain areas.
 - Careful column and wall placement will need to balance unobstructed views with efficient framing spans. Columns will be integrated within cell layouts where possible.
 - Avoid curved corridors within the security areas.

- Elevator cores are required in any tower system and are a natural location for shear walls or braced frames.
 - Allowing enough space around these cores may limit (although not eliminate) the need for these systems in other parts of the structure.
- All protuberances or interferences are to be avoided, especially in the detention areas or any corridors that will be used to transport detainees.
 - Concrete walls are often the best choice for these conditions, but given the height of the towers, concrete walls/corridors are much more efficient when they can be aligned all the way to the foundation.
 - Medical or healthcare related functions (i.e. infirmary, mental health etc.) may affect the risk. Hospitals are assigned the highest category (IV) and have many additional criteria that will increase design loads and cost of connections.
 - Typical Detention Facilities are one category lower (III); they would have fewer detail requirements and a smaller force magnification.
- The maximum building height will have an impact on the available lateral systems given the likely Seismic Classification.
 - A “complicated” tower with potential for twisting cannot be taller than 160 feet.
 - A relatively simple tower with redundancy (additional shear walls or braced frames) cannot be taller than 240 feet.
 - Anything taller than 240 feet will require a “dual system” classification where a shear wall and braced frame system are paired to provide additional redundancy.
- Buildings over 160 feet in height should be stamped by a Structural Engineer.
 - S.E. – not P.E. Civil.
- More ductile systems (special braced frames or better) will effectively reduce the lateral load that the building will see. Rigid systems (shear walls) will increase the forces to be resisted, but will provide a stiffer structure overall.
- Dual systems actually provide benefits of both stiffness (from the shearwalls) and ductile action/redundancy in the case of a large seismic event (from the braced frame components).
 - Note that this could potentially include combinations of precast cell walls and other walls with steel braced frame elements.
- Structures with basements that have a substantial change in exterior grade (approximately 6 feet or more) from one end of the building to the other may be subject to additional earthquake induced soil pressures. These pressures can become substantial.
- The smaller towers/structures would have similar options, although there will be more flexibility on materials and lateral systems when the structure height is less than 160 feet above grade.
- Parking Structures are usually constructed in concrete to maintain lower profiles and to allow for easy ramp transitions.
 - It is common for these to use post-tensioned elements (slabs and or beams) to further decrease the profile and mass. The repetition of layout and design between floors makes post tensioned systems a cost effective alternative.
 - Other alternatives are available including cast-in-place concrete and steel framed with concrete decking or planks; however these are far less common.

PRELIMINARY ENGINEERING ASSESSMENTS

AECOM MEP Assessment

The CCTF is a large, multi-function site made up of several critical components which require attention and individual solutions. At the same time however, those solutions are interconnected as many of the site processes are related by function, by physical connection, or both. The mechanical, electrical, and plumbing (MEP) utilities and systems must be designed to not only address the intended future site and building functions, but the existing to remain functions as well.

In order to successfully develop the MEP designs, a carefully planned, systematic approach is required to identify all interdependencies of the existing and new facilities. It is necessary to first fully understand the condition, location, routing, and capacity of all existing utility systems and equipment on site. This will provide a basis for developing the new systems design intent. Limiting the amount of modifications and rework necessary for the existing systems is important for not only cost but for limiting disruption of the site function as well. With this being a fully operational detention facility throughout construction, delivering a design which eliminates extended utility interruption is paramount.

Concurrently we will be developing design criteria for the new facilities related to local, state, and national requirements, industry standards, and good practice. Because there are multiple facility types on site, it is important for us to define the conditions and loads for each – including healthcare, detention, and administration. The site assessment identifies what exists, and the design criteria identifies what is needed. Finding the appropriate method in which to provide the new MEP systems is the most critical component, and is based on several key factors.

As mentioned previously, eliminating disruption to the ongoing operations on site is vital. Understanding the facilities which are existing to remain either temporarily or permanently will drive decisions related to utility modifications and relocations. A component of that is minimizing the amount of temporary resolutions which are developed to minimize disruptions, as that can increase the project cost. Therefore being creative in preparing the final solution relative to the construction schedule and phasing is crucial. Considering the operation of the facility post-construction is important as well. These are long life facilities and inefficiencies in system design can have long term financial impacts.

