

Superior Court of California
County of Santa Clara
Family Justice Center

BUDGET PACKAGE

APRIL 7, 2010



ADMINISTRATIVE OFFICE
OF THE COURTS

OFFICE OF COURT CONSTRUCTION
AND MANAGEMENT

The Administrative Office of the Courts, Office of Court Construction and Management (AOC-OCCM) presents this budget package to support the COBCP for the proposed Superior Court of California, County of Santa Clara, Family Justice Center project. The budget package includes the following items:

1. Space Program

A space program has been prepared by the AOC-OCCM in collaboration with the Superior Court of California, County of Santa Clara. The program presents space requirements for a Family Justice Center. The space program totals 233,906 building gross square feet for a facility of 20 courtrooms and associated support space. The space program presented here is the basis for the size of the building indicated in the project funding request.

2. Project Schedule

A project schedule has been prepared by the AOC-OCCM for this project based on funding approval secured summer 2010.

3. Pre-Design Study, March , 2009, prepared by AOC consultant SmithGroup

The AOC-OCCM hired a consultant, SmithGroup, to prepare a pre-design study to investigate the feasibility of constructing a new court facility in Santa Clara County. The report analyzed consolidation of existing facilities into one new courthouse. The objectives of the study were to develop a space program, develop conceptual designs for a new courthouse, and develop a cost estimate for the project.

The foundation of the pre-design study is the Superior Court of California, County of Santa Clara Court Facilities Master Plan dated August 2003. Since the pre-design study was conducted in March 2009, the space program and cost estimate are outdated and have been replaced as part of the COBCP submission.

The pre-design study contains a concise executive summary. The study concluded that a 20-courtroom project is feasible at a proposed site in downtown San Jose. This is consistent with the project scope described in the COBCP. Below is a summary of each chapter in the body of the report:

A. Functional Space Program

The space program presented in the pre-design study is outdated and has been replaced with a space program prepared by the AOC-OCCM as noted above in Item 1.

B. Regional, Urban, and Site Planning Considerations

This chapter presents site and building analysis for the proposed project.

C. Conceptual Design Options

This chapter presents building design and site use options to accommodate the proposed 20-courtroom courthouse. The objective of this effort was to develop a conceptual building plan and site plan that meets all of the functional and operational needs of the court. The conceptual plan includes a courthouse of 20 courtrooms. CEQA used Option D presented in this study for evaluation of environmental and mitigation impacts.

D. Building Systems

This chapter establishes basic building system guidelines and criteria for the design of the new justice center.

E. Appendix

- Civil Detailed Systems Analysis
- Structural Detailed Systems Analysis
- Mechanical Detailed Systems Analysis
- Electrical Detailed Systems Analysis
- Plumbing & Fire Protection Detailed Systems Analysis
- Data & Communication Detailed Systems Analysis
- Security Detailed Analysis
- Audio Visual Detailed Systems Analysis
- Sustainable Design

SPACE PROGRAM SUMMARY

LIST OF SPACES	Court-rooms	Court Staff	Agency Staff	ASF	DNSF	TOTAL GSF
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COURT FUNCTIONS

COURT ADMINISTRATION		19	-	3,855	4,819	6,746
HUMAN RESOURCES		18	-	2,590	3,238	4,533
FINANCE		19	-	1,628	2,035	2,849
FAMILY COURT	10	124	-	39,606	53,468	74,855
FAMILY COURT SERVICES		37	-	7,326	9,524	13,333
COURT SETTLEMENT UNIT		2	-	814	1,018	1,425
JUVENILE DEPENDENCY COURT	4	36	-	13,678	18,465	25,851
DRUG COURT	6	70	-	20,008	27,011	37,815
PROBATE		19	-	1,876	2,439	3,414
COURT SUPPORT SERVICES		17	1	982	1,228	1,719
CHILD WAITING		-	4	876	1,051	1,472
COURT GENERAL SERVICES		12	-	1,464	1,830	2,562
SELF HELP SERVICE CENTER (Family Law & Small Claims)		15	-	3,780	4,914	6,880
STAFF SUPPORT		-	-	3,990	4,788	6,703
IN CUSTODY CENTRAL HOLDING		3	-	3,230	4,683	6,557
SHERIFF OPERATIONS OFFICE		13	-	2,346	2,933	4,106
COURTHOUSE ENTRY SECURITY		-	-	4,066	4,879	6,831
BUILDING OPERATIONS		-	-	1,900	2,280	3,192
COURT PARKING				7,000	7,000	9,800
SALLY PORT				2,500	2,500	3,500

Subtotal	20	404	5	123,515	160,101	224,142
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1.40 55.1% Overall Building Efficiency

JUSTICE PARTNERS

CIVIL GRAND JURY			-	-	-	-
JUV. DEP. COURT JUSTICE PARTNERS			58	2,763	3,454	4,663
DRUG COURT JUSTICE PARTNERS			22	2,175	2,719	3,670
FAM. CT. JUSTICE PARTNERS			22	818	1,023	1,432

Subtotal			102	5,756	7,195	9,764
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1.35 58.9% Overall Building Efficiency

GRAND TOTAL	20	404	107	129,271	167,296	233,906
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GSF per Courtroom

11,207

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
COURT ADMINISTRATION						
Administration						
1 Court Executive Officer	350		1		350	includes bathroom & closet
2 Assistant Court Executive Officer (Operations)	200		2		400	
3 Executive Secretary	64		1		64	
4 Administrative Assistant (Court Secy Ops)	64		1		64	
5 Public Information Officer	120		1		120	
6 Legal Services General Counsel	200		1		200	
7 HR Director						Locate w/ HR
8 Finance Director						Locate w/ Finance Dept.
9 Security/General Services Director	150		1		150	
10 Court Security Administrative Deputy	64		1		64	
11 Court Secretary (Gen Svcs)	64		1		64	
12 Civil/Small Claims Director	150		1		150	
13 Family Court Director	150		1		150	
14 Analyst/Senior Analyst	64		3		192	
15 Criminal/Traffic Court Director	150		1		150	
16 Court Support Services Director	150		1		150	
17 Grand Jury Court Manager	120		1		120	
18 Grand Jury Court Secretary	64		1		64	
19 Visitor Office	100			1	100	
20 Executive Conference Room	360			1	360	Shared by Exec Admin, HR & Finance
21 Small Conference Room	120			1	120	With viewing window into admin WS, adjacent to reception
22 Reception / Waiting Room	200			1	200	Secured from office suite
23 Active Records	225			1	225	
24 Scanner Resource Station	48			1	48	
25 Mail Room	100			1	100	
26 Copy / Workroom	250			1	250	
Court Staff			19			
Agency Staff			-			
Subtotal, ASF					3,855	
Subtotal DNSF (add 25%)					4,819	

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
HUMAN RESOURCES						
27 Division Director	150		1		150	
28 Assistant Director	120		1		120	
29 Confidential Support Tech. I/II	64		3		192	
30 HR Specialist	100		1		100	
31 Deputy Court Manager	100		1		100	
32 HR Analyst/Sr. Analyst	100		7		700	Must be private office
33 Court Program Specialist	100		1		100	Must be private office
34 Admin. Support Tech.	64		3		192	Rotating receptionists & back up admin support
35 Personnel Records File Room	478			1	478	High density shelving, locked room
36 Reception / Waiting						Share w/ Exec Admin
37 Reception Counter						Share w/ Exec Admin
38 Interview Room / Conference Room	150			1	150	8 Seats / Use Admin Exec Conf Room for Larger Meetings
39 Testing Office	64			1	64	Single occupant use, needs hard walls
40 Photo ID Alcove	64			1	64	
41 Small Supplies Storage	80			1	80	Locked storage room
42 Copy / Workroom	100			1	100	Keep as dedicated to HR
Court Staff			18			
Agency Staff			-			
Subtotal Human Resources ASF					2,590	
Subtotal DNSF (add 25%)					3,238	

FINANCE						
43 Finance Director	150		1		150	
44 Deputy Fiscal Officer	120		1		120	
45 Court Secretary	64		1		64	
46 Systems Management Analyst/Sr. Analyst	64		1		64	
47 Budget Management Analyst/Sr. Analyst	64		1		64	
48 Senior Accountant	64		3		192	
49 Fiscal Specialist I/II	64		11		704	
50 Payroll Printer Alcove	20			1	20	
51 Conference Room						Use Exec or HR conference room
52 Reception						Share w/ Exec Admin
53 Active Records	250			1	250	26 5 Drawer lateral files current, locked room, no high density shelving, need higher access at each file
54 Copy / Workroom						combine area w/ Exec Admin C/WR for one larger shared room
Court Staff			19			
Agency Staff			-			
Subtotal ASF					1,628	
Subtotal DNSF (add 25%)					2,035	

Subtotal Court Staff	37
Subtotal Agency Staff	-
Subtotal Staff / ASF	8,073
Subtotal DNSF	10,091

LIST OF SPACES		Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
FAMILY COURT							
1	Family Law / Domestic Violence/Harassment Courtroom	1,700	2,100		8	16,800	No DCSS, no jury box. Must have 60 spectator seats MINIMUM
2	Child Support Courtroom	1,700	2,100		2	4,200	Replace jury box w/ DCSS workstations, Need a 3rd table for DCSS Atty. in the well
3	Courtroom AV Equipment Closet	25		10		250	
4	Courtroom Entry Vestibule	80		10		800	
5	Clerk WS			20			Permanent WS located in courtroom
6	Bailiff / Sheriff Deputy WS			10			Permanent WS located in courtroom, no WS at chambers
7	Courtroom Holding / Atty Interview Cells	105			2	210	Provide holding cells at Child Support courtrooms only. No cells needed at Family Law courtrooms
8	Holding Vestibule	100			5	500	Holding access and vestibule needed at all courtrooms
9	Jury Deliberation (w/ kitchenette & bathroom)	410			5	2,050	locate so accessible from staff/secure corridor as well as from public corridor
10	Court Check-in Station	48		2		96	Needs to be located at the Court entry lobby
11	Court Waiting	12			200	2,400	20 seats at each courtroom
12	Attorney-Client Conference Rooms	64	100		20	2,000	2 per courtroom
13	Dissomaster Alcove	25			3	75	1 per floor needed for use by private attorneys
14	Judge Chambers	400		10		4,000	Prefer all judges located together for collegial function - Standard is 400 SF
15	Supervising Court Clerk WS	64		1		64	
16	Court Reporter Office	50		10		500	One 100 SF PO shared per 2 court reporters, 2 locked equipment cabinets
17	Research Attorney	120		2		240	Located w/ Judges
18	Court Manager	120		1		120	
19	Legal Process Supervisor	64		3		192	
20	Court Specialist	64		4		256	
21	Legal Process Clerk IV	48		10		480	
22	Legal Process Clerk II/III	48		13		624	
23	Service Counter Queue	10			55	550	5 waiting per counter station
24	Service Counter Workstation IV	48		2		96	Customers sit at chairs
25	Service Counter Workstation II/III	48		5		240	Customers sit at chairs
26	Service Counter Workstation II/III (Open)	48		2		96	Customers sit at chairs
27	Service Counter Workstation Court Specialist	48		2		96	Customers sit at chairs
28	Scanning Station	25		5		125	1 per 6 clerks; service counters will have scanners once CCMS implemented
29	Service Counter Workstation -Records	48		2		96	Customers sit at chairs
30	Records Viewing Room	300			1	300	Viewing for 8 people at a large table w/ dividers + microfiche + computer; will be shared by other functions in building
31	Records Viewing Queuing	10			5	50	
32	Runner Room/Filing Staging	100			1	100	Self Represented, Atty, Court Runner
33	FCS Orientation Room						Share Self Help Orientation Room, 50-60 seats
34	Active Records File Room	1,700			1	1,700	Verify file need, court would prefer open shelving to high density
35	Exhibit Room	100			1	100	
36	Copy / Workroom / Supplies	100			2	200	
Court Staff				124			
Agency Staff				-			
Subtotal Family Court Unit ASF						39,606	
Subtotal DNSF (add 35%)						53,468	

LIST OF SPACES		Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
FAMILY COURT SERVICES							
	³⁷ Director	150		1		150	
	³⁸ Asst. Director	150		1		150	
	³⁹ Senior Mediator	150		2		300	
	⁴⁰ Court Mediator	150		20		3,000	Need to accommodate 4-5 visitors in each office + staff / Need a viewing window from hallway
	⁴¹ Dependency Mediation	180			2	360	Shared w/ Dependency, also depositions
	⁴² Legal Process Supervisor	64		1		64	
	⁴³ Legal Process Clerk IV	48		3		144	
	⁴⁴ Asst. Judicial Secretary	64		1		64	
	⁴⁵ Clerk Windows	48		3		144	
	⁴⁶ Clerk Window Queuing	10			15	150	
	⁴⁷ Mediation Waiting Area	15			60	900	30 occupants each with window to clerks, one room for separate parties, need visual separation between rooms, open alcove
	⁴⁸ Intern Mediators	150		2		300	Provide same function as Court Mediator above
WS	⁴⁹ Grant Funded positions - Drug Treatment Coordina	100		1		100	
WS	⁵⁰ Grant Funded positions - First Five Clerk	48		-		-	Locate w/Dependency First Five Clerks
WS	⁵¹ CWS / CMS Station (DFCS)	48		1		48	Secluded / private location, can't see computer screen for confidentiality, staffed
WS	⁵² CJIC Station	48			1	48	Secluded / private location, can't see computer screen for confidentiality, shared, shared station
WS	⁵³ Case Manager	64		1		64	
	⁵⁴ Children's Observation Room	100			2	200	Observe family interaction, one-way observation window to each room, locate between both interview rooms
	⁵⁵ Observation Alcove	40			1	40	View into Obs. Rooms
	⁵⁶ Family Court Orientation Workshop Room						Can Use Self-Help Workshop Room
**	⁵⁷ File Room	1,000			1	1,000	Verify file need, court would prefer open shelving to high density
	⁵⁸ Copy / Workroom	100			1	100	
	Court Staff			37			
	Agency Staff			-			
	Subtotal Family Court Services Unit ASF					7,326	
	Subtotal DNSF (add 30%)					9,524	
COURT SETTLEMENT UNIT							
	⁵⁹ Attorney Mediator	150		1		150	
	⁶⁰ Legal Process Clerk III	64		1		64	
	⁶¹ Conference Room	120			4	480	Volunteer Judges & Atty's
	⁶² Waiting / Reception	120			1	120	
	Court Staff			2			
	Agency Staff			-			
	Subtotal Court Settlement Unit ASF					814	
	Subtotal DNSF (add 25%)					1,018	

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
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FAM. CT. JUSTICE PARTNERS						Locate Near Child Support Courtrooms
DCSS						
⁶³ DCSS Staff Attorney WS				4	-	Locate in courtrooms, 2 per courtroom, part of courtroom SF
⁶⁴ DCSS Interview Rooms/Alcoves	70			6	420	Staff side + client side, w/ separation window, Dissomaster included
⁶⁵ DCSS Interview Waiting Room	15			10	150	10 seats
⁶⁶ DCSS Waiting Control Station	48			1	48	
⁶⁷ DCSS Work Room	200			1	200	6 -6' x 4' WS + Copier, fax, refrigerator, coffee, 4 small hotel WS
Court Staff			-			
Agency Staff			22			
Subtotal Court Settlement Unit ASF					818	
Subtotal DNSF (add 25%)					1,023	

Subtotal Court Staff	163
Subtotal Agency Staff	22
Subtotal ASF	48,564
Subtotal DNSF	65,032

LIST OF SPACES		Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
JUVENILE DEPENDENCY COURT							
1	Juvenile Dependency Courtroom-Current	1,350	1,600		4	6,400	4 Counsel tables, w/ crescent or 'U' configuration, toy storage cabinets
2	Courtroom AV Equipment Closet	25		4		100	
3	Courtroom Entry Vestibule	80		4		320	
4	Clerk WS			4			Located in Courtroom
5	Bailiff / Sheriff Deputy WS			4			Permanent WS located in courtroom, no WS at chambers
6	Courtroom Holding / Atty Interview Cells	105			2	210	1 cell, 1 interview per 2 courtrooms
7	Holding Vestibule	100			2	200	
8	Jury Deliberation (W/ kitchenette & bathroom)	410					Not needed at Dependency floor
9	Court Check-in Station	48		1		48	Needs to be located at the Dep. Court entry lobby
10	Court Waiting	12			100	1,200	50 seats each waiting area, open alcove @ public lobby, need visual separation between the two, needs to be child friendly/scaled for play
11	Attorney-Client Conference Rooms	64	80		16	1,280	Provide a minimum of 4 per courtrooms, include seating to use as alternative court waiting
12	Judge Chambers	400		4		1,600	Prefer all judges located together for collegial function - Standard is 400 SF
13	Supervising Courtroom Clerk WS	64					Shared w/ Drug Court, located at Drug Court
14	Court Reporter Office	50		4		200	One 100 SF PO shared per 2 court reporters, 2 locked equipment cabinets
15	Research Attorney's	120		1		120	Located w/ Judges
16	Resource Manager	64		2		128	
17	Equipment Storage Room	100			1	100	Locate anywhere for child play materials storage
18	Dependency Mediation						Shared w/ Family Court, see Fam. Ct for SF
19	Pupilometer	80			1	80	Computer, needs to be in enclosed room
20	Drug Testing Room w/ Bathroom	75			1	75	
21	Court Manager						See Drug Court for area, Shared w/ Drug & DV Court (Vacant)
22	Deputy Court Manager						Shared w/ Drug Court & DV(Vicky See Drug Court for area, Cervantes)
23	Dependency Legal Process Supervisor	64		1		64	
24	Dependency Legal Process Clerk IV	48		2		96	
25	Dependency Legal Process Clerk II/III	48		1		48	
26	Dependency Legal Process Clerk I	48		1		48	
27	Scanning Station	25		1		25	1 per 6 clerks; service counters will have scanners once CCMS implemented
28	Service Counter Workstation Dep. LPC II/III	48		2		96	Customers sit at chairs
29	Records Viewing Room						share w/family law
30	Service Counter Queue	10			10	100	5 waiting per counter station
31	Active Records	1,000			1	1,000	Verify file need, court would prefer open shelving to high density
32	Exhibit Room	40			1	40	Storage shelves
33	Copy / Workroom / Supplies	100			1	100	
Court Staff				36			
Agency Staff				-			
Subtotal Dependency Court ASF						13,678	
Subtotal DNSF (add 35%)						18,465	

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
JUV. DEP. COURT JUSTICE PARTNERS						
³⁴ Shared Interview Room	100			4	400	Unassigned interview room to be shared by entities below
DFCS						
³⁵ DFCS Hotel Work Room, Court Liaison Social Worker-Computer Stations	25			9	225	One room, 8 staff, 2 per courtroom, 8 staff WS w/ computer & phone+ shared printer station, 5' x 5' workstations incl room circulation
³⁶ DFCS Hotel Work Room - Work Table	15			8	120	One large worktable w/ power & data ports for 8 staff
³⁷ Shared Copier / Fax Room	100			1	100	Adjacent to work room, can be shared w/ County Counsel
³⁸ Secured Report Holding				4		Locked cabinet, OK to have a space in each courtroom in the gallery near the bar
County Counsel						
³⁹ Atty WS Work Room	25			5	125	One room, 4 staff WS w/ computer & phone + printer station + locked cabinet
Department of Alcohol & Drug Services (DADS)						
⁴⁰ Waiting / Reception	64			1	64	Public access w/ locked access to suite
⁴¹ Reception Station	64			1	64	Locked suite
⁴² Assessor Office	120			3	360	Interview one person
Child's Attorney						
⁴³ Child Atty. Office WS	25			5	125	One room, 4 staff WS w/ computer & phone + shared printer station + locked cabinet, confidential space
⁴⁴ File Room						Locate files in workroom
Mental Health / First Five / DAC / Public Health						
⁴⁵ Mental Health Clinician - Children	120			1	120	Party Interviews
⁴⁶ Mental Health Clinician - Adult	120			1	120	Party Interviews, Possible to share w/ MHDT Court Psychiatrist?
⁴⁷ Child Advocate	120			1	120	Party Interviews
⁴⁸ First Five Court Specialist	48			4	192	
⁴⁹ Public Health Nurse	48			1	48	
Dependency Advocate Center						
⁵⁰ DAC Contract Atty WS - Firm 1, Primary Contract	25			6	150	Shared office, contract firms
⁵¹ DAC Contract Atty WS - Firm 2	25			6	150	Shared office, contract firms
⁵² DAC Mentor Parents WS	25			4	100	
⁵³ Conflicts Attorney	25			4	100	
⁵⁴ Form storage cabinets in Courtrooms						
⁵⁵ Shared Support: Copy & Coffee						Share w/DFCS & County Counsel
⁵⁶ Department of Revenue (DOR) Kiosk	80			1	80	One staff for fine collecting, locate near main lobby
Court Staff			-			
Agency Staff			58			
Subtotal Justice Partners ASF					2,763	
Total DNSF (add 25%)					3,454	

Note: These are hotel offices only; staff not permanently assigned to space.

Subtotal Court Staff	36
Subtotal Agency Staff	58
Subtotal Staff / ASF	16,441
Subtotal DNSF	21,919

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
DRUG COURT						
¹ Drug Courtroom-Current	1,700	1,800		5	9,000	Standard two-party counsel, some jury trials, few spectators
² Mental Health / Drug Treatment CR-Current	2,000	2,400		1	2,400	Many spectators, need 70-80 seats, including in-custody
³ Courtroom AV Equipment Closet	25		6		150	
⁴ Courtroom Entry Vestibule	80		6		480	
⁵ Clerk WS			12			Located in Courtroom
⁶ Bailiff / Sheriff Deputy WS			12			Permanent WS located in courtroom, no WS at chambers
⁷ Courtroom Holding / Atty Interview Cells	105			6	630	8 person group holding cell
⁸ Holding Vestibule	100			3	300	
⁹ Jury Deliberation (W/ kitchenette & bathroom)	410			1	410	1 per floor (share 1 included in family law program)
¹⁰ Court Check-in Station	48		2		96	Needs to be located at the Court entry lobby
¹¹ Court Waiting	12			60	720	10 seats at each courtroom
¹² Atty-Client Conference Rooms	100			12	1,200	
¹³ Judge Chambers	400		6		2,400	Prefer all judges located together for collegial function - Standard is 400 SF
¹⁴ Supervising Courtroom Clerk WS	64		1		64	Shared w/ Dependency
¹⁵ Court Reporter Office	50		6		300	One 100 SF PO shared per 2 court reporters, 2 locked equipment cabinets
¹⁶ Court Manager	120		1		120	Shared w/ Dep & DV Court (Vacant)
¹⁷ Deputy Court Manager	100		1		100	Shared w/ Dep & DV Court (Vicky Cervantes)
¹⁸ Administrative Technician I/II	64		2		128	2 WS in one space, Drug treatment assessment
¹⁹ Interns	64		3		192	2 WS in one space, Drug treatment assessment
²⁰ Drug Dispensing Room	35			1	35	Need lockable meds, shared among all psychiatrists, Actricia manages this function w/ the MD's
²¹ Legal Process Supervisor	64		1		64	
²² Criminal Information Specialists	64		4		256	
²³ Legal Process Clerk II/III	48		3		144	
²⁴ Scanning Station	25		1		25	1 per 6 clerks; service counters will have scanners once CCMS implemented
²⁵ Service Counter Workstations LPC II/III	48		3		144	
²⁶ Service Counter Queue	10			15	150	5 waiting per counter station
²⁷ Active Records	400			1	400	Verify file need, court would prefer open shelving to high density
²⁸ Copy / Workroom	100			1	100	
Court Staff			70			
Agency Staff			-			
Total Drug Court ASF					20,008	
Total DNSF (add 35%)					27,011	

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
DRUG COURT JUSTICE PARTNERS						
MHDT Court County Support Functions						
²⁹ MHTC Assessors	100			4	400	Need to meet w/ clients in the office
³⁰ Drug Court (MIOCR)	100			3	300	Clinicians, full time, meet w/ clients in the office
³¹ Psychiatrist Office (MIOCR)	100			1	100	1 Full time Psychiatrist
³² MIOCR File Room	120			1	120	Locked door, locked file cabinet, copier, fax, shredder
³³ Psychiatrist Office (DADS)	100			2	200	Part-time Psychiatrist, shared office
³⁴ Drug Treatment Assessors / Case Managers (DADS)	100			5	500	Drug Treatment Only - not currently in same space
³⁵ Public Health Nurse	100			1	100	
³⁶ Probation Officer	80			1	80	Shared for 2
³⁷ Urine Sample Bathroom	75			1	75	Probation Officers take samples
³⁸ Shared Interview Room	100			3	300	Unassigned interview room to be shared by entities below
³⁹ Veterans Administration Staff						Use shared interview room
⁴⁰ Housing Coordinator						Use shared interview room
⁴¹ Benefits Coordinator						Use shared interview room
⁴² Employment Coordinator						Use shared interview room
⁴³ Peer Coordinator						Use shared interview room
⁴⁴ Outreach Coordinator						Use shared interview room
Court Staff			-			
Agency Staff			22			
Total Drug Court ASF					2,175	
Total DNSF (add 25%)					2,719	

Subtotal Court Staff	70
Subtotal Agency Staff	22
Subtotal Staff / ASF	22,183
Subtotal DNSF	29,730

LIST OF SPACES						
Space/Component	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
PROBATE						
¹ Supervising Probate Investigator	120		1		120	
² Probate Investigator - Lead	120		2		240	Need two extra chairs for staff consultation
³ Probate Investigator	140		12	6	840	Shared office for two people
⁴ Probate Legal Process Clerk IV	64		2		128	
⁵ Probate Asst. Judicial Secretary	64		2		128	
⁶ Interview / Conference Room	120			1	120	Locate adj. to Reception w/ public access & secured staff access
⁷ Reception						Share w/ Exec Admin
⁸ Active File Records Rooms	150	200		1	200	
⁹ Copy / Workroom	100			1	100	
Court Staff			19			
Agency Staff			-			
Subtotal Probate Unit ASF					1,876	
Subtotal DNSF (add 30%)					2,439	

Subtotal Court Staff	19
Subtotal Agency Staff	-
Subtotal Staff / ASF	1,876
Subtotal DNSF	2,439

LIST OF SPACES					
Space/Component	Unit/ Area Std.	No. of Staff	No. of Spaces	Net Area	Comments
CIVIL GRAND JURY					
1 Civil Grand Jury Hearing Room	25		24	600	Discrete, unidentified location, some access proximity to Court Admin.
2 Entry Vestibule / Waiting	50		1	50	6' x 8' w/ 2-3 waiting chairs
3 Breakout Room	120		1	120	4-8 seats
4 Files and Exhibit Storage	80		1	80	
5 Copy / Workroom	100		1	100	
6 Break Room / Lounge	80		1	80	Coffee, refrigerator, microwave, sink, cabinets
7 Reception					Use Court Admin Reception
8 Grand Jury Court Manager					Located in Court Admin
9 Grand Jury Court Secretary					Located in Court Admin
Court Staff		-			
Agency Staff		24			
Subtotal Civil Grand Jury ASF				1,030	
Subtotal DNSF (add 25%)				1,288	

Subtotal Court Staff	-
Subtotal Agency Staff	24
Subtotal Staff / ASF	1,030
Subtotal DNSF	1,288

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
COURT SUPPORT SERVICES						
¹ Court Clerks Courtroom Assigned						Area included with Courtrooms
² Court Clerk Floaters	48		11		528	Common location
³ Court Reporters Court Assigned						Area included with Court Departments
⁴ Court Reporter Floaters	48		5		240	One shared work room, 5 locked equipment cabinets
⁵ Interpreters						
⁶ Liaison WS	64		1		64	
⁷ Interpreter Waiting Area	150			1	150	Lounge seating. Includes small kitchenette, locate at public access corridor
⁸ Interpreter Carrel (with computer & phone)						Locate in waiting area
⁹ Interpreter Lockers & Shelving						Locate in waiting area
Court Staff			17			
Agency Staff			1			
Subtotal Court Support Services ASF					982	
Subtotal DNSF (add 25%)					1,228	
CHILD WAITING						
¹⁰ Entry Vestibule	80			1	80	
¹¹ Check In Counter	48			2	96	
¹² Children's Play Area-Kids	400			1	400	Age group for toddlers to age 12, Two exits for flexibility
¹³ Child Bathrooms	45			2	90	
¹⁴ Kitchenette	80			1	80	
¹⁵ Public/Staff Lactation Room	80			1	80	
¹⁶ Storage	50			1	50	
Court Staff			-			
Agency Staff			4			
Subtotal Court Settlement Unit ASF					876	
Subtotal DNSF (add 20%)					1,051	
COURT GENERAL SERVICES						
¹⁷ Court Manager	120		2		240	Org chart shows 47 FTE, not 46
¹⁸ Deputy Manager	80		3		240	
¹⁹ Staff Law Library	100			1	100	24 LF full height shelving
²⁰ Law Library Staff	48		2		96	
²¹ Procurement Forms Purchasing Supervisor	64		1		64	
²² Procurement Forms Admin. Support Technician	48		2		96	
²³ Procurement File Storage	100			1	100	
²⁴ Facilities Analyst/Sr. Analyst	64		1		64	
²⁵ Supervising Utility Services Assistant	64		1		64	
²⁶ Flat file / Drawing / Plotter / Sample Library	400			1	400	
²⁷ Copy Work Room						Can be shared w/ other departments
²⁸ Conference Room						Share w/exec office
Court Staff			12			
Agency Staff			-			
Subtotal Court General Services ASF					1,464	
Subtotal DNSF (add 25%)					1,830	

LIST OF SPACES	Unit/ Area Std.	Unit/ Area Revised	No. of Staff	No. of Spaces	Net Area	Comments
SELF HELP SERVICE CENTER (Family Law & Small Claims)						
²⁹ Triage Queuing Number Kiosk	10			1	10	Locate just inside front entry to self-Help Center, pull a number for Triage
³⁰ Triage / Case Dispensing Station	24			3	72	Locate inside Self-Help Center Waiting/ Needs some conversation privacy, get assigned a case track & number, standing service, 1-3 minute service, no window
³¹ Waiting Room Seats	12			80	960	80 Seats
³² Waiting Room Tables & Computer Carrels	20			25	500	Need work tables & computer stations for 25 to fill out paper work
³³ Form Display	50			1	50	Locate in waiting room, linear wall space w/ form racks
³⁴ Coin-Op Copier / Change Machine Alcove	24			1	24	Locate in waiting room
³⁵ Restraining Order / DV Waiting Room	15			10	150	10 seats
³⁶ Restraining Order / DV Service Station	24			1	24	Clients can go direct to this window, provide screening from general triage
³⁷ Supervising Attorney	120		2		240	
³⁸ Attorney-Facilitator, workstation	80		8		640	Interview customers @ these WS, include a 3' round table + Atty desk
³⁹ Court Specialist	64		5		320	
⁴⁰ Day of Court Mediator	80			3	240	Interview customers @ these WS, include a 3' round table + Atty desk.
⁴¹ Workshop/Orientation Room	18			25	450	Shared by Family Court Orientation
⁴² Copy/Supply	100			1	100	Include bulk form storage
Court Staff			15			
Agency Staff			-			
Subtotal Self Help Service Center ASF					3,780	
Subtotal DNSF (add 30%)					4,914	
STAFF SUPPORT						
⁴³ Staff Kitchenette	60			8	480	1 per floor
⁴⁴ Staff Break Room	500			1	500	1 large room w/ kitchenette, vending, 2 refrigerators
⁴⁵ Staff Shower/Restroom (M/IF)	120			2	240	Locate at first floor
⁴⁶ Large Training Room / Judicial Conference Room	2,500			1	2,500	100 seats w/tables, shared building-wide function, divide into 3 spaces w/ skywall / Need a racetrack table for Judicial meetings for 100, full AV, staff use only
⁴⁷ Prep Kitchen	120			1	120	Serves large training room
⁴⁸ Storage	150			1	150	Serves large training room
Court Staff			-			
Agency Staff			-			
Subtotal Staff Support ASF					3,990	
Subtotal DNSF (add 20%)					4,788	
COURT PARKING						
⁴⁹ Secured Judges Parking	350			20	7,000	
Subtotal Staff Support ASF					7,000	
Subtotal DNSF (add 0%)					7,000	
Subtotal Court Staff			44			
Subtotal Agency Staff			5			
Subtotal Staff / ASF					18,092	
Subtotal DNSF					20,811	
Jury Assembly Area						
Located at DTS						

LIST OF SPACES	Unit/ Area Std.	No. of Staff	No. of Spaces	Net Area	Comments
SHERIFF OPERATIONS OFFICE					
¹ Sergeant's Office	100	3		300	
² Scheduling Officer	100	1		100	
³ Visiting Officer Office	100	1		100	
⁴ Admin Asst	64	1		64	
⁵ Shared Deputy WS / Report Writing Room	48	4		192	
⁶ Security Control Console Room	150	2		300	2 seats at console + 2 additional small WS at back wall
⁷ Control Console Computer Server Room	240	1		240	
⁸ Sheriff Break Room	150		1	150	Incl small kitchenette
⁹ Copy / Workroom	100		1	100	
¹⁰ Security Equipment Room	120		1	120	
¹¹ Supplies Storage	80		1	80	
¹² Locker Room - M	350		1	350	75% M
¹³ Locker Room - F	250		1	250	25% F
Court Staff		13			
Agency Staff		-			
Subtotal Sheriff Operations Center ASF				2,346	
Subtotal DNSF (add 25%)				2,933	
IN CUSTODY CENTRAL HOLDING					
		Capacity = 124			
¹⁴ Sallyport Detainee Vestibule	150		1	150	
¹⁵ Detainee Staging Area	400		1	400	Include shackle bench
¹⁶ Patrol Vehicles Parking					Park at existing adjacent parking lot
¹⁷ Control /Monitor Station	33	3		100	
¹⁸ Control Room Restroom	50		1	50	Unisex single stall ok
¹⁹ Remand Booking Station	100		1	100	Combine as a suite
²⁰ Remand Holding	75		2	150	Combine as a suite
²¹ General Population Adult Holding					
²² 16 Person Group Holding - Male	160		2	320	Include toilet & sink, need sheriff viewing windows
²³ 16 Person Group Holding - Female	160		2	320	Include toilet & sink, need sheriff viewing windows
²⁴ 8 Person Group Holding - Male	100		3	300	Include toilet & sink, need sheriff viewing windows
²⁵ 8 Person Group Holding - Female	100		3	300	Include toilet & sink, need sheriff viewing windows
²⁶ Individual Holding - Male	60		3	180	Include toilet & sink, need sheriff viewing windows
²⁷ Individual Holding - Female	60		3	180	Include toilet & sink, need sheriff viewing windows
²⁸ Juvenile					
²⁹ Individual Holding - Male	60		3	180	Include toilet & sink, need sheriff viewing windows
³⁰ Individual Holding - Female	60		3	180	Include toilet & sink, need sheriff viewing windows
³¹ Attorney/Detainee Interview Rooms	80		4	320	
Court Staff		3			
Agency Staff		-			
Subtotal In Custody Central Holding ASF				3,230	
Subtotal DNSF (add 45%)				4,683	

LIST OF SPACES	Unit/ Area Std.	No. of Staff	No. of Spaces	Net Area	Comments
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SALLY PORT					
³² Detention Bus Sally Port				2,500	drive through
Court Staff		-			
Agency Staff		-			
Subtotal Sheriff Sally Port ASF				2,500	
Subtotal DNSF (add 0%)				2,500	

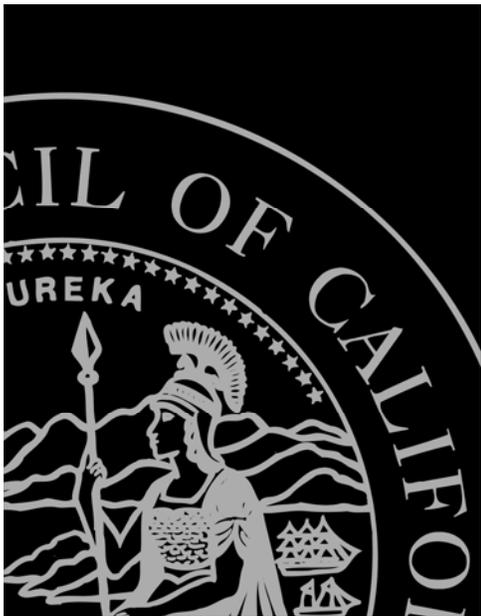
Subtotal Court Staff	16
Subtotal Agency Staff	-
Subtotal Staff / ASF	8,076
Subtotal DNSF	10,116

LIST OF SPACES	Unit/ Area Std.	No. of Staff	No. of Spaces	Net Area	Comments
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COURTHOUSE ENTRY SECURITY					
Public Area					
1	Entry Vestibule				Included as a part of GSF
2	Pre-Security Screening Queuing	10	100	1,000	
3	Screening Station	250	3	750	Magnetometer & Package Screener
4	Interview Room	100	1	100	
5	Secure Public Lobby	2,000	1	2,000	
6	Information Kiosk or Counter	64	2	128	
7	ATM	24	1	24	
8	Cash Service Entry	64	1	64	Separate Side door alcove
Court Staff			-		
Agency Staff			-		
Subtotal Courthouse Entry Security ASF				4,066	
Subtotal DNSF (add 20%)				4,879	

BUILDING OPERATIONS					
9	Loading/Receiving Area	500	1	500	Grade level access
10	Loading Staging Room	200	1	200	Grade level access
11	General Building Storage	400	1	400	
12	Trash/Recycling Collection	400	1	400	Grade level access
13	Housekeeping Storage	200	1	200	
14	Building Service Equipment Stor. / Workshop	200	1	200	
Court Staff			-		
Agency Staff			-		
Subtotal Building Operations ASF				1,900	
Subtotal DNSF (add 20%)				2,280	

Subtotal Court Staff	-
Subtotal Agency Staff	-
Subtotal Staff / ASF	5,966
Subtotal DNSF	7,159



SUPERIOR COURT OF CALIFORNIA
COUNTY OF SANTA CLARA

SANTA CLARA FAMILY JUSTICE CENTER

PRE-DESIGN STUDY

MARCH 2009



ADMINISTRATIVE OFFICE
OF THE COURTS

OFFICE OF COURT CONSTRUCTION
AND MANAGEMENT

PREFACE

This document summarizes the results of a programming, planning and conceptual design effort for developing the Santa Clara Family Justice Center for the Superior Court of Santa Clara County. The study includes the following items:

- The development of a preliminary space requirements program.
- Analysis of the proposed site in downtown San Jose
- Five conceptual design opportunities
- Systems criteria outlines for architectural, structural, mechanical, electrical, plumbing, communication and security systems.
- Conceptual cost model

The project team included architectural and engineering consultants, representatives from the Office of Court Construction and Management (OCCM), Administrative Office of the Courts (AOC) and representatives from the Superior Court of California, County of Santa Clara. This document is intended for use by OCCM and the Superior Court for documenting the scope of the proposed project and for the process of requesting project funding and approval.

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EXECUTIVE SUMMARY

INTRODUCTION

The purpose of this study was to provide a space program, an analysis of the proposed site and conceptual site development options with essential systems information and construction cost models for the Santa Clara Family Justice Center.

The Superior Court of California, County of Santa Clara currently operates out of many facilities in locations throughout the County. Family law and court administrative functions are currently divided among six leased locations in downtown San Jose and one court-owned facility in Sunnyvale. The leased facilities were acquired as a result of meeting increased space needs that developed over many years and facility opportunities which arose over time rather than conforming to a comprehensive plan for service delivery.

The proposed Santa Clara Family Justice Center will replace six leased facilities in downtown San Jose and one courtroom at the Sunnyvale Courthouse including a total of 19 courtrooms used by 20 judicial officers. The proposed Family Justice Center will consolidate family law functions in a single location to improve service and create operational and service efficiencies for the residents of Santa Clara County needing a range of family court services. The six leased facilities in San Jose will be vacated by the Court after the new Family Justice Center is completed and occupied. The courtroom at the Sunnyvale Courthouse that will be vacated by the Family Court will be backfilled with Traffic Court functions that were transferred to the Palo Alto Courthouse in past years to accommodate the expanding needs of the Family Court.

The project was initially defined as part of a comprehensive master plan described in *Superior Court of California County of Santa Clara Countywide Court Facilities Master Plan, Final Report*, dated August 2003. The master plan called for a 22-court facility with court administration and family law, dependency, probate, drug court, and domestic violence calendars. In more recent planning discussions, the scale of the building was reduced to 20 courtrooms and criminal domestic violence cases were excluded.

According to the capital outlay budget change proposal (COBCP), the “project—ranked in the Critical Need priority group in the Trial Court Five-Year Infrastructure Plan—is one of the highest priority trial court capital-outlay projects for the judicial branch”. The project is on the list of 41 projects to be funded by SB 1407, as adopted by the Judicial Council in October 2008.

SPACE PROGRAM

Programming and space planning information was collected through a series of multi-day workshops attended by judges representing the local bench, the AOC/OCCM project manager and supervising planner, representatives of Court Facilities and General Services, the project architect, programming consultants, and representatives of each division or unit to be housed in the facility. During these meetings, a detailed space list was prepared for the Santa Clara Family Justice Center. The project is anticipated to be 193,343 gross square feet and house the following departments:

-
- Family Court (10 Courtrooms)
 - Juvenile Dependency Court (4 Courtrooms)
 - Drug Court (6 Courtrooms)
 - Court Administration
 - Human Resources
 - Finance
 - Family Court Services
 - Court Settlement Unit
 - Probate
 - Child Waiting
 - Self-Help Center
 - In-Custody Central Holding
 - Sheriff's Operation Office
 - Civil Grand Jury
 - Juvenile Dependency Justice Partners
 - Drug Court Justice Partners
 - Family Court Justice partners

OVERALL BUILDING ORGANIZATION AND REQUIREMENTS

Three operational goals provide the principal organizing concepts for the building. Most importantly, the building will have separate circulation systems for the public, staff, and detainees, as described in the *California Trial Court Facilities Standards*.

Second, operations are intended to occur within a security perimeter having a limited number of entrances. All members of the public will enter through a single security screening area with two lanes. Staff will use a separate entrance which may include screening. Judges and a few court executives will use a separate entrance from secured parking (without screening). The central holding area will be accessed by transport buses and other vehicles through a vehicular sallyport. Service vehicles will access a loading dock through a controlled vehicle gate.

The third major building organizing concept is to locate functions that receive the highest volume of visitors closest to the building entrance and on lower floors while those that receive lower volumes of visitors can be farther from the entrance and on upper floors. This reduces demand on the building's circulation systems (including elevators) and enhances security by minimizing the required movement of visitors through the building.

The following locational requirements are presented in a rough order of priority, with the most important listed first:

- The self-help service center is a high volume function that should be located on the ground floor.
- Child waiting should be located on either Level 1 or Level 2 for ease of access
- The child support and drug court calendars have relatively high numbers of participants which warrants location on lower floors.

- Support services should be located on the same floor as courtrooms they serve. Family support services should be with family law courtrooms, while DFCS, DADS, Mental Health, First Five, DAC, and Public Health should be on the same floor as dependency courtrooms; and MIOCR and DADS should be with drug court.
- The preference would be to locate all clerks (dependency, family, drug court) on the same floor close to the ground.
- If possible, family court services should be located convenient to dependency and family law courtrooms.
- Central holding and sheriff's operations should be adjacent to each other in the basement. If it is possible to place the mental health drug court next to central holding that would be highly desirable.
- The civil grand jury engages in confidential deliberations and should have a discrete location on an upper floor, separate from court administration.

PROJECT SITE

Located in central San Jose, California, the proposed site for the Santa Clara Family Justice Center is on a block bordered by North Market Street to the southwest, Devine Street to the northwest, North First Street to the northeast and St. James Street to the southeast. At the time of this report, two specific site boundaries were under consideration:

- Proposed Site Option 1 (Primary Site) consists of Parcel 56, currently owned by Santa Clara County. It is an irregular-shaped site that is approximately 69,500 square feet.
- Proposed Site Option 2 (Expanded Site) includes Parcel 56 plus the addition of Parcel 57, a 10,600 square foot lot at the corner of St. James and North First Streets, owned by the Valley Transportation Authority (VTA). This combined parcel is L-shaped and approximately 80,000 square feet. Acquisition of Parcel 57 (the VTA Parcel) by Santa Clara County would be required to make this option viable.

The project parcels are considered part of the Downtown Core, adjacent to a Historic City Landmark, and with the possible inclusion of the VTA Parcel, are part of the Saint James Historic District. As such, the site may be subject to the following design guidelines and zoning ordinances:

- San Jose Municipal Zoning Ordinance's Downtown Zoning Regulations (due to inclusion in Downtown Core)
- San Jose Downtown Design Guidelines (due to inclusion in the Downtown Core)
- San Jose Downtown Historic Design Guidelines (due to adjacency with a Historic City Landmark)

(The three guidelines and zoning ordinance listed above are applicable to both proposed Site Option 1 - Primary Site and Site Option 2 - Expanded Site.)

-
- St. James Square Historic District Guidelines (due to VTA parcel and adjacency of the remaining site to the historic district)

(The guideline listed above is applicable to proposed Site Option 2 - Expanded Site only. However, adjacency to this parcel requires sensitive attention to development options and may trigger a historical review.)

The State (AOC) is not subject to municipal zoning ordinances and exempt from complying with local design guidelines, including local historic guidelines. However it is subject to federal guidelines, which may include the St. James Historic District Guidelines since the District is listed on the National Register of Historic Places. The State could choose to voluntarily comply with the local regulations.

DEVELOPMENT OPTIONS

Since the potential acquisition of the VTA Parcel will remain an ongoing consideration, five site development options are included in this document to demonstrate flexibility in the final design of the courthouse for either configuration. Options A, B, and C do not develop on the VTA Parcel. Options D and E utilize the VTA Parcel.

Option A

Option A is the most compact footprint studied. It does not extend into the VTA parcel and is sited to provide adequate access for the detainee bus as well as on-grade secured judges parking. With a multi-story lobby oriented towards the Downtown Superior Court, it acknowledges the judicial buildings across St. James Street. Its narrow footprint, affords the opportunity for adequate daylighting for interior spaces. However, its small footprint does not provide for all of the functional requirements originally desired by the court, particularly co-location of support services with the courts they serve. Additionally, due to the increase in the number of floors, this option is not spatially as efficient as some of the alternate schemes. Core support spaces such as elevators, shafts, toilets, electrical, telecommunication and janitor's closets, must be duplicated on additional floors that do not exist in the previous options.

Option B

Option B is located to take advantage of the largest contiguous portion of the site without utilizing the VTA Parcel. The concept is to create an efficient cubic form that responds to the site with a clear sense of entry. In its original version, the scheme proposed six courts on each floor, which supported an early rendition of an 18-courtroom project. With that program, the option housed three complete courtroom floors with support functions on the lower levels. However, when the program was updated to include 20 courtrooms, this variation was no longer viable so the planning was adjusted to locate four courtrooms per floor. Again, due to the tight nature of the site, the on-grade sally port cannot accommodate the 46' detainee bus requested by the Sheriff's office. If this option is preferred, alternative bus route studies would need to be completed during subsequent design phases to validate this approach.

Option C

Option C also does not utilize the VTA parcel and is sited to take advantage of the largest contiguous portion of the remaining site. The concept is to create two wings that are stitched together by a multi-story lobby with bridges connecting courtrooms with their support functions. Due to the tight nature of the site, the on-grade sally port cannot accommodate the 46' detainee bus requested by the Sheriff's office. If this option is preferred, alternative bus route studies would need to be completed during subsequent design phases to validate this approach. Buses could potentially run below a portion of the building's footprint, or smaller bus sizes could be considered.

Option D

Option D is inspired primarily by the relationship of the site to St. James Park, the Downtown Superior and Old Courthouses as well as the functional organization of the space program. It is comprised of two intersecting building wings:

- The first wing has a two-story open plaza with three stories above. It houses public functions such as the Clerks, Family Court Services and Justice Partners. With views overlooking St. James Park, a portion of this bar sits above the site, allowing the green space of the Park and the Rose Garden to flow through the block. This component is narrow in its width to fit comfortably on the site, promote daylight to interior spaces and align with the urban edges defined by the Downtown Superior Court and the Old Courthouse.
- The second wing is a seven-story courtroom block that includes court administrative functions on the top floor and a mechanical equipment penthouse.

The proposed option works in tandem with the various design guidelines, with the lower component being the portion in the St. James Historic District. While it is between 5-10 feet over the prescribed height limit for the Historic District, it promotes interaction with the park and creates open space on the site as prescribed by the design guidelines. The main entrance is located at the center of the lower bar, aligned with cross-axis of the courthouses on the opposite side of St. James Street. Option D promotes the development of a Courthouse Campus comprised of the San Jose Family Courthouse, the Old Courthouse and the Downtown Superior Court.

Option E

Option E is a 7-story rectilinear building with a partial basement sited to align with the urban edges defined by the Downtown Superior Court and the Old Courthouse. It exceeds the 70 foot St. James Historic District Height Limit at the VTA Parcel by 42-60 feet depending on rooftop treatment. However, its narrow footprint minimizes site usage, allowing for on-grade exterior secured judges parking as well as a sally port located on the same level as Central Holding. The main entrance is aligned with the cross-axis of the courthouses on the opposite side of St. James Square. The option includes a three-story lobby oriented towards these structures, supporting the concept of a campus of courthouses. Additionally, the proportions of the building promote adequate daylighting to interior spaces.

Graphic representations of the options can be found in Section 3: Conceptual Design Options. Each concept includes a contextual plan, a site plan, planning diagrams, massing study and model photos.

1.0 INTRODUCTION

CURRENT FACILITIES

The Superior Court of California, County of Santa Clara currently operates out of many facilities in locations throughout the County. Family law and court administrative functions are currently divided among six leased locations in downtown San Jose and one court-owned facility in Sunnyvale. The leased facilities were acquired as a result of meeting increased space needs that developed over many years and facility opportunities which arose over time rather than conforming to a comprehensive plan for service delivery.

These seven locations are listed in Table 1 below and shown in the (3) diagrams titled "Space Program - Overall Plan", "Space Program - San Jose Plan" and "Space Program - Sunnyvale Plan" attached at the end of the introductory portion of this section. Two of these leased spaces, which are used by the Superior Court Administration, are in the same facility and are indicated as just one location on the diagrams.

With the exception of the Sunnyvale Courthouse, each of the facilities listed in Table 1 will be vacated by the court after the proposed Santa Clara Family Justice Center is completed. One Sunnyvale courtroom will be reassigned to traffic cases that were moved from Sunnyvale to Palo Alto in past years to accommodate the expanded needs of the Family Court.

TABLE 1
Facilities Affected by Construction of New Courthouse
Courtrooms, Size, Ownership, Transfer Status, and Disposition Plan

Facility	Location	Number of Existing Courtrooms Affected by This Project	Departmental Square Footage Occupied by the Court and moving to New Ctchse	Owned or Leased	Type of Transfer	Transfer Status	Disposition	Court Space as a Percentage of Total Building Square Footage
Probate Investigators.....	San Jose	0	4,442	Leased	DTOR	Completed	Terminate Lease	100%
Superior Court Administration .	San Jose	0	10,577	Leased	DTOR	Completed	Terminate Lease	100%
Terraine Courthouse/Juvenile Dependency and Drug Court	San Jose	10	44,680	Leased	DTOR	Completed	Terminate Lease	100%
Family Courthouse/Park Center	San Jose	6	29,703	Leased	DTOR	Completed	Terminate Lease	100%
Sunnyvale Courthouse	Sunnyvale	1	1,600 (1 ctrm)	Owned	DTOT	Completed	Continue Use as Courthouse	100%
Notre Dame Courthouse.....	San Jose	2	14,004	Leased	DTOR	Completed	Terminate Lease	100%
Superior Court Administration	San Jose	0	9,687	Court Lease	NA	NA	Terminate Lease	100%
TOTALS		19	114,693					

*Office of Court Construction and Management
Superior Court of California, County of Santa Clara
Santa Clara Family Justice Center*

March 2009

Section 1: Functional and Space Program

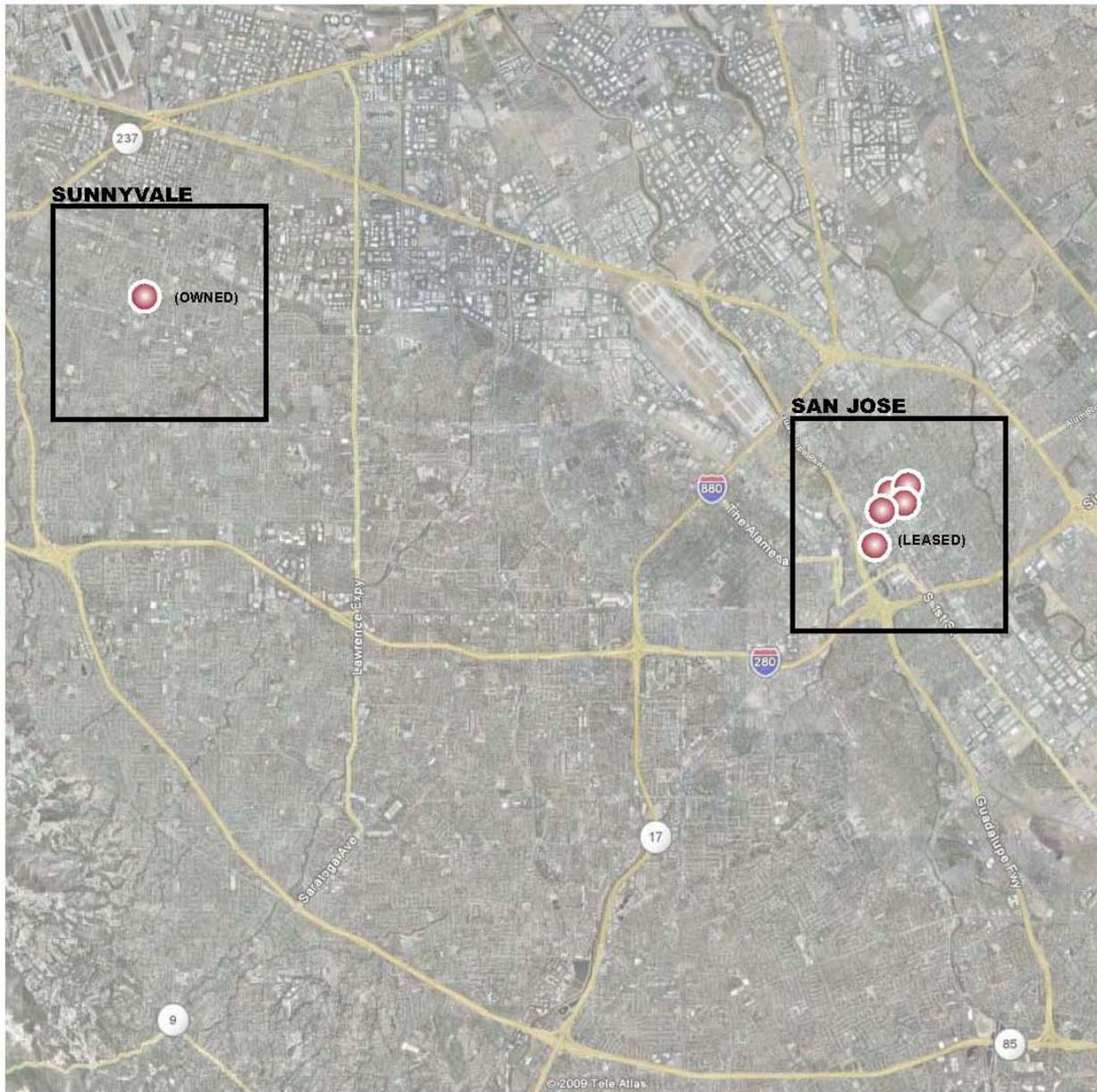
PRIOR PLANNING FOR THE PROPOSED FAMILY COURT

The proposed Santa Clara Family Justice Center is an effort to reduce the Superior Court's reliance on leased space in the downtown area while improving the efficiency and effectiveness of Family Court operations through a significant consolidation. The project was initially defined as part of a comprehensive master plan described in *Superior Court of California County of Santa Clara Countywide Court Facilities Master Plan, Final Report*, August 2003, prepared by a consultant for the AOC/OCCM. The master plan called for a 22-court facility with court administration and various family law calendars.

SANTA CLARA FAMILY JUSTICE CENTER

According to the capital outlay budget change proposal (COBCP), the "project—ranked in the Critical Need priority group in the Trial Court Five-Year Infrastructure Plan—is one of the highest priority trial court capital-outlay projects for the judicial branch". The project is on the list of 41 projects to be funded by SB 1407, as adopted by the Judicial Council in October 2008.

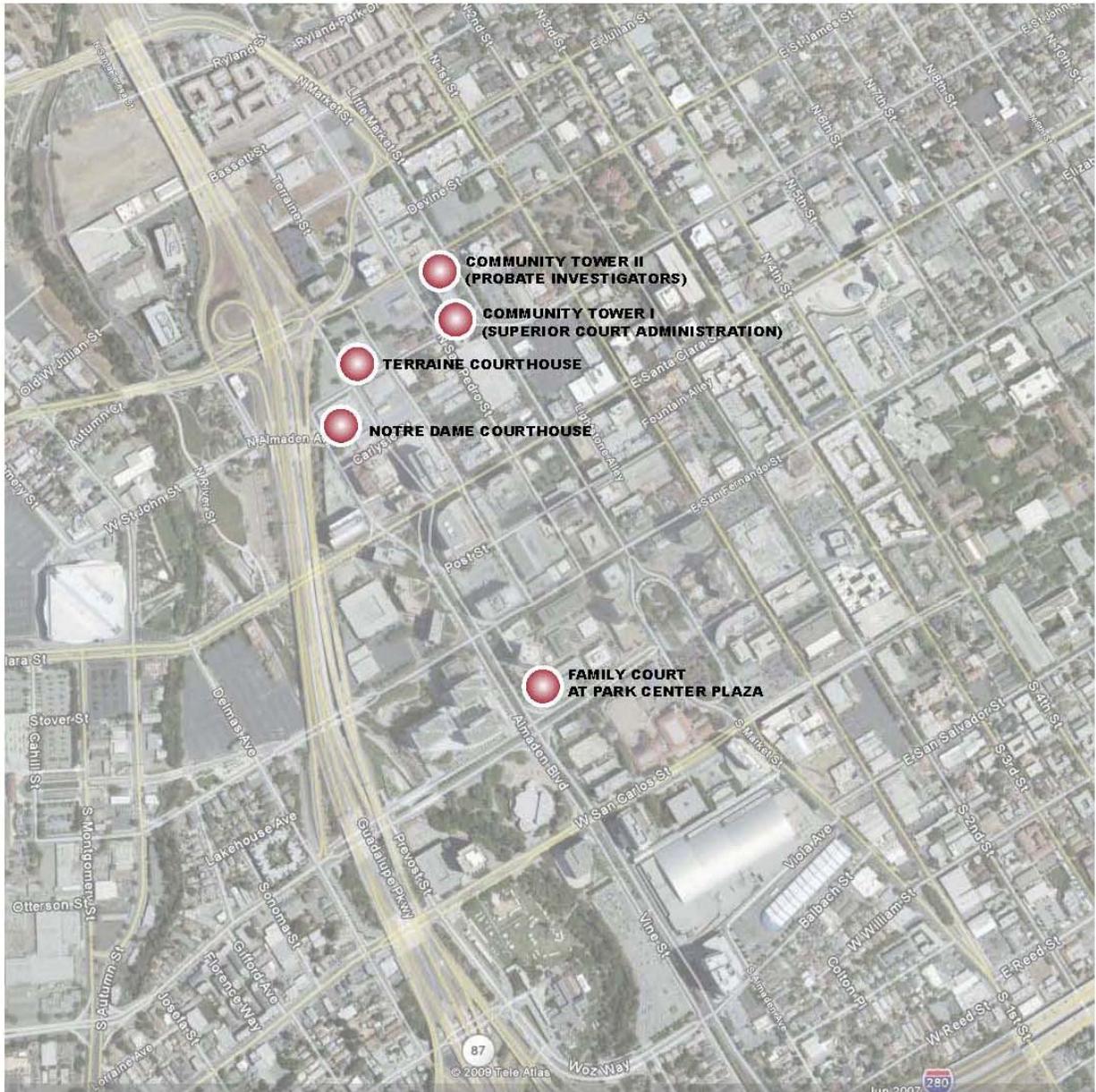
The court functions to be located in the proposed new courthouse currently occupy 114,693 DGSF as shown in Table 1. With the revisions made in the course of this study, the project stands at 233,906 gross square feet with 20 courtrooms. It is anticipated that this project would meet the County's needs for court administration and family law, dependency, probate, drug court, and domestic violence (excluding criminal domestic violence) calendars through 2022.



SPACE PROGRAM: OVERALL AREA PLAN
(Existing Leased / Owned Spaces Relocated to San Jose New Family Justice Center)

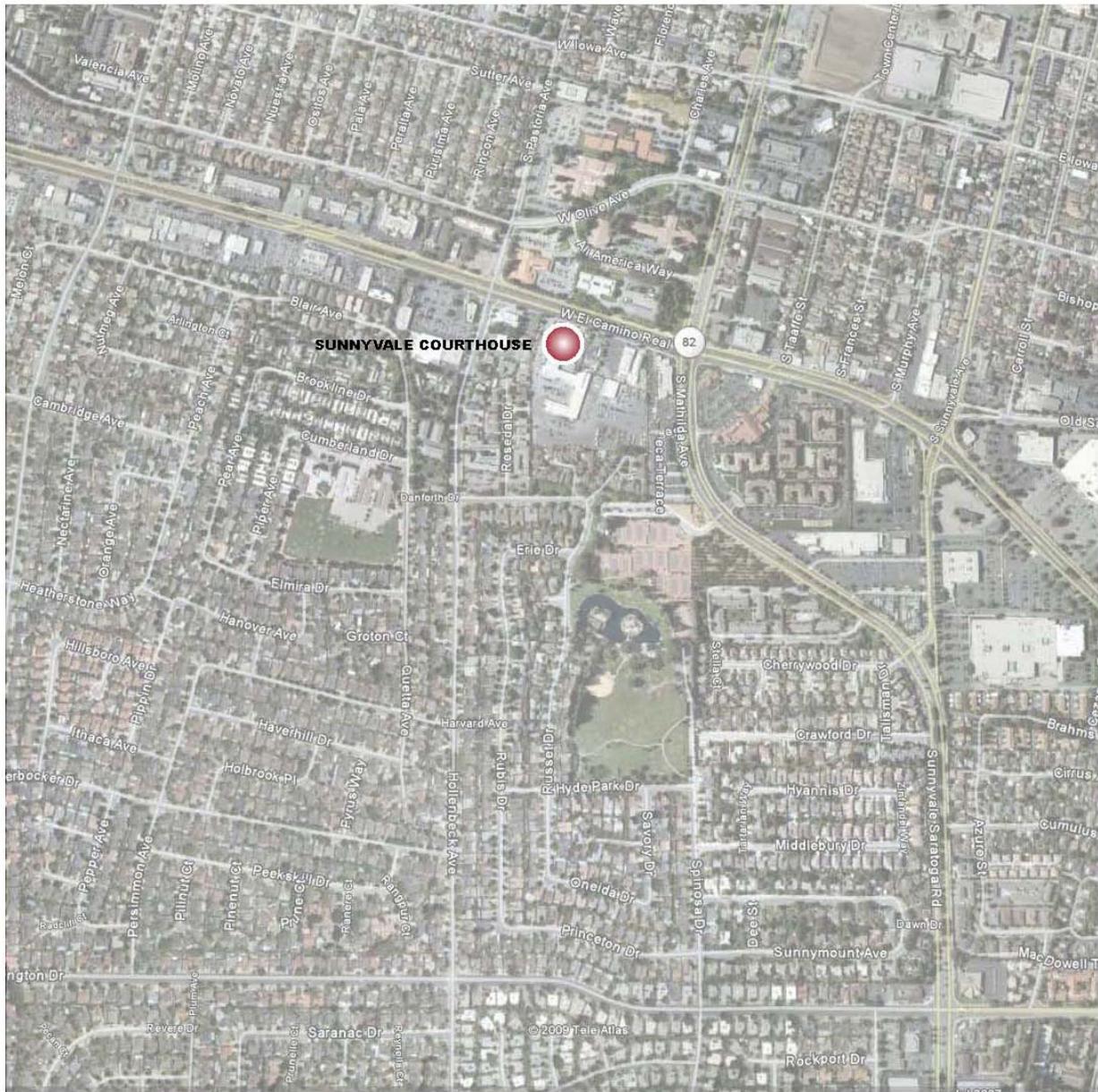


Section 1: Functional and Space Program



SPACE PROGRAM: SAN JOSE PLAN
(Existing Leased Spaces Relocated to San Jose New Family Justice Center)





SPACE PROGRAM: SUNNYVALE PLAN

(Existing Owned Facility With Partial Caseload Relocated to San Jose New Family Justice Center)



Section 1: Functional and Space Program

1.1 PROGRAM NARRATIVE

PROGRAMMING PROCESS

Programming and space planning information was collected through a series of multi-day workshops attended by judges representing the local bench, the AOC/OCCM project manager and supervising planner, representatives of Court Facilities and General Services, the project architect, programming consultants, and representatives of each division or unit to be housed in the facility. Meetings covering topics concerning the project as a whole were generally attended by the court's project oversight committee, while those focusing on specific operational areas were attended by representatives of the division or unit. In addition, several rounds of meetings and conference calls were held to refine the list of spaces and conform it to the project budget.

OVERALL BUILDING ORGANIZATION AND REQUIREMENTS

Three operational goals provide the principal organizing concepts for the building. Most importantly, the building will have separate circulation systems for the public, staff, and detainees, as described in the *California Trial Court Facilities Standards*.

Second, operations are intended to occur within a security perimeter having a limited number of entrances. All members of the public will enter through a single security screening area with two lanes. Staff will use a separate entrance which may include screening. Judges and a few court executives will use a separate entrance from secured parking (without screening). The central holding area will be accessed by transport buses and other vehicles through a vehicular sallyport. Service vehicles will access a loading dock through a controlled vehicle gate.

The third major building organizing concept is to locate functions that receive the highest volume of visitors closest to the building entrance and on lower floors while those that receive lower volumes of visitors can be farther from the entrance and on upper floors. This reduces demand on the building's circulation systems (including elevators) and enhances security by minimizing the required movement of visitors through the building.

The following locational requirements are presented in a rough order of priority, with the most important listed first:

- The self-help service center is a high volume function that should be located on the ground floor.
- Child waiting should be located on either Level 1 or Level 2 for ease of access
- The child support and drug court calendars have relatively high numbers of participants which warrants location on lower floors.
- Support services should be located on the same floor as courtrooms they serve. Family support services should be with family law courtrooms, while the Dept. of Family & Children Services (DFCS), Dept. of Alcohol & Drug Services (DADS), Mental Health, First Five, Dependency Advocacy Center (DAC), and Public Health should be on the same floor as dependency

courtrooms; and the Mentally Ill Offender Criminal Reduction (MIOCR) program and DADS should be with drug court.

- The preference would be to locate all clerks (dependency, family, drug court) on the same floor close to the ground.
- If possible, family court services should be located convenient to dependency and family law courtrooms.
- Central holding and sheriff's operations should be adjacent to each other in the basement. If it is possible to place the mental health drug court next to central holding that would be highly desirable.
- The civil grand jury engages in confidential deliberations and should have a discrete location on an upper floor, separate from court administration.

The organization spatial requirements for each major functional area are discussed in the sections that follow.

Generally, private offices will be the exception rather than the rule. Judges, managers, and senior supervisors will be assigned offices. With a few specific exceptions, most other professional and clerical staff will be assigned workstations in an open office setting.

Conference rooms will typically not be dedicated to specific divisions and, if they are, sharing with other divisions is anticipated. A large training room is provided for training and judicial conferences, and will be dividable into thirds for smaller meetings.

The following sections describe the principal operational and design requirements for each functional area.

COURT ADMINISTRATION

Court Administration is composed of the executive offices for the Superior Court, Human Relations (HR), and Finance sharing a common reception area. Probate examiners are also located in this area for convenience of sharing reception. The Superior Court operates under a centralized administrative structure with senior managers and analysts located near the Court Executive Officer rather than in the units they manage or support. Exceptions are the HR and Finance Directors, who will be located with their divisions, since these units are part of administration. The quality of the physical setting should be normal and customary for similar functions in other recently-built state buildings.

COMMON COURTROOM REQUIREMENTS

The case types planned for this building are among the most specialized of the state trial courts, and many require special features supporting their unique operations.

Most aspects of this building's courtrooms should be guided by the *California Trial Court Facilities Standards*. In addition to these common requirements, the Superior Court wants the following features or considerations employed in the design of the courtrooms and related support areas:

Section 1: Functional and Space Program

- Waiting areas should provide opportunities to separate groups of users where and when necessary.
- There is interest in providing natural light to courtrooms in a way that does not undermine security or create distractions.
- The judge's prefer courtroom benches raised to at least 12 inches above the courtroom floor.
- The judges prefer center benches over corner benches, but would entertain corner benches if necessary for them to meet other objectives (such as accessibility requirements and the desired elevation).
- All courtrooms will be served by the secure in-custody circulation system.
- Courtroom clerks will have their primary workspace in the courtroom. If judges chambers are grouped on other than courtroom floors (i.e., in a "collegial" arrangement), provide unassigned workspace for courtroom clerks in the vicinity of their judge's chambers available on a first-come-first-served basis (note that this is not currently reflected on the space list).

Courtrooms for specific case types have additional requirements that are discussed below. It is the intent of the Superior Court that the incorporation of these specialized features be accomplished in such a manner that the courtrooms can be returned to a standard configuration with no more effort than typical interior remodels (that is, that they not be structural).

FAMILY COURT

Family Court case types include divorces, and orders related to custody, property division, child support, and visitation, and civil restraint. These involve significantly more collaboration with specialized court staff and other justice agencies than many other types of cases. Two types of family courtrooms described below will require their own specialized features in order to operate efficiently and effectively: family law and child support.

Family Law Courtrooms

Family law courtrooms will provide the setting for most of the hearings described above (except child support orders). These courtrooms are heavily supported by the court staff in Family Court Services and work closely with the Self-Help Service Center, which assists self-represented litigants in family law matters. These courtrooms have the following requirements (in addition to the common requirements listed above):

- The judges and mediators need access to one another.
- Judges need access to research attorneys from their chambers.
- A preference was expressed for collegial chambers for family law judges. However, the dockets for the family law judges and the commissioners assigned to child support are so different that it is less important for them to be co-located.
- Family law courtrooms have one courtroom clerk, one reporter, and one deputy. There are additional floater courtroom clerks in domestic violence cases.
- Family law courtrooms do not require jury boxes. Rather, they need seating in or adjacent to the litigation area for representatives of related justice agencies. However, it must be feasible to add a jury box in the future if not provided initially.

- Litigants often come into court without the proper paperwork. Forms are needed at the bar for litigants to take out and complete before returning for their hearing.
- Many attorney/client conferencing needs can be met with cubicles, since family law does not require the same level of confidentiality as criminal court. Rather than an enclosed attorney conference, provide 10 cubicles or alcoves for the group of family law courtrooms. Partition heights should enable people to see over when standing but give a sense of enclosure while seated.
- Family law courtrooms have large calendars requiring spectator seating for at least 60. This would be sufficient to orient all parties on a calendar at one time.
- Spectators can spend all afternoon in court, and comfort should be considered; thus, chairs are preferred over benches.
- There is a need in family law courtrooms to have access to both court and personal computers.

Child Support Courtrooms

Three judicial officers spend most of their time on child support matters, working closely with the Department of Child Support Services (DCSS). The resolution of cases typically involves the calculation of support requirements using a state information system and negotiating terms between litigants. Child support courtrooms have the following special requirements:

- The space that would be used for the jury box should be dedicated instead as a DCSS work area with four computer terminals (used to research wages, social security status, other orders, perform calculations, and prepare orders). The judicial officer has a terminal at the bench, and sends calculations to the DCSS workstation.
- The litigation area should be configured for three counsel tables, one each for the mother, father, and the public interest (DCSS) attorney.
- It is desirable that the chambers for these judicial officers be grouped, but they can be separate from the chambers of the family law judges.
- Provide power and data outlets at attorney client alcoves near the child support courtrooms to enable the possible installation of state support terminals.

Family Court Services

The Office of Family Court Services (FCS) performs screening, assessment, mediation, and referral to related services associated with contested child custody and visitation issues. The special relationships between the family law courtrooms, the related judicial officer chambers, and FCS should facilitate access and collaboration.

- It is highly desirable to locate FCS on the same floor as family law courtrooms; if this cannot be accomplished, they should be located as close as possible.
- The FCS mediators also work closely with the Self-Help Service Center facilitators in connection with pro per litigants.
- Mediation waiting requires division into two areas – one for petitioners, the other for respondents. The areas do not need to be fully enclosed provided they are not open to one another. The clerks who receive people should have views into both waiting areas.

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- FCS will have shared use of the Self-Help Service Center's workshop/orientation room for parent orientation sessions.

Family Court Settlement Unit

The Family Court Settlement Unit functions similarly to alternative dispute resolution for civil cases. The unit requires a waiting area with reception and access to conference rooms for settlement conferences lead by volunteer judges and attorneys. The suite should be located convenient to the commissioners' courtrooms.

Family Court Justice Partners

The Department of Child Support Services (DCSS) is based off-site. On-site spaces that enable DCSS staff to remain productive between court appearances include a work area with access to office equipment, interview rooms with a waiting area, and a control station to check in visitors. A location near the child support courtrooms will enable DCSS staff to be readily available to the court.

JUVENILE DEPENDENCY COURT

These court departments hear W&I 300 cases concerning the abuse and neglect of children. They have the following requirements:

- A U-shaped grouping of counsel tables in the litigation area enables participants to interact with the judge and one another.
- Each courtroom should be able to accommodate two clerks.
- Each pair of courtrooms requires one courtroom holding room that can function as a non-contact interview room. Any remaining area between courtrooms (not used for holding) can be used for justice partner offices.

Juvenile Dependency Court Justice Partners

The Department of Family and Children's Services (DFCS) functions as the plaintiff representing the interests of abused or neglected children. County Counsel provides legal representation of DFCS social workers in court. Staff from these two agencies are based off-site, but are provided with support space so they remain productive between court appearance while staying close and available to the courts. Workspaces for both groups are shared among staff from their respective departments on a first-come-first-served basis.

- DCSS requires a single room with eight small open workstations and a group work table.
- A room adjacent to DFCS will provide four small open workstations and printer access for County Counsel.
- DFCS and County Counsel can share a copy/fax room.

A number of other agencies have staff providing services aimed at the protection of children and family reunification. They also are based off-site but are provided with support space within the courthouse so

they remain readily available to the court. Their immediate accessibility also helps ensure that referred parents will make appointments for required services (mostly at other locations).

- The Department of Alcohol and Drug Services (DADS) provides on-site assessment and referral to court-ordered or negotiated drug and alcohol services. They will be provided with a waiting area, reception station, and three rooms for one-on-one assessments.
- Children in W&I 300 cases are entitled to their own counsel, provided by a number of entities who will have shared use of four small workstations, lockers for personal briefcases and files, and a shared printer. This room should have good acoustical separation to prevent the intelligibility of normal speech to adjacent rooms and corridors.
- Mental Health will be assigned two rooms to interview and assess children and parents for possible mental health services.
- First Five focuses on the parenting needs of children until they enter kindergarten. They are allocated four open workstations for their staff's shared use.
- The Dependency Advocacy Center is a private, non-profit organization providing legal counsel and volunteer parenting mentors in dependency cases. They will be provided with four rooms with a number of shared workstations for attorneys and mentor coordinators.
- Department of Revenue (DOR) will be provided a counter workstation in the main lobby to facilitate the collection of fines.

DRUG COURT

Drug court provides highly structured judicial oversight aimed at getting offenders with charges related to their substance abuse successfully through treatment while minimizing incarceration. Cases assigned to the Family Court facility will focus on offenders who also have active family and/or dependency cases. Like other family law case types, drug courts are highly collaborative in connecting offenders with the services needed to promote success.

Drug Court Courtrooms

Courtrooms for this case type will have the following additional requirements:

- The counsel tables should be oriented to enable the judge, clients, and spectators to be addressed. Assume four tables in two rows.
- Client seating should be next to holding, not in the typical location for the jury box (although it utilizes the square footage that would otherwise be allocated for the jury box).
- Provide seating for 70 to 80 spectators in the mental health drug treatment courtroom.
- Provide two attorney/client conference rooms for the shared use of five courtrooms.

Drug Court Justice Partners

Drug court, particularly the mental health drug treatment court, involves a large number of service agencies that are based off-site but provided space near the courtrooms to support their roles in assessment, referral, and monitoring:

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- MHTC, DADS, and MIOCR will be provided with a number of offices that can be used on a first-come-first-served basis to meet confidentially with clients.
- The urine sample bathroom should be located for convenient shared use by the various justice partners.
- The drug dispensing room has a single manager providing medications as directed by MIOCR psychiatrists.
- Probation officers work mostly in the courtroom and will share on-site office space when not in court.
- MHTC, DADS, and MIOCR, and the Public Health nurse need to be located for convenient access by clients.
- Future service additions could include housing, employment, peer counseling, outreach, and benefits coordination. It is assumed that these service providers will use attorney-client conference rooms to meet with clients.

PROBATE INVESTIGATORS

Probate Investigators handle matters related to wills, guardianships and conservatorships. The following operational and design requirements apply to the Probate Investigators.

- Probate is located with family court because of contested guardianships. They also serve as witnesses in probate court (which is held at another location).
- Lead investigators spend most of their time in the office. Investigators spend much of their time in the office with many phone contacts and some interviews, but extensive time in the field with frequent coming and going. Interviews are mostly by appointment.
- Members of the public will be seen at an interview room adjacent to a waiting area without accessing the staff office area.

GRAND JURY

The Civil Grand Jury is a county function; grand jurors investigate a variety of topics and prepare reports. Grand jury facilities provide a hearing room for 24 jurors (with tables arranged in a “U” or hollow square), waiting for witnesses, a breakout room where sub-committees can meet, and support space (files and exhibits storage, copy/workroom and a break room). Court staff who support the grand jury are located in the administration area. Because of the confidential nature of grand jury proceedings, a discrete location is preferred – but with access from public circulation.

COURT SUPPORT

This section of the narrative covers court support services including reporters, interpreters and courtroom clerks, child waiting, general services, self-help, and staff support.

Court Support Services

Court Support Services include court reporters, interpreters, and courtroom clerks. The following operational and design requirements apply to Court Support functions.

- **Court Reporters.** There is one court reporter per courtroom (for a total of 20) plus five floaters. For those assigned to a courtroom, offices are provided in the vicinity of the courtroom on the restricted corridor. Pairs of reporters share 100 square foot offices and a total of 10 of these offices are provided. A single shared workroom is provided for the floaters in a location with access to all courtrooms. The offices provide space outside the courtroom for each reporter to prepare transcripts and store their personally-owned equipment and supplies.
- **Interpreters.** There are typically 10 to 15 interpreters on site at a given time. The most common languages are Spanish and Vietnamese. A shared waiting area is provided for interpreters with work-surfaces, phones, computer and storage lockers (15 half-size lockers along a wall). There is also a workstation within the space for the interpreter liaison. Access is from public circulation.
- **Courtroom Clerk Work Stations.** Most courtroom clerks work inside the courtrooms, including when court is not in session – and no additional workspace is provided for them. In addition to the assigned clerks, there are eleven floaters and a shared office with eleven workstations is provided for them.

Child Waiting

Child Waiting provides space for children who are either appearing in court (e.g., in a dependency matter) or are accompanying their parents while they have business at the courthouse. Provision of this space is not only appropriate, it is required by the Rules of Court. The following operational and design requirements apply to Child Waiting.

- Child waiting will accommodate up to about a dozen children, likely ranging in age from two to twelve years. (Accommodating infants and children who are not yet toilet trained would be a policy decision that has yet to be taken).
- The area will be operated by a contractor or volunteer agency experienced in this field.
- Some children will be interviewed in nearby confidential interview rooms prior to a court appearance.
- There will be a single play area that will be differentiated by furnishings, toys and materials for use by different age groups.
- Parents will check in (and pick up) their child at a counter and will not penetrate into the play area.
- There will be a kitchenette to store food and provide for snacks.
- Child-scale toilets are provided.
- It is desirable to locate Child Waiting and the dependency courtrooms on the same floor.

Court General Services

General Services manages or maintains general building security, purchasing, facilities management, the mail room, records storage, and the law library. The following operational and design requirements apply to General Services.

- Some of these are general office functions, while others have special requirements.
- Procurement stores files and product literature and needs access to a small conference room where they would meet with vendors.
- Law library staff receive and store law books prior to distribution.

Section 1: Functional and Space Program

- Facilities managers require lay out space; they also maintain plan files and specifications, and make use of a plotter.

Self-Help Service Center

The Self-Help Service Center assists unrepresented parties (those without attorneys) as they navigate the legal system. About 80% of self-help clients are involved in family law matters (and of all family law cases, about 40 to 50% are self-represented), while about 20% have civil or small claims issues (and they will also be served at this facility). The following operational and design requirements apply to the Self-Help Service Center.

- There is a very high demand for self-help services; strategies to streamline the process and reduce waiting time are in place and will be expanded. These strategies are planned to include a take-a-number system and expansion of the triage process at check-in.
- After taking a number, clients would be triaged at one of three counter stations. Eighty seats are provided for client waiting with another 25 spaces at tables and computer carrels. Also in this area are forms display racks and a coin-operated copier and change machine.
- Currently, an attorney or volunteer conducts a brief interview for those who want to start a divorce. For more intensive family law cases clients fill out an intake sheet and wait to be helped.
- Self-help also assists with domestic violence restraining orders; these clients are often very fragile and frightened and require a dedicated window and separate waiting area.
- Staffing includes two supervising attorneys in enclosed offices and eight workstations for facilitators (who may be attorneys or paralegals). A degree of privacy is appropriate for self-help clients, since they are discussing sensitive matters. However, confidentiality is not required since they are not getting legal advice.
- There are also five court specialists who check clients in, conduct the initial triage, and check client's paperwork before they go to court.
- Three day-of-court mediators attempt to bring parties to resolution.
- Self-help also does training sessions or workshops that are used to orient groups of 15 to 20 clients to the process and the steps they will go through.

Staff Support

Staff Support spaces include kitchenettes for staff use on each floor, one larger break room shared by all staff, a large conference/training room, and a pair of staff showers to support those who bike to work or run at lunch.

SECURITY FUNCTIONS

Security Operations Office

The Security Operations Office provides support space for sheriff's staff who are responsible for security throughout the building. Spaces include offices, break area and locker rooms, and a control room. The following operational and design requirements apply to Security Operations.

- Senior management, which is located off-site, will visit the courthouse regularly and make use of offices in this area and/or in the executive area of Court Administration.
- The sheriff's office prefers that operations be located on the ground floor, close to entry security screening. If this is not feasible, it is appropriate that it be located next to central holding.
- The control room and console are designed to provide two primary control positions with two supplementary workstations within the room. There is an adjacent equipment room for servers. These rooms should be served with independent HVAC systems and emergency power.
- Deputies check their email daily. With approximately 20 bailiffs and several deputies at central control and central holding, a number of workstations are needed in the report writing area.
- While the gender split among deputies is about 75% male to 25% female, the female locker room is sized to allow for a potential increase in the proportion of females. The locker rooms include toilets and showers.
- A break room is provided with counter, sink, cabinets and provisions for a refrigerator and microwave (equipment supplied by others).

In-Custody Central Holding

The Central Holding area receives in-custody inmates from the county's jails and other agencies and holds them before and after they are moved to the courtrooms (where, in some cases, additional holding capacity is provided). The following operational and design requirements apply to Central Holding.

- Both total capacity and the ability to separate incompatible prisoners are key issues. Cells are sized to hold one, eight or sixteen prisoners (if filled to their rated capacities). The latest space plan calls for 16 separate cells with a capacity of 118 inmates (if full) plus 6 single cells for juveniles (which could be used for adults at times when no juveniles are present or expected); see the categories below. Note that holding capacity is provided adjacent to most courtrooms, though at those with a low demand, secure access may be provided directly into the courtroom without holding cells. Custody elevators should have a capacity of approximately 10 unescorted inmates to balance the need to move large numbers of detainees to some courtrooms with a manageable group size.
- Categories of prisoners that must be kept separated include:
 - general population men
 - general population women
 - mental health/psychiatric
 - PC – protective custody (including rival gang members)
 - high risk (“reds” – for color of uniform)
 - juveniles (boys)
 - juveniles (girls).
- Inmates typically arrive by bus (or sometimes by van), in groups and remain at the courthouse until a sufficient number is done with court before being transported back to a detention facility. Buses are 40 to 45 feet long and there may be more than one bus at a time (if multiple buses can be accommodated in the vehicular sallyport). A drive-through configuration for the sallyport is strongly preferred.
- Inmates are individually shackled when they are transported. Once they enter the holding area, they are unshackled and searched then escorted to cells. A staging area is needed to

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accommodate inmates as they come into the holding area from the bus. A kneeling bench is required where detainees enter the staging area to remove and apply leg restraints.

- There should be substantial glazing at the front of each cell to maximize visibility by officers.
- The capacity to hold and process individuals who are taken (remanded) into custody in the courthouse is also provided, and they are kept separate from the other prisoners.
- State standards (Title 15) and case law require that in-custody juveniles be kept out of sight and sound and direct physical contact with in-custody adults. An attachment at the end of this narrative provides the relevant section of Title 15 with specific requirements related to the entrance to the holding area and circulation to courtrooms.
- Facilities are provided at central holding for attorneys to interview prisoners in a secure, non-contact setting. Provisions are required for attorneys to be able to pass papers to their clients. The detainee side of interview rooms is accessed from the secure holding area while the attorney side is accessed from public circulation. Confidentiality of conversations is required. Note that the capability for attorneys to interview their clients is also provided adjacent to some of the courtrooms (particularly dependency).
- Prisoners coming to court can be under a great deal of stress, and those who are coming to drug and mental health court can be particularly stressed and upset. To the extent that design can reduce stress on prisoners and staff, this is highly desirable. Acoustic control and natural light are potential means to be considered.
- *If feasible, it would be desirable to locate the mental health drug court adjacent to central holding to minimize movement.*

Entrance Security Screening

The Entrance Security Screening area is the front door of the courthouse. All members of the public pass through screening, which includes a magnetometer and parcel x-ray for each screening lane. The following operational and design requirements apply to Entrance Security Screening.

- This is a high-volume courthouse with large numbers of people arriving in the morning and after lunch.
- Recent statistics for entry screening (which represent relative low volume months at three facilities whose functions will be moving into this courthouse) are 1,800 per day not including staff. It is anticipated that two screening lines will be able to handle the public, with a third for staff. Note that the Superior Court does not currently screen staff, and the court's security committee has recommended a separate staff entry, without screening, leading into the restricted corridor. This is an exception to AOC standards.
- A secure staging room (referred to as an interview room) is provided for temporarily holding a detained individual before they are moved to security operations or central holding.
- Provide a discrete side door for cash pick-up out of public view.

BUILDING OPERATIONS

The Building Operations area provides space for such basic building functions as loading, receiving and staging, general storage, housekeeping storage, building services storage and workshop, and a trash and recycling area. The following operational and design requirements apply to Building Operations.

- These functions will be grouped at grade or below with access for delivery and trash trucks. Access will be controlled by a gate(s) or rolling door(s).
- The loading dock should be raised to truck height and be provided with a dock leveler.
- Screening of large deliveries will be by arrangement and security staff will come to this area.
- General Services and the facilities analyst are administratively responsible for this area, but are located at Court Administration.

PARKING REQUIREMENTS

Per direction of the Administrative Office of the Courts / Office of Court Construction and Management (AOC/OCCM), parking for the project will be limited to secured judges parking for each courtroom (20 spaces). It is anticipated that adequate public parking and transportation is available in downtown San Jose to serve other staff and the members of the public who visit the courthouse.

Section 1: Functional and Space Program

Attachment: Minors in Court Holding Facilities

FROM TITLE 15, ARTICLE 10. MINORS IN COURT HOLDING FACILITIES

1160. Purpose.

The purpose of this article is to establish minimum standards for court holding facilities in which minors are held pending appearance in juvenile or criminal court.

Unless otherwise specified in statute or these regulations, minors held in court holding facilities shall be subject to the regulations and statutes governing those facilities found in Title 15, Division 1, Chapter 1, Subchapter 4, Section 1000 et seq. and Title 24, Part I, Section 13-102, and Part 2, Section 470A, California Code of Regulations.

NOTE: Authority cited: Section 6030, Penal Code. Reference: Section 6030, Penal Code

1161. Conditions of Detention.

Court holding facilities shall be designed to provide the following:

- (a) Separation of minors from adults in accordance with Section 208 of the Welfare and Institutions Code.
- (b) Segregation of minors in accordance with an established classification plan.
- (c) Secure non-public access, movement within and egress. If the same entrance/exit is used by both minors and adults, movements shall be scheduled in such a manner that there is no opportunity for contact.

An existing court holding facility built in accordance with construction standards at the time of construction shall be considered as being in compliance with this article unless the condition of the structure is determined by the appropriate authority to be dangerous to life, health, or welfare of minors. Upon notification of noncompliance with this section, the facility administrator shall develop and submit a plan for corrective action to the Board of Corrections within 90 days.

NOTE: Authority cited: Section 6030, Penal Code. Reference: Section 6030, Penal Code

1162. Supervision of Minors.

A sufficient number of personnel shall be employed in each facility to permit unscheduled safety checks of all minors at least twice every 30 minutes, and to ensure the implementation and operation of the activities required by these regulations. There shall be a written plan that includes the documentation of safety checks.

NOTE: Authority cited: Section 6030, Penal Code. Reference: Section 6030, Penal Code

1163. Classification.

The administrator of a court holding facility shall establish and implement a written plan designed to provide for the safety of staff and minors held at the facility. The plan shall include receiving and transmitting of information regarding minors who represent a risk or hazard to self or others while confined at the facility, and the segregation of such minors to the extent possible within the limits of the court holding facility, and for the separation of minors from any adult inmate(s) as required by Section 208 of the Welfare and Institutions Code.

Article 9 provides additional clarifications.

1140. Contact Between Minors and Adult Prisoners.

The facility administrator shall establish policies and procedures which ensure that contact between detained minors and adults confined in the facility shall be restricted as follows:

- (a) verbal, non-verbal, or visual communication between minors and adult prisoners shall not be allowed;
- (b) situations in which a minor and an adult prisoner may be in the same room, area, or corridor are limited to:
 - (1) booking;
 - (2) medical screening;
 - (3) inmate workers present while performing work necessary for the operation of the facility, such as meal service and janitorial services; and,
 - (4) movement of prisoners in custody within the facility.

When an adult prisoner, including an inmate worker, is present, facility staff trained in the supervision of inmates shall maintain a constant side by side presence with either the minor or the adult to assure there are no communications between the minor and the adult.

NOTE: Authority cited: Section 6030, Penal Code; Section 210.2 Welfare and Institutions Code. Reference: Section 6030, Penal Code; Section 210.2 Welfare and Institutions Code.

Section 1: Functional and Space Program

1.2 SPACE PROGRAM

A detailed space list has been prepared and is attached to this report. The total building gross area is anticipated to be 233,906 square feet. The space list uses the following terms or categories to describe space requirements:

- Net or Assignable Area. The area of each room, workstation and/or space, as measured from interior wall or furniture panel to interior wall or furniture panel. No circulation space to or from the room and/or workstation is included (but circulation within the room is included).
- Departmental Net Area. A measurement of aggregate floor assigned to a department, division, or other organizational or functional unit. It is the sum of all spaces assigned to an organizational unit, including net areas as well as interior walls, building columns, projections, and circulation from space to space within the unit's assigned area. Departmental area is measured from the inside face of the external perimeter walls to the centerline of internal perimeter walls at the limits of the functional unit's assigned space. In estimating space needs, departmental area is calculated by adding between 10% and 50% to the total of the functional unit's required net area. The factor used depends upon the size of the unit's spaces and the complexity of its spatial organization (in this program, the most common factors range from 20% to 30%).
- Building Gross Area. The total area of the building, including all primary circulation routes, shared vertical circulation, exterior walls and all mechanical and electrical support spaces and chases. The factors used for the Santa Clara Family Justice Center include approximately 25% for general building circulation (including stairs and elevators) and non-assigned spaces (such as public restrooms and custodial closets) plus an additional 10% for the building envelope (walls) and mechanical areas.

Section 1: Functional and Space Program

1.3 GRAPHIC PROGRAM

The following pages include a graphic depiction of the Santa Clara Family Justice Center Program. Each shape indicates the size and number of each area of assignable square feet included in the Program. The size of each space shown is proportional to the amount of area it occupies relative to the other areas in the building. For clarity, the graphic program is organized by the programmatic departments and color-coded to correspond to the planning options found in Section 3: Conceptual Design Options.

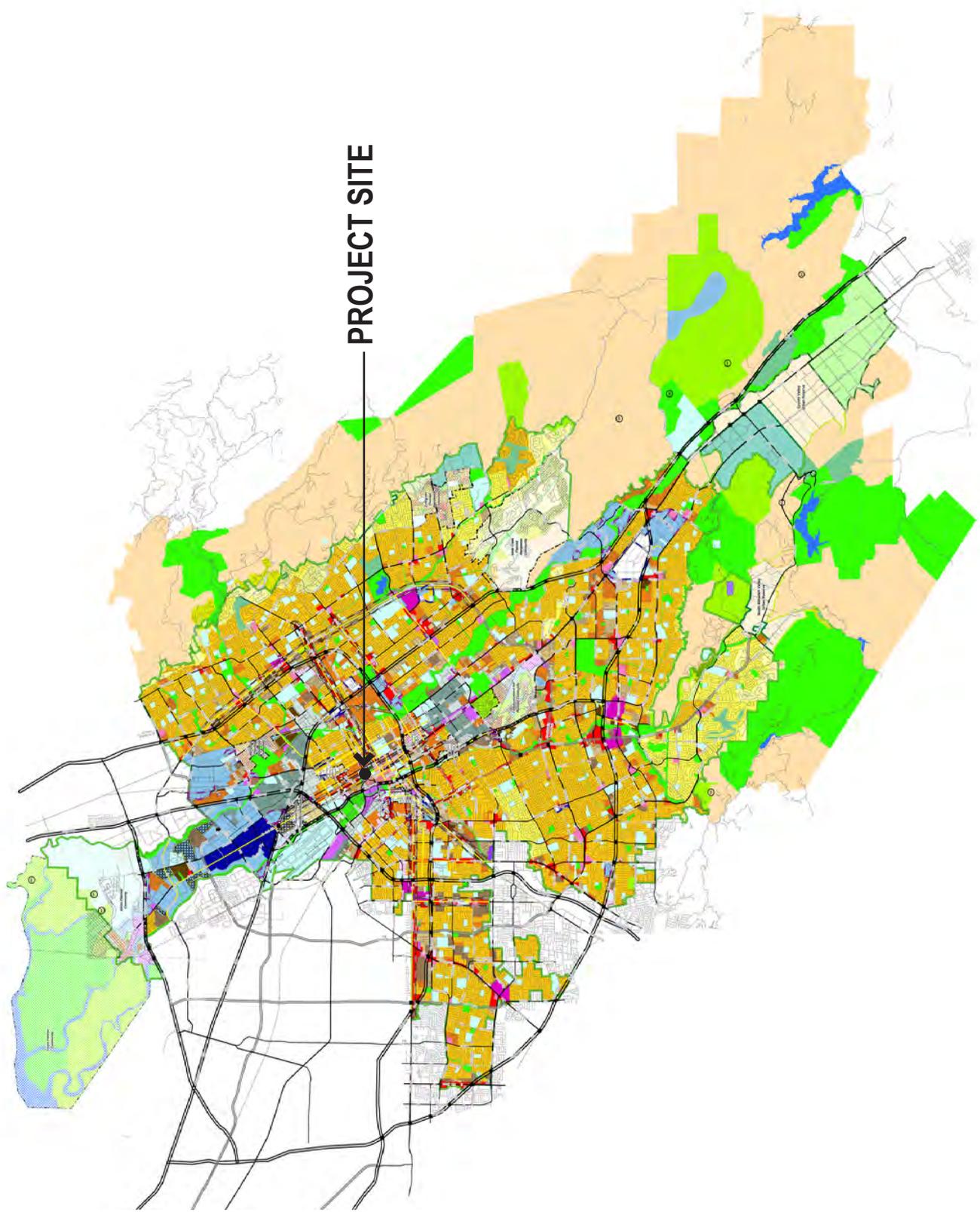
2.0 INTRODUCTION

The following site analysis section presents the different existing conditions, natural and manmade, that will impact the scale and placement of the Santa Clara Family Justice Center.

Located in central San Jose, California, the proposed site for the project is on a block bordered by North Market Street to the southwest, Devine Street to the northwest, North First Street to the northeast and St. James Street to the southeast. (See the following diagram titled "Site Analysis - City of San Jose"). At the time of this report, two specific site boundaries were under consideration:

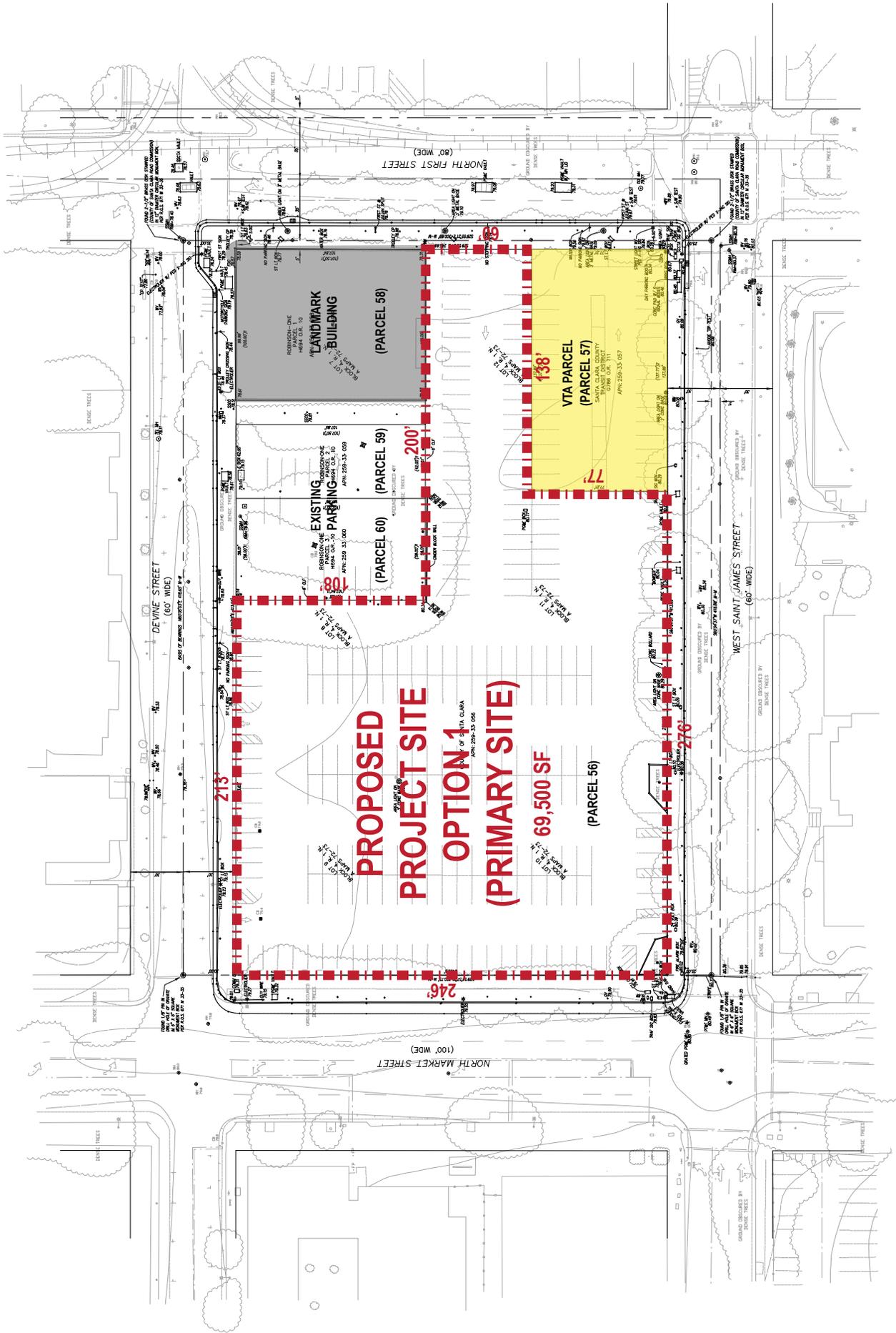
- Proposed Site Option 1 (Primary Site) consists of Parcel 56, currently owned by Santa Clara County. It is an irregular-shaped site that is approximately 69,500 square feet. (See the following diagram titled "Site Analysis - Site Option 1").
- Proposed Site Option 2 (Expanded Site) includes Parcel 56 plus the addition of Parcel 57, a 10,600 square foot lot at the corner of St. James and North First Streets, owned by the Valley Transportation Authority (VTA). This combined parcel is L-shaped and approximately 80,000 square feet. (See the following diagram titled "Site Analysis - Survey Option 2"). Acquisition of Parcel 57 (the VTA Parcel) by Santa Clara County would be required to make this option viable.

Due to the two site options, multiple development concepts are included in this document to demonstrate flexibility in the final design of the courthouse for either configuration.

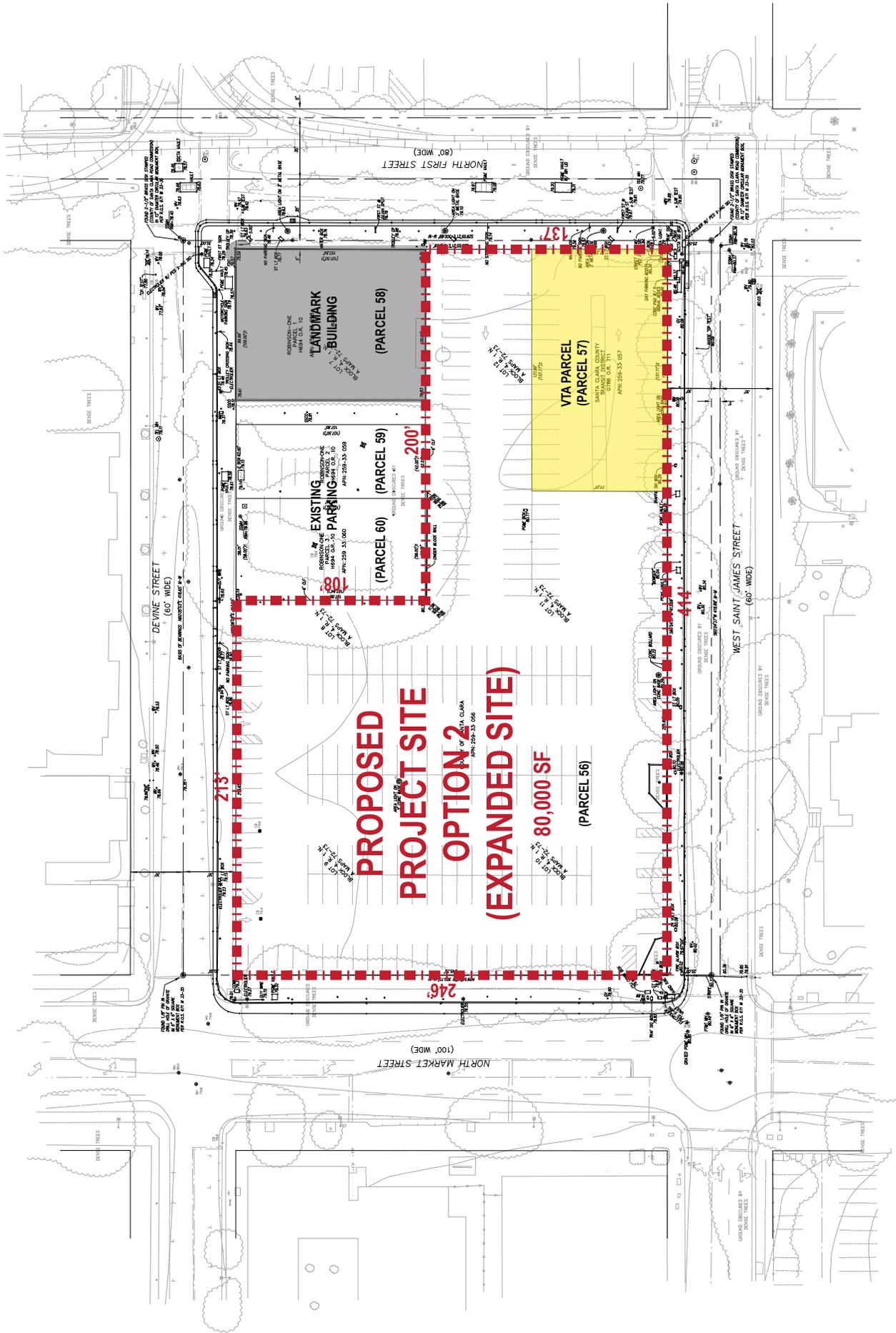


SITE ANALYSIS: CITY OF SAN JOSE





SITE ANALYSIS: SITE OPTION 1



SITE ANALYSIS: SITE OPTION 2

2.1 ORDINANCES & DESIGN GUIDELINES

The proposed project site is at the northern edge of Downtown San Jose and current high-rise development core in the city. (See the following diagram titled "Site Analysis - Landmarks"). The project parcels are considered part of the Downtown Core, adjacent to a Historic City Landmark, and with the possible inclusion of the VTA Parcel, are part of the Saint James Historic District. (See the following diagrams titled "Site Analysis - Downtown Core Area" and "Site Analysis - Local Conditions"). As such, the site is subject to the following design guidelines and zoning ordinances:

- San Jose Municipal Zoning Ordinance's Downtown Zoning Regulations (due to inclusion in Downtown Core)
- San Jose Downtown Design Guidelines (due to inclusion in the Downtown Core)
- San Jose Downtown Historic Design Guidelines (due to adjacency with a Historic City Landmark)

(The three guidelines and zoning ordinance listed above are applicable to proposed Site Option 1-Primary Site and Site Option 2-Expanded Site.)

- St. James Square Historic District Guidelines (due to VTA parcel and adjacency of the remaining site to the historic district)

(The guideline listed immediately above is applicable to proposed Site Option 2 (Expanded Site) only. However, adjacency to this parcel requires sensitive attention to development options and may trigger a historical review.)

The State (AOC) is not subject to municipal zoning ordinances and exempt from complying with local design guidelines, including local historic guidelines. However it is subject to federal guidelines, which may include the St. James Historic District Guidelines since the District is listed on the National Register of Historic Places. The state could choose to voluntarily comply with the local regulations.

San Jose Municipal Zoning Ordinance (Applicable to Site Options 1 & 2)

Per the San Jose Municipal Zoning Ordinance, the site for the San Jose New Family Justice Center lies within the Downtown Primary Commercial Zoning District (DC District). Properties located within the DC District are not subject to any minimum setback requirements. Building heights are limited by the safe operation of nearby San Jose Mineta International Airport and shall not exceed elevation restrictions prescribed under the Federal Aviation Administration's (FAA) Regulations Part 77. At the time of this study, the City of San Jose was in the process of redefining the height limitations in the Downtown Core in conjunction with the airlines at Mineta Airport. San Jose's studies, which have not yet been finalized or adopted, would limit building heights on the subject parcels to between 303 feet - 322 feet above sea level. The general elevation on the site is approximately 80' above sea level, which would allow structures of 223 feet - 242 feet in height. (See Site Survey included as part of the Detailed Civil Systems Analysis in Appendix for reference).

No Floor-Area-Ratio (FAR) requirements are mandated in the general DC District. However, per Zoning Section 20.70.110, new structures exceeding 150 feet and an FAR of 6:1, which are constructed within one hundred feet of a City Landmark, shall be reviewed by the Historic Landmarks Commission prior to consideration of or approval of a development permit.

Section 2: Regional, Urban and Site Planning Considerations

Downtown San Jose Design Guidelines (Applicable to Site Options 1 & 2)

The City of San Jose has prescriptive design guidelines for construction in the Downtown Area. Dated July 2004, these guidelines address various building considerations including the skyline, solar orientation, height, massing, proportion, sustainability and facades among others. The guidelines are intended to provide general direction for the design of vertical development, and work in conjunction with the Greater Downtown Streetscape Master Plan.

San Jose Downtown Historic Guidelines (Applicable to Site Options 1 & 2)

A portion of the primary site falls within 100 feet of City Landmark No. 19, which is currently used as law offices, and includes an adjacent surface parking lot on two neighboring parcels. The structure was formerly the St. James Hotel built circa 1892. Proximity to this structure, triggers implementation of the San Jose Historic Guidelines and possible review by the Historic Landmarks Commission as noted above.

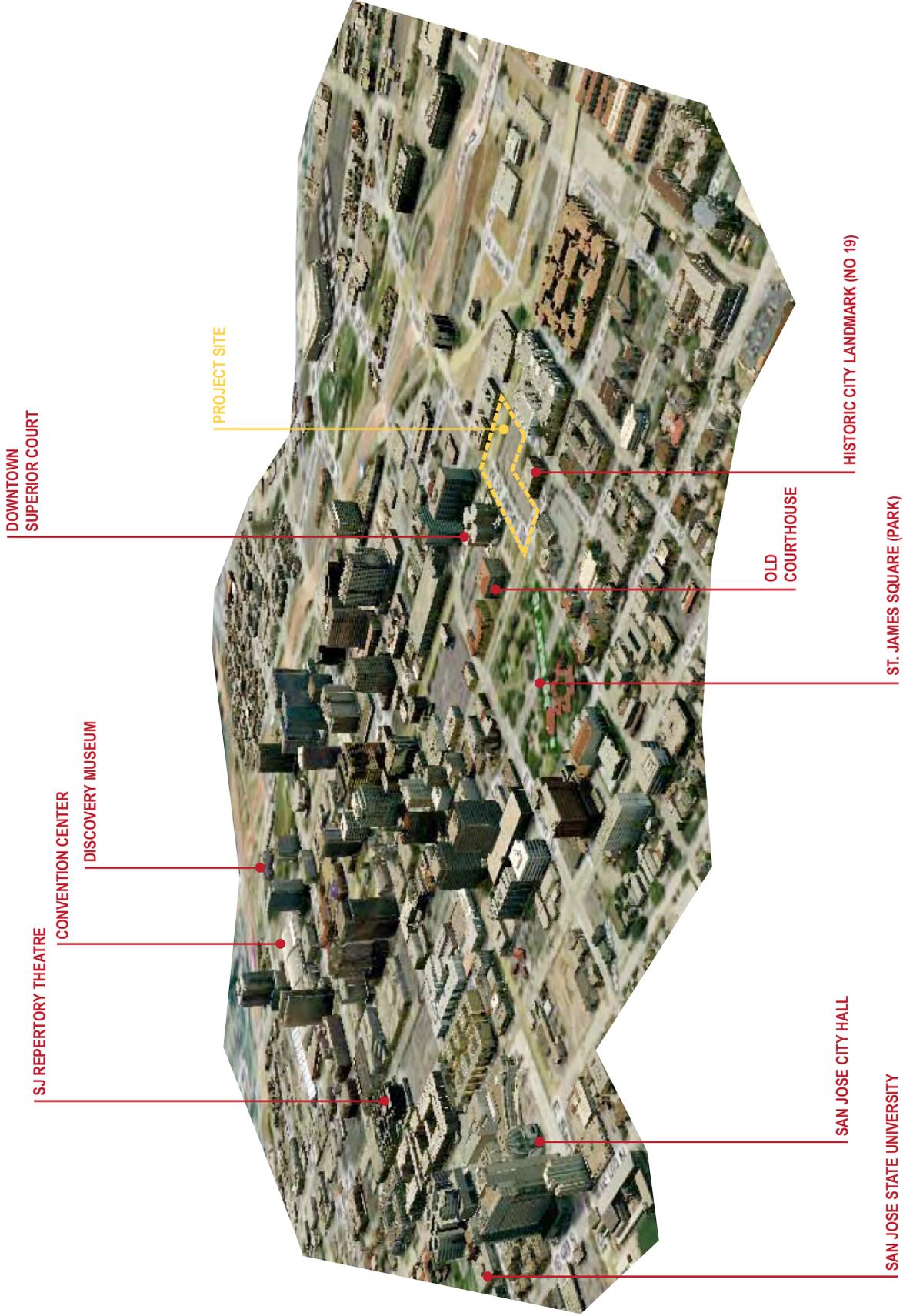
The San Jose Historic Guidelines, dated June 2004, are provided to assist in understanding the context of the historic built environment and better plan for alterations and new construction. The guidelines are not meant to provide case specific advice or to address all potentially appropriate treatments, rather they are documented to draw attention to the various historic conditions.

St. James Square Historic District Guidelines (Applicable to Site Option 2)

The VTA Parcel bounds the northeastern edge of the St. James Historic District. This District is a locally designated Landmark District and is listed on the National Register of Historic Places. The San Jose Horizon 2000 General Plan includes the district in an Area of Historic Sensitivity, which is an overlay designation intended to control the design of existing and new buildings to enhance the character of the designated resource.

St. James Park dates back to 1848, the beginning of San Jose's American Period, when the City fathers commissioned Charles S. Lyman to lay out a plan for the future City of San Jose. Lyman reserved a large area of public open space by combining twin rectangular blocks within the standard grid for the City. Serenely set apart from the downtown commercial district, St. James Park remains one of the few areas in San Jose which reflects an earlier era. Edging the park are some of San Jose's major public and private civic buildings, which span a timeframe of over a hundred years. As described by the guidelines, St. James Park is historically the most important public space in Downtown San Jose.

The VTA parcel and the adjacency of the remaining proposed site to the historic district make the St. James Historic District Guidelines applicable to the project. The most significant feature within the guidelines affects allowable building height. For a one lot depth (137 feet), the building height should not deviate by more than one story from the heights of immediately adjacent historic buildings and in no case should exceed 70 feet.



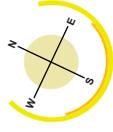
SITE ANALYSIS: LANDMARKS



SITE ANALYSIS: DOWNTOWN CORE AREA

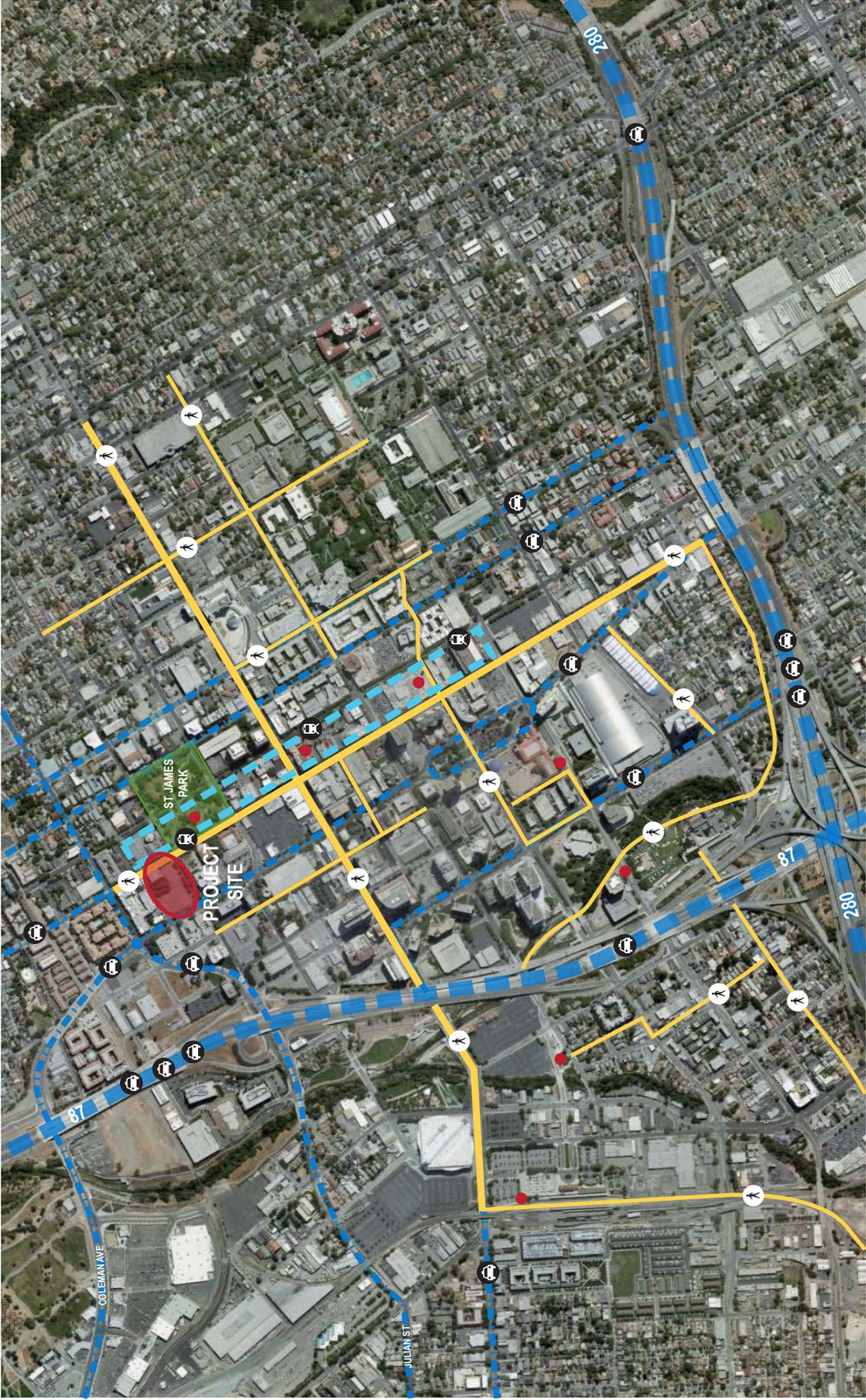


SITE ANALYSIS: LOCAL CONDITIONS



2.2 VEHICULAR & PEDESTRIAN TRAFFIC

As an urban location, pedestrian and vehicular traffic utilize all of the streets bounding the proposed site. However, there is a hierarchy of preferred traffic flow for each street as defined by the City of San Jose General Plan. North First is the most pedestrian-friendly, primarily because of its proximity to St. James Park, the single traffic lane, and the light rail transit mall. It is also part of a larger pedestrian corridor that runs through the Downtown Core. St. James Street is the most ambiguous, currently sharing vehicular traffic exiting Highway 87 off Julian Street with pedestrian cross-traffic between the existing parking lot on the site and the Downtown Superior and Old Courthouse. With its four lanes of two-way traffic, North Market is a major vehicular street originating from Coleman Avenue below Highway 87 and is designated as a Transit-Oriented Development Corridor. Devine Street has limited pedestrian and vehicular traffic generated by its residential complex and the existing historic building parking lot. (See the following diagram titled "Site Analysis - Transportation").

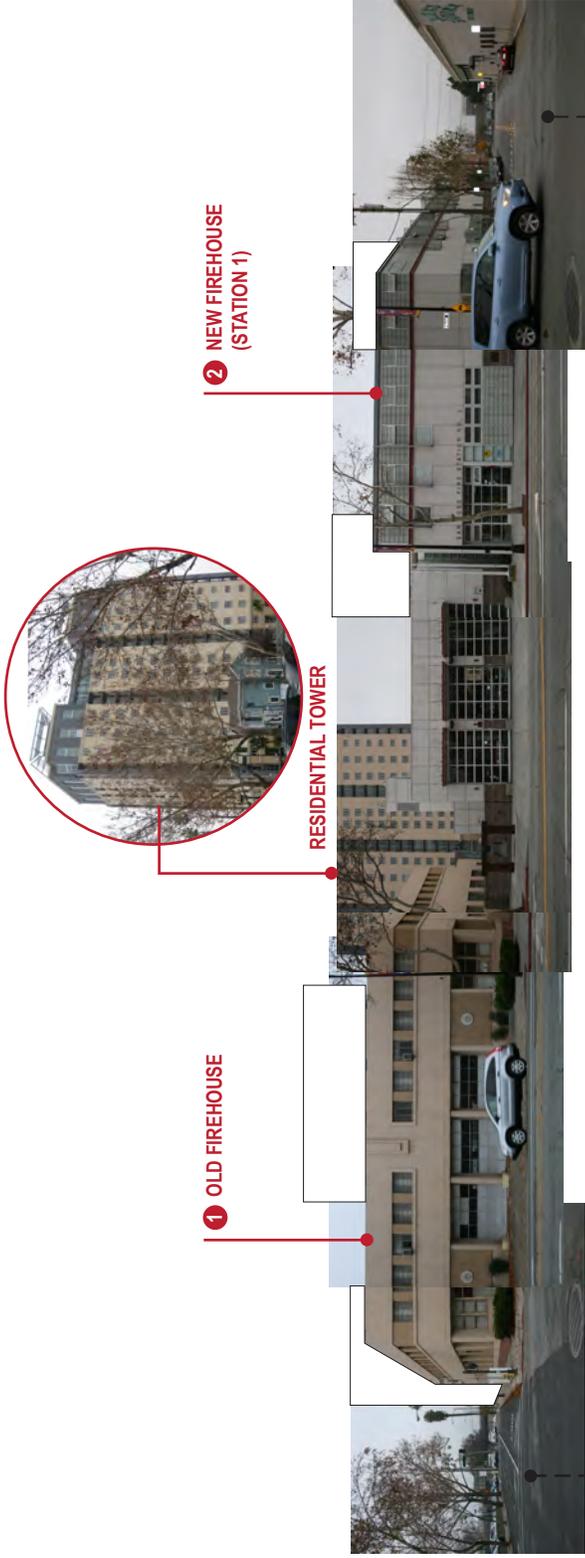


- HIGHWAY
- VEHICULAR ARTERIAL
- TRANSIT MALL (LIGHT RAIL)
- LIGHT RAIL STATION
- PEDESTRIAN CORRIDOR

SITE ANALYSIS: TRANSPORTATION

2.3 STREETSAPES

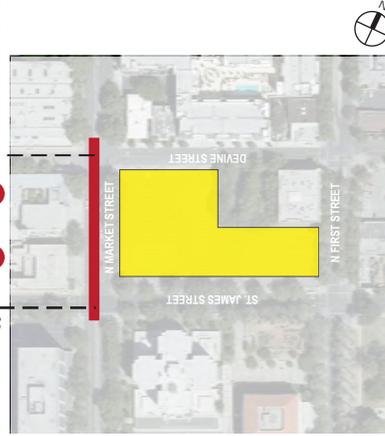
The buildings neighboring the proposed parcel are quite diverse from one street to the next. The Market Street frontage includes a pair of two-story firehouses and 175' residential tower one block behind that establishes the southwestern edge of high-rises. The Downtown Superior Court and the Old Courthouse, which, as civic buildings, relate the most closely to the proposed San Jose New Family Justice Center front St. James Street. Two single story buildings and a parking lot are currently along First Street. Plans have been recently approved for a development complex which would replace these small structures. Two residential towers, 150 foot and 198 foot at their highest, are planned along First and Devine Streets, wrapping around the existing historical First Church of Christ Scientist, located on St. James Street. The church is slated for rehabilitation as part of the project. Devine Street is the beginning of the residential district to the north. A 5-story residential complex is flanked by small two-story buildings, currently used as law offices and a restaurant, at the corners. In addition to these existing buildings, the corner of St. James and First Streets is critical to site's development because of the connection to St. James Park, the pedestrian alley and the light rail stop along First Street and the historic Old Courthouse. (See the following diagrams titled "Site Analysis - Streetscapes" for images along each street and at St James Corner).



ST JAMES STREET
(ONE WAY TRAFFIC)

DEVINE STREET
(TWO-WAY TRAFFIC)

1 2



SITE ANALYSIS: STREETSCAPES - NORTH MARKET STREET



2 SANTA CLARA COUNTY SUPERIOR COURT
"DOWNTOWN SUPERIOR COURT"

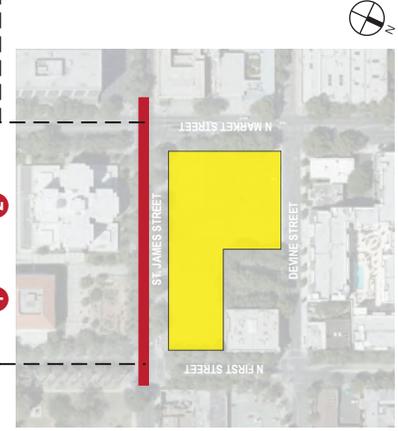
1 SANTA CLARA COUNTY SUPERIOR COURT
"OLD COURTHOUSE"
(Levi Goodrich C. 1867)



NORTH FIRST STREET
(ONE-WAY TRAFFIC)

NORTH MARKET STREET
(TWO-WAY TRAFFIC)

1 **2**



SITE ANALYSIS: STREETSCAPES - ST. JAMES STREET

1 UNOCCUPIED

2 OASIS DOWNTOWN YOUTH CENTER

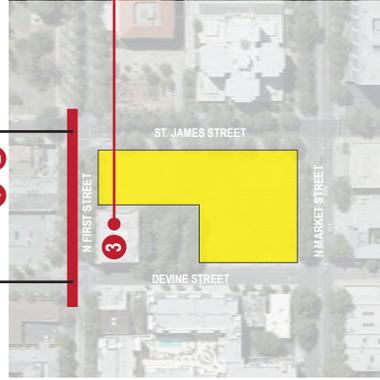


DEVINE STREET
(TWO-WAY TRAFFIC)

ST. JAMES STREET
(ONE-WAY TRAFFIC)

1 2

3



3 HISTORIC LANDMARK
(formerly St. James Hotel c. 1892... currently offices)



SOUTHEAST FACADE



SOUTHWEST FACADE

NORTHEAST FACADE

SITE ANALYSIS: STREETSCAPES - NORTH FIRST STREET



1 OFFICES

2 OFFICES

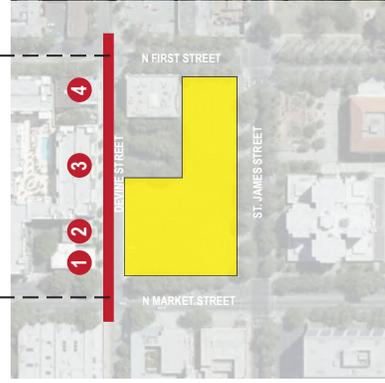
3 MULTI-UNIT RESIDENTIAL

4 RESTAURANT



NORTH MARKET STREET
(TWO-WAY TRAFFIC)

NORTH FIRST STREET
(ONE-WAY TRAFFIC)



SITE ANALYSIS: STREETSCAPES - DEVINE STREET

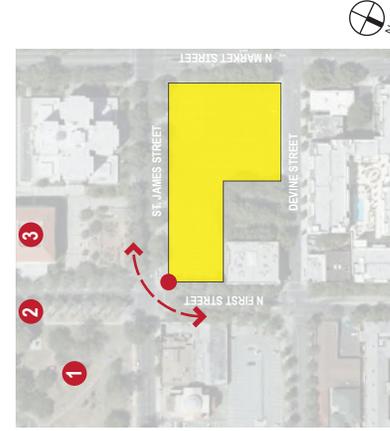
1 ST. JAMES PARK

2 LIGHT RAIL STATION

3 OLD COURTHOUSE



FIRST STREET
ST JAMES STREET



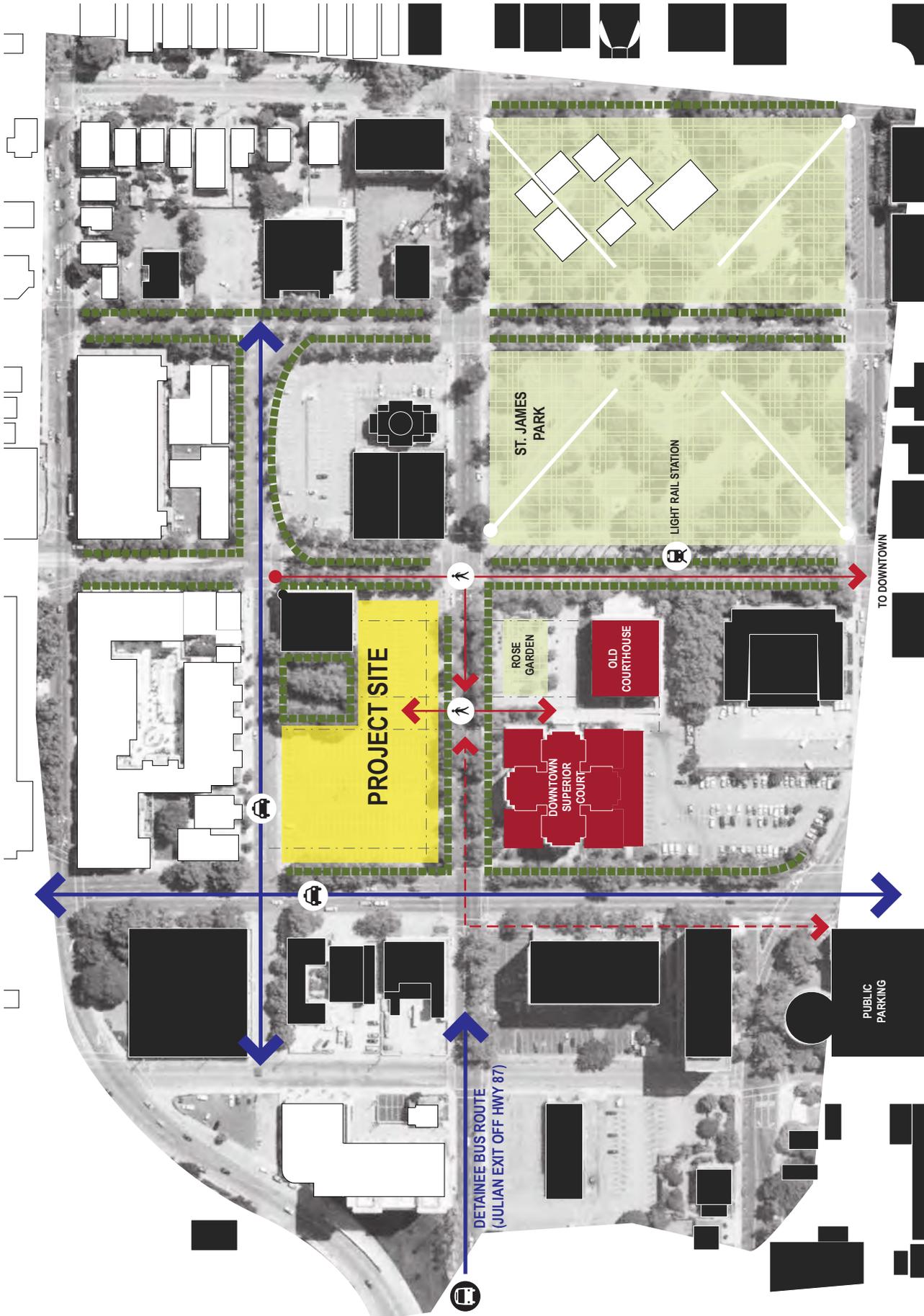
SITE ANALYSIS: STREETSCAPES - ST. JAMES CORNER

2.4 CRITICAL RELATIONSHIPS

The proposed site for the Santa Clara Family Justice Center has numerous relationships that should be considered during the design phases. Listed below are some of the most critical relationships, whether Site Option 1 (Primary Site) or Site Option 2 (Expanded Site) is selected:

- Connection to St. James Park and old Courthouse Rose Garden
- Adjacency to St. James Historic District
- Adjacency to City Historic Land mark at the corner of First and Devine Streets (St. James Hotel Building)
- Connection to the Downtown Superior Court and Old Courthouse
- Pedestrian access along St. James and First Streets
- Vehicular access along Market and Devine Streets
- Pedestrian path of travel from parking garage at corner of Market and West Saint John Streets
- Neighboring tree-lined streets

(See the following diagram titled "Site Analysis - Critical Relationships")



SITE ANALYSIS: CRITICAL RELATIONSHIPS

3.0 INTRODUCTION

As described in Section 2: Regional, Urban and Site Planning Considerations, at the time of this document, two specific site boundaries were under consideration. Site Option 1 (Primary Site) is comprised of Parcel 56, the 69,500 square foot property currently owned by the County. Site Option 2 (Expanded Site) includes Parcel 56 plus Parcel 57, a 10,600 square foot property currently owned by the Valley Transportation Authority (VTA).

Since the potential acquisition of the VTA Parcel will remain an ongoing consideration, five site development options are included on the following pages. Options A, B and C do not utilize the VTA Parcel. Options D and E do develop on the VTA Parcel. Additionally, courtroom and vehicular access diagrams are provided as detail studies that inform the development options.

Section 3: Conceptual Design Options

3.1 COURTROOM DIAGRAMS

As part of the programming process, different courtroom sizes and functions were studied to obtain a general understanding of the fundamental programmatic building blocks. Initially, this brief exercise was to aid in understanding how many courtrooms should potentially be considered for each floor. Options with four, six, and eight courtrooms per floor were investigated. Based on the site restrictions, the volume of traffic to each courtroom, the ultimate decision to include 20-courtrooms in the project, and the variety of courtroom types, (e.g. family, drug, dependency), four courtrooms per floor is recommended.

The inherent differences between the dependency, drug and family courts also necessitated an understanding of how the nature of each court type could be designed to create a cohesive building. The Santa Clara County Superior Court also expressed the need to design fungible courtrooms, meaning each be converted to other functional court types in the future. This flexibility included conversion to future criminal courts as well as the existing subset of family, drug and dependency courts.

The diagrams on the subsequent pages depict the following:

- General circulation for (2) Court Sets per floor with Public, Detainee and Secured Judge/Staff paths of travel identified
- Potential layouts for both criminal and dependency courtrooms that allow for future flexibility.

The diagrams include a center bench with internal ramping at each courtroom as requested by the Superior Court. Ramping variations should be studied in greater detail during future design phases for preferred layouts.

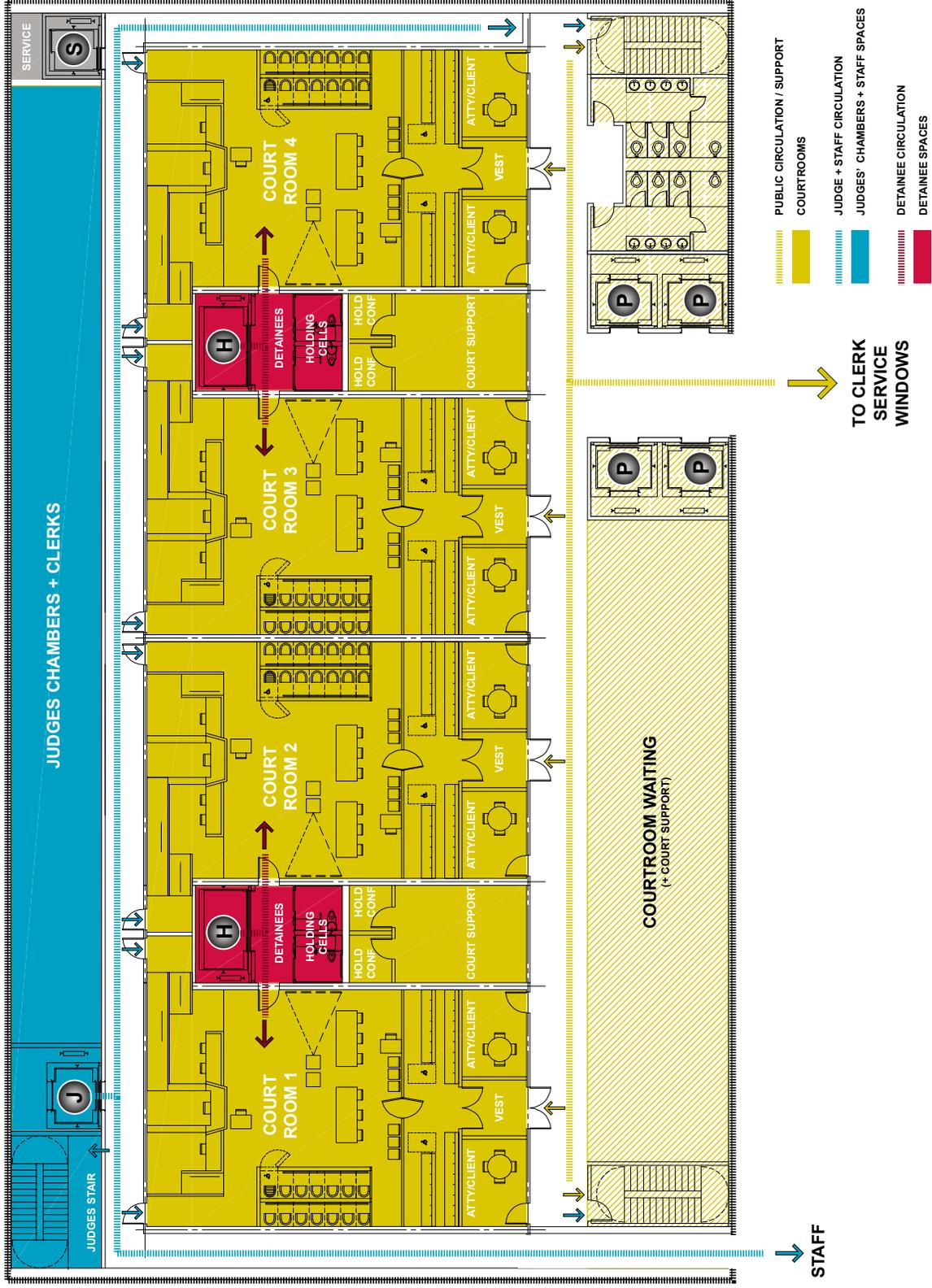
The criminal courtroom diagrams are typically shown with jury boxes per the California Trial Courts Facilities Standards. Since none of the courtroom types currently specified in the building utilizes juries, the Superior Court indicated alternate uses that would be considered for this area of the courtroom. These include arraignment benches in the drug courts and expanded gallery space in the family courts.

Departmental Relationships

During the programming process, the Superior Court staff and judges indicated a preference for the following departmental relationships:

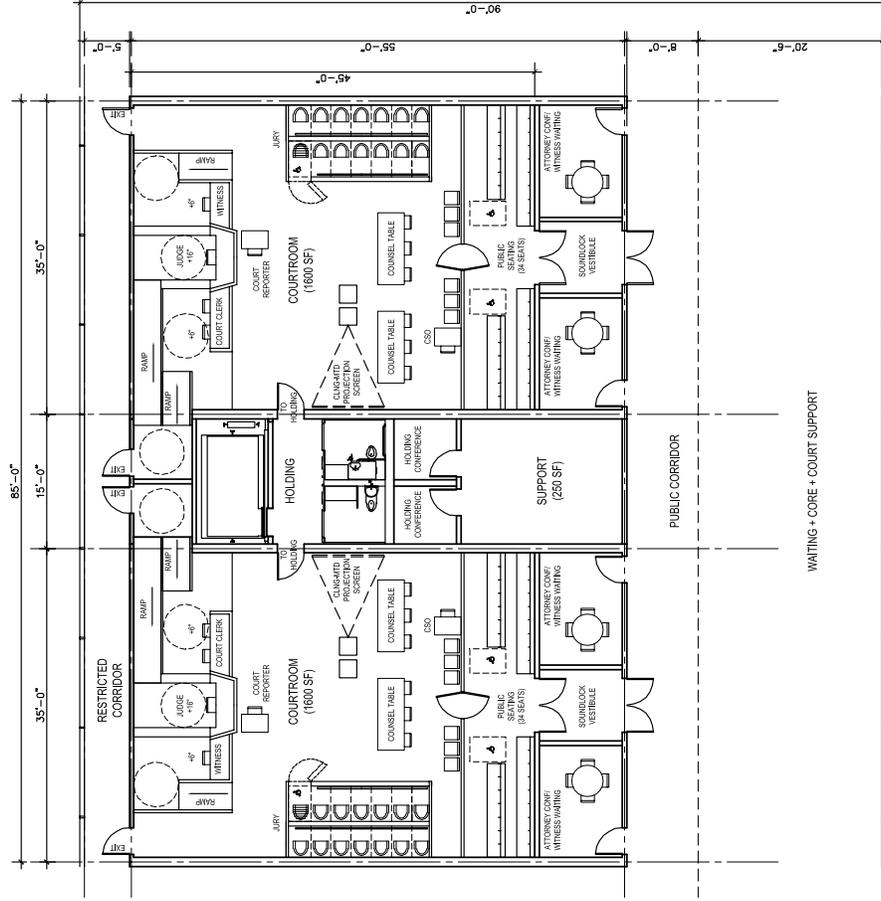
- Drug Courts on the lower floors, preferably two in the basement, due to the volume of visitors and detainees
- Justice Partners located near the court types they serve
- All Clerk service windows co-located on one floor
- Judges' Chambers clustered together
- Self-Help Center located on Level 1
- Child Waiting on Level 1 or 2
- Separate Entrances for Judges, Staff and Public

The items noted above are important general relationships. Many other detailed associations exist that should be discussed in further detail during the design phases.

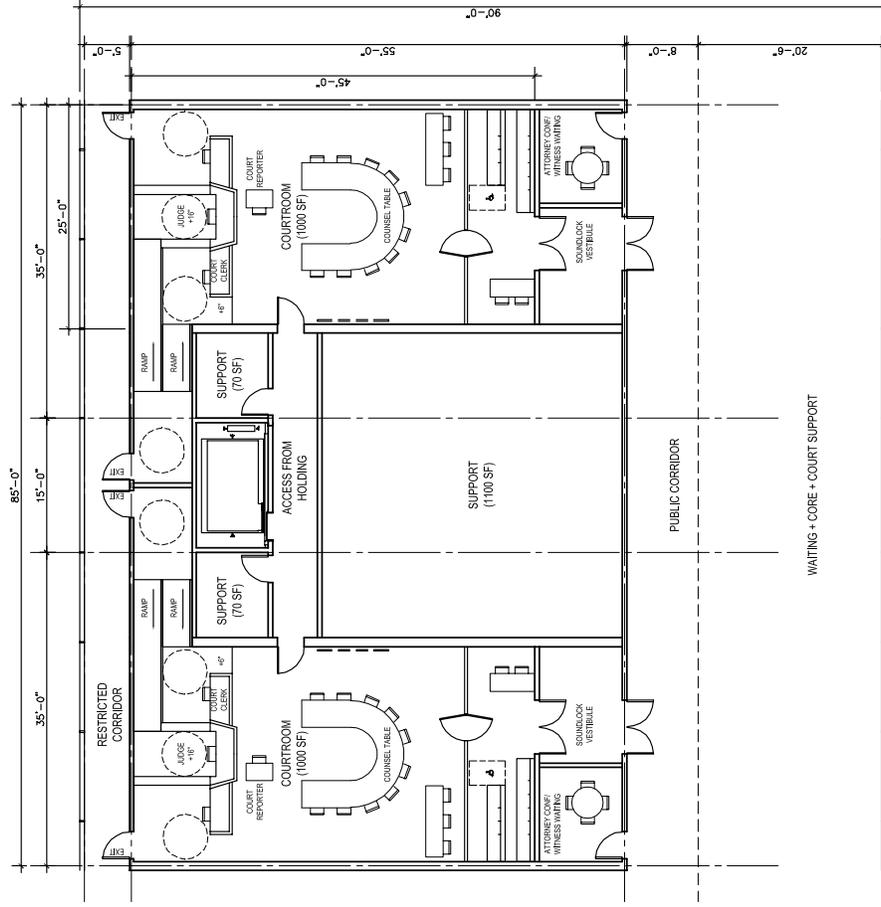


COURTROOM LAYOUTS: CIRCULATION

CRIMINAL



DEPENDENCY



COURTROOM LAYOUTS: CRIMINAL + DEPENDENCY COURTS

3.2 VEHICULAR ACCESS DIAGRAMS

During the conceptual design process, vehicular access to the site became a critical planning component. As mentioned in Section 2, public parking is not programmed as part of the project. However, three vehicle types are expected to interface with the building: judges' cars, detainee buses and service vehicles. Each vehicle type has specific requirements that should be studied in greater detail in future design phases. A general understanding of each is provided below:

Judges Secured Parking

- One parking space per courtroom
- Parking needs direct access to judges elevator
- If surface parking is provided, it should be fenced, visually screened and separated from public circulation

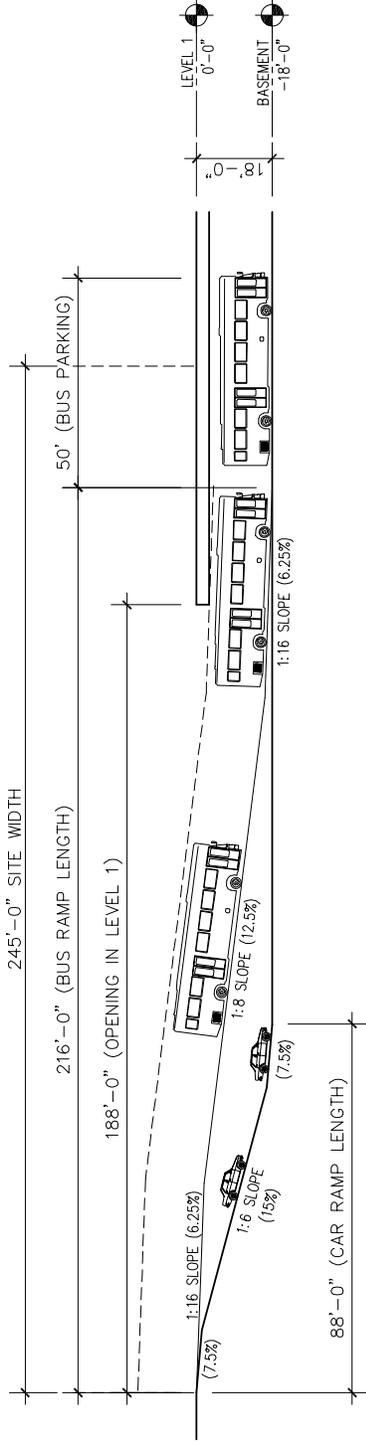
Detainee Buses

- Detainee buses typically originate from San Clara County Main Jail, located at 150 West Hedding Street, or from a correctional facility in Milpitas
- Access to the site will be off the Julian Exit from Highway 87
- Projected bus size as provided by the Sheriff's Office is 46'-0" in length, 9'10" in width and 12'-6" in height
- Preferred access to the site is from North Market or St. James Streets
- Preferred sallyport drop-off is at basement level

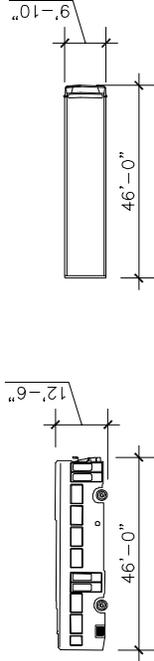
Service Vehicles

- Includes typical building service vehicles such as deliveries, trash and recycling pick-up, fuel tank service, etc.

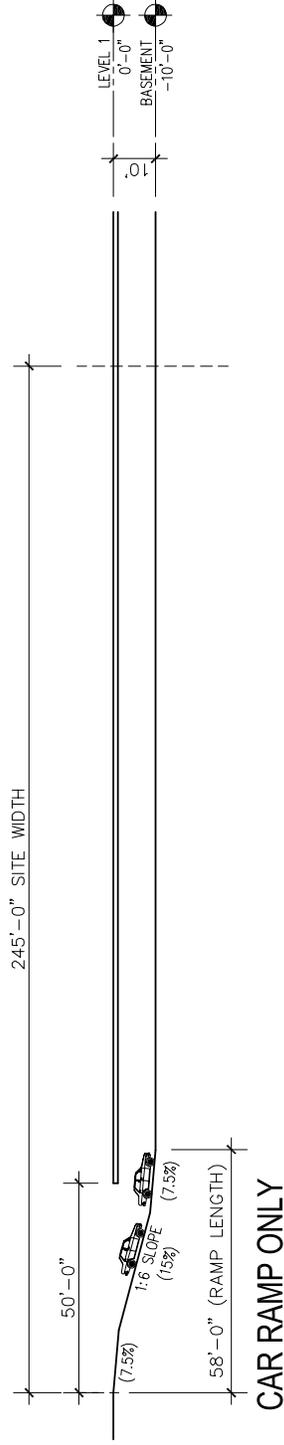
Ramping studies for a below-grade sally port and car parking can be found on the following pages. Secured parking in the basement may be achieved and is shown in some of the subsequent conceptual design options but is not currently included as part of the programmatic spaces. Due to the restricted nature of the site and the constricted space program, a below-grade sally port is not recommended.



TRANSPORTATION BUS + CAR RAMP

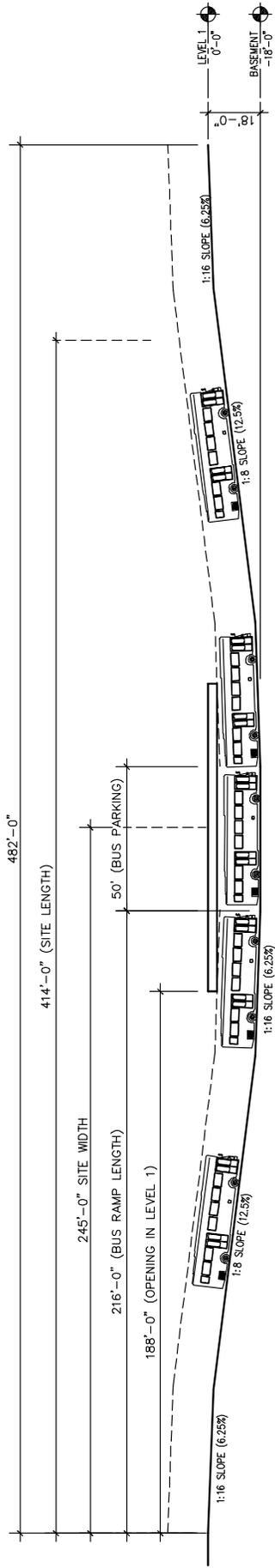


TRANSPORTATION BUS DIMENSIONS

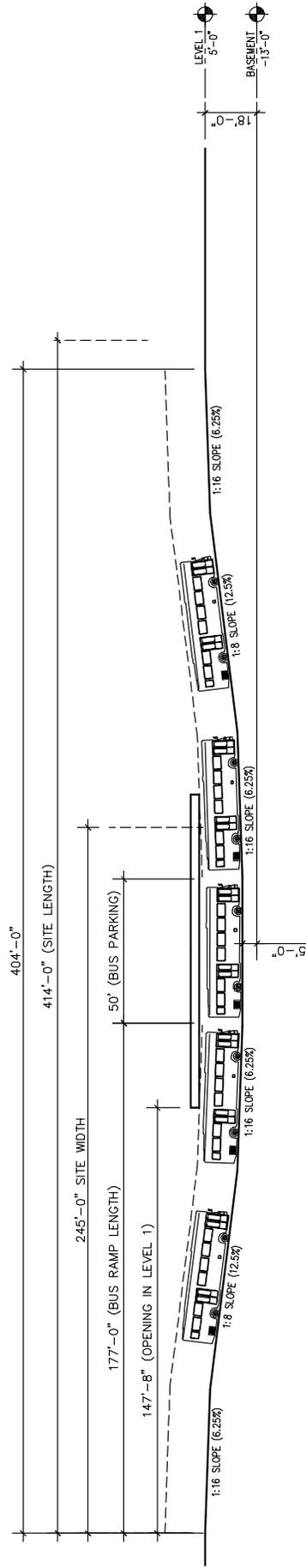


CAR RAMP ONLY





TRANSPORTATION BUS ENTRANCE / EXIT AT GRADE



TRANSPORTATION BUS ENTRANCE / EXIT WITH BUILDING ELEVATED 5'-0" ABOVE GRADE (REQUIRES 80'-120' OF RAMPING AT ENTRANCE OR ACCESSIBLE ELEVATOR)



VEHICULAR RAMPS (LENGTH OF SITE): CRIMINAL TRANSPORTATION BUS

3.3 CONCEPTUAL DESIGN OPTION A – 20 Courtrooms**Site Development**

Option A is the most compact footprint studied. It does not extend into the VTA parcel and is sited to provide adequate access for the detainee bus as well as on-grade secured judges parking. With a multi-story lobby oriented towards the Downtown Superior Court, it acknowledges the judicial buildings across St. James Street. Its narrow footprint, affords the opportunity for adequate day lighting for interior spaces. However, its small footprint does not provide for all of the functional requirements originally desired by the court, particularly co-location of support services with the courts they serve. Additionally, due to the increase in the number of floors, this option is not spatially as efficient as some of the alternate schemes. Core support spaces such as elevators, shafts, toilets, electrical, telecommunication and janitor's closets, must be duplicated on additional floors that do not exist in the previous options.

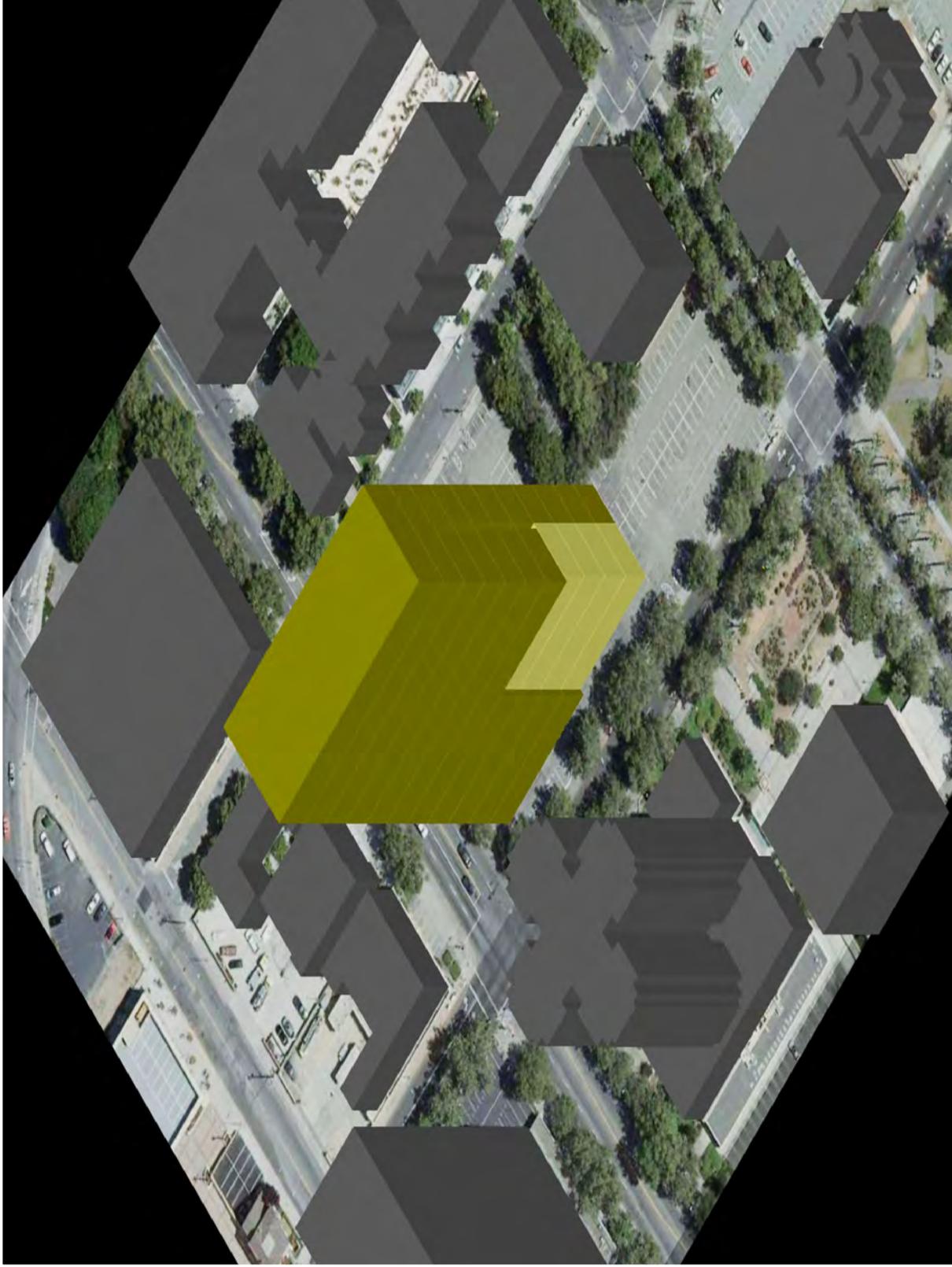
Functional Relationships

Option A provides the following key relationships desired:

- All Clerk service windows co-located on one floor
- Judges chambers clustered together
- Self-Help Center located on Level 1
- Child Waiting on Level 1 or 2
- Separate Entrances for Judges, Staff and Public

Option A proposes judges' secured parking on street level in an outdoor lot accessed via Devine Street. Deliveries and loading are located on Level 1 with access via Market Street. The sally port is located on street level with both entrance and exit off Devine Street. Central Holding and the Sheriff's Office are located in the Basement. Detainees will need to be transported from the on-grade sally port down to the basement via a dedicated elevator on Level 1.

A contextual plan, site plan, planning diagrams, model photo and massing study of Option A can be found on the following pages of this section.



BUILDING MASSING: OPTION A



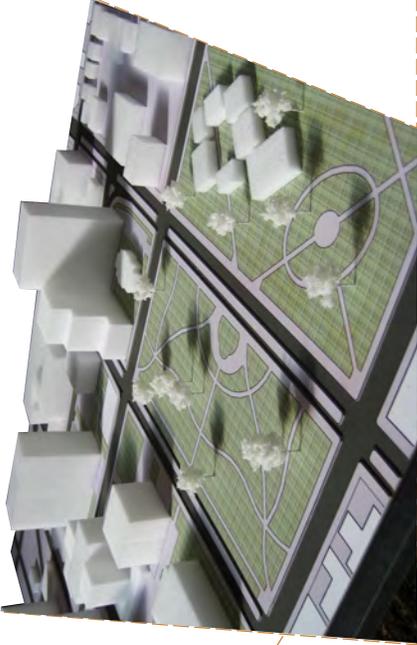


SITE PLAN: OPTION A

DOWNTOWN CONTEXT



RELATIONSHIP TO ST. JAMES PARK



COURTHOUSE CAMPUS



BUILDING MASSING: OPTION A

3.4 CONCEPTUAL DESIGN OPTION B – 20 Courtrooms**Site Development**

Option B is located to take advantage of the largest contiguous portion of the site without utilizing the VTA Parcel. The concept is to create an efficient cubic form that responds to the site with a clear sense of entry. In its original version, the scheme proposed six courts on each floor, which supported an early rendition of an 18-courtroom project. With that program, the option housed three complete courtroom floors with support functions on the lower levels. However, when the program was updated to include 20 courtrooms, this variation was no longer viable so the planning was adjusted to locate four courtrooms per floor. Again, due to the tight nature of the site, the on-grade sally port cannot accommodate the 46' detainee bus requested by the Sheriff's office. If this option is preferred, alternative bus route studies would need to be completed during subsequent design phases to validate this approach.

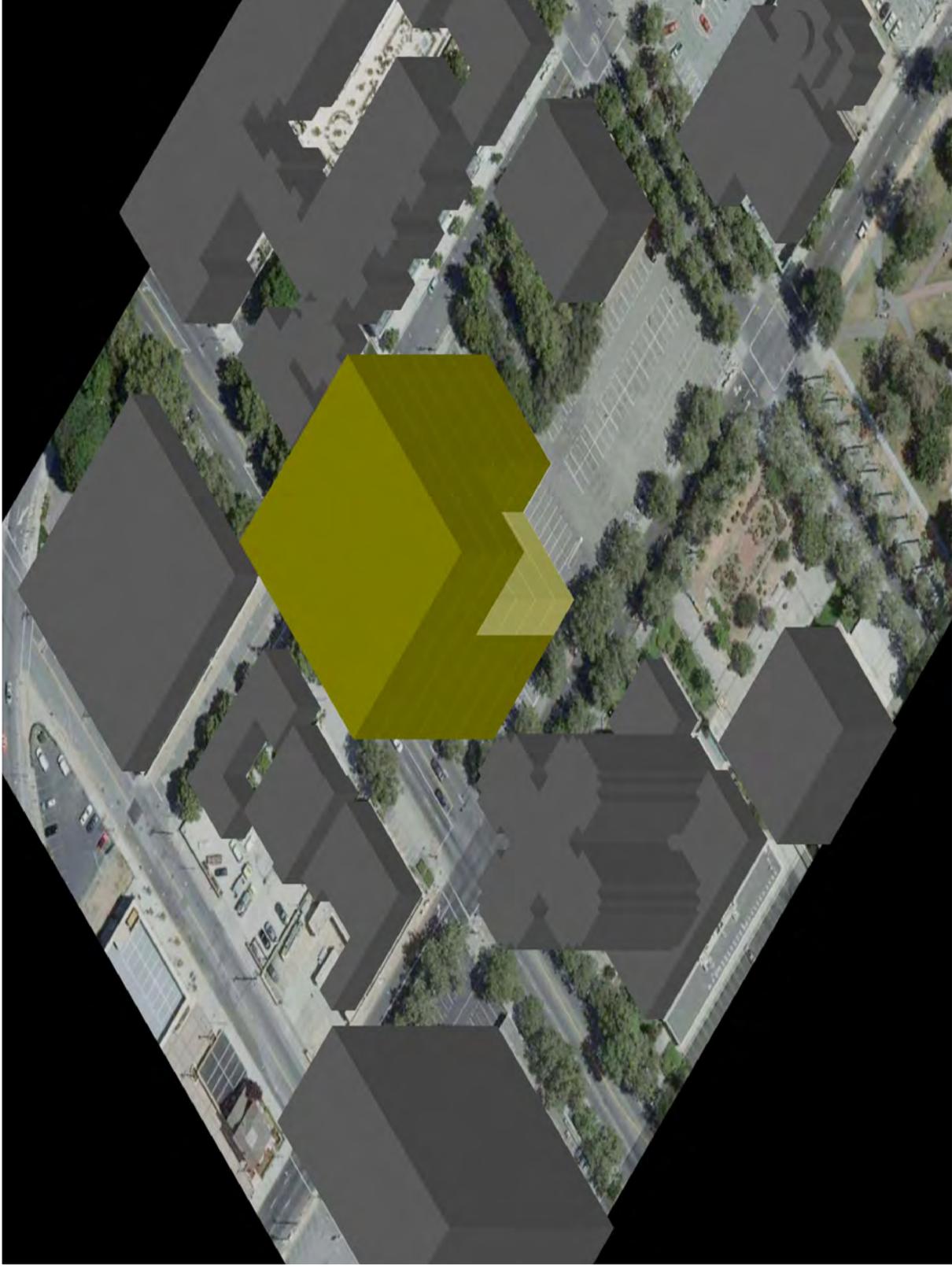
Functional Relationships

Option B provides the following key relationships desired:

- Drug Courts on the lower floors
- Justice Partners located near the court types they serve
- All Clerk service windows co-located on one floor
- Self-Help Center located on Level 1
- Child Waiting on Level 1 or 2
- Separate Entrances for Judges, Staff and Public

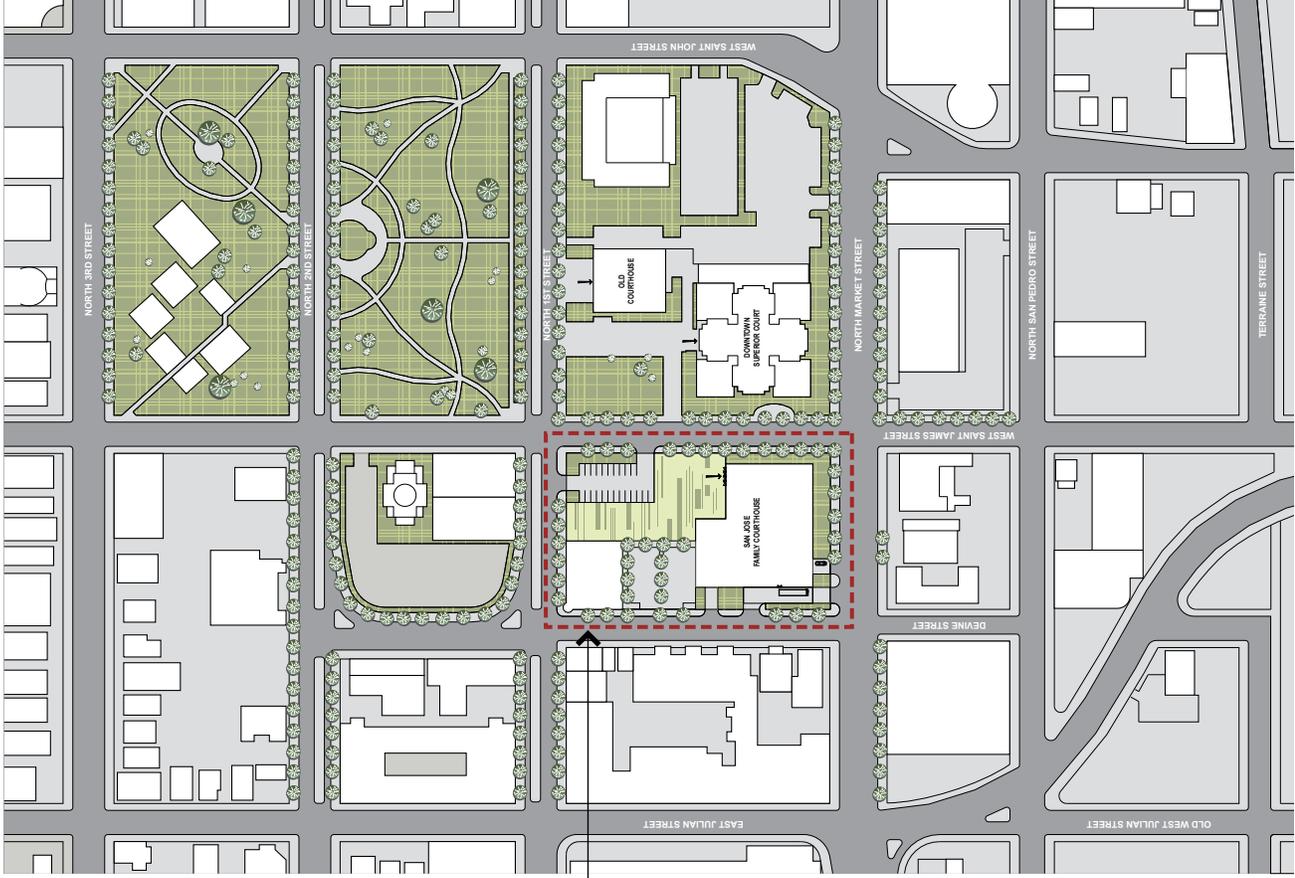
Option B proposes the judges secured parking located in the basement and accessed via Market Street. Deliveries and loading are located on Level 1 with access via Devine Street. As currently configured, the sally port is located on street level and can be entered via Market Street with an exit off Devine Street. Central Holding and the Sheriff's Office are located on Level 1 with direct access off the sally port. As described earlier, the sally port does not adequately support the 46' bus size requested and requires further study if this option is preferred.

A contextual plan, site plan, planning diagrams, model photo and massing study of Option B can be found on the following pages of this section.



BUILDING MASSING: OPTION B



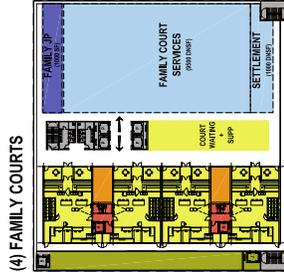
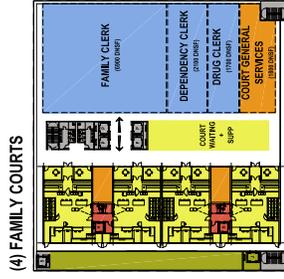
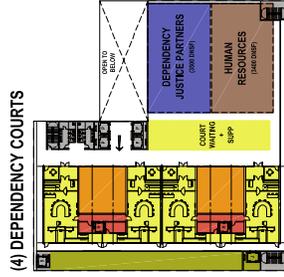
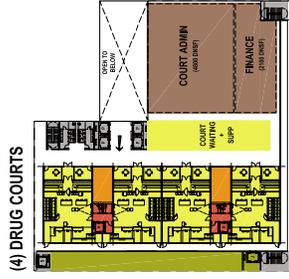
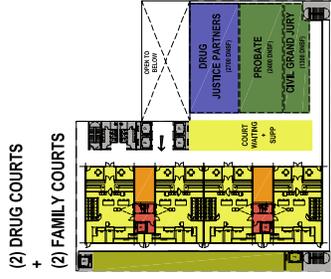