EXISTING CONDITIONS ASSESSMENT

It is important to understand what exists on site, related to both equipment and utilities which are to be removed and those which are to remain. There are several buildings constructed at various periods throughout the last 50 years, and the existing documentation does not comprehensively identify all of the critical components. In order to gain sufficient knowledge and understanding of the existing systems, a comprehensive review of the site infrastructure will be undertaken.

The following items will be important in determining the viability of existing systems and the required modifications of specific systems to accommodate the intended new program:

- Identification of all site utilities routings, including sanitary, storm, domestic water, fire water, chilled water, heating hot water, steam, natural gas, electrical, communications, fire alarm, and security. These utility routings will include those below grade as well as those routed through buildings to connect to adjacent buildings.
- Determine the points of connections of the utilities to each existing building, including buildings to be demolished.
- Identify the incoming service equipment utilized within each existing building for the connections of the utilities.
- Capacities of the existing chilled water and boiler plants will be important in defining how the equipment is used during construction and how it will be used post construction.
 - Chilled water feeds the entire site from the plant adjacent to Twin Towers. The capacity of the system will dictate how it is used post construction. The new program for the CCTF includes more square footage than the existing CCTF, and will therefore impact the capacity of the chilled water plant.
 - The thermal energy storage (TES) will be similarly impacted as the chilled water.
 - The boiler plant producing steam for heating hot water and domestic water will eventually be demolished. It will be utilized for a period of time during construction for existing loads, which will not affect capacity.
- Capacity of the existing electrical service to the site from Los Angeles Department of Water and Power (LADWP) will be determined. Clarifying that Twin Towers is served separately will aid in determining the necessary capacity increase to accommodate the new program facilities.
- Capacities of the other site utilities will be equally important, including natural gas, storm, sewer, domestic water, and communications.
- Age and condition of the existing equipment to remain will have a bearing on the development of new concepts related to the site utilities, especially related to the chilled water system.
- Identify existing equipment and utilities to be demolished without impact to existing operations.
 - Where there are instances of equipment and utilities which are specific only to the buildings to be demolished during construction, locations will be defined to isolate those systems from those intended to remain in operation.
- Identify existing equipment and utilities to be demolished which impact existing to remain facilities.

- The existing boiler plant will ultimately be demolished, although it will continue operation for “existing to temporarily remain” and “existing to remain” buildings. The equipment will remain in place and in operation until permanent utilities are in place, tested, and commissioned.
- The routing of the steam from the boiler plant will be critical to the continued services to the “existing to remain” buildings. It is understood that the piping from the boiler plant to the Twin Towers crosses the roof of the 1970’s building. This is a building currently planned to be demolished during the initial stages of new CCTF construction. Defining ways in which this piping can remain or be rerouted will determine how the demolition of the 1970’s jail impacts the phasing and cost.
- The Infirmary and 1960’s Jail are fed by the existing boiler plant. These buildings will remain in operation through construction, and accommodations will be made to allow for continued utility services. The routing of the steam piping will be defined in order to determine what modifications are required.
- The Twin Towers will remain in operation throughout construction and after, and are served from the boiler plant for heating hot water and domestic hot water. Similar to the Infirmary and 1960’s jail, options will be developed to insure there is no disruption to service, other than planned construction activities, while the final service equipment and connections will be as efficient as possible.
- Security and communications will be critical to insure the systems remain in place for the temporary to remain buildings, for both internal operations as well as any interconnections to other site buildings.
- Identify existing equipment and utilities to remain.
 - The existing chilled water plant and TES are developed at the plant adjacent to the Twin Towers, a plant which is currently intended to remain post construction. This plant serves both the Twin Towers and Central Jail facilities, and is approximately 25 years old. Several items will be considered in the continued utilization of this plant:
 - Age and condition of the equipment, distribution, and control systems.
 - Routing of distribution beyond Twin Towers and the modifications required to temporarily preserve the existing Central Jail site, ultimately to be demolished.
 - Capacity of the plant relative to the new construction demand loads.
 - Location of the plant relative to the new construction equipment points of connection.
 - The existing electrical service from LADWP for the Central Jail site is located near the boiler plant. Determining how LADWP serves the “existing buildings to remain” and “to be demolished” will influence the design of the new construction distribution to the buildings and service equipment.
 - Similar to the “existing to be demolished” buildings, security and communications cabling will be important to identify and maintain for “existing to remain” buildings. Where there are critical systems annunciation and reporting systems on the Central Jail site that affect Twin Towers, accommodations will be required to insure no disruptions.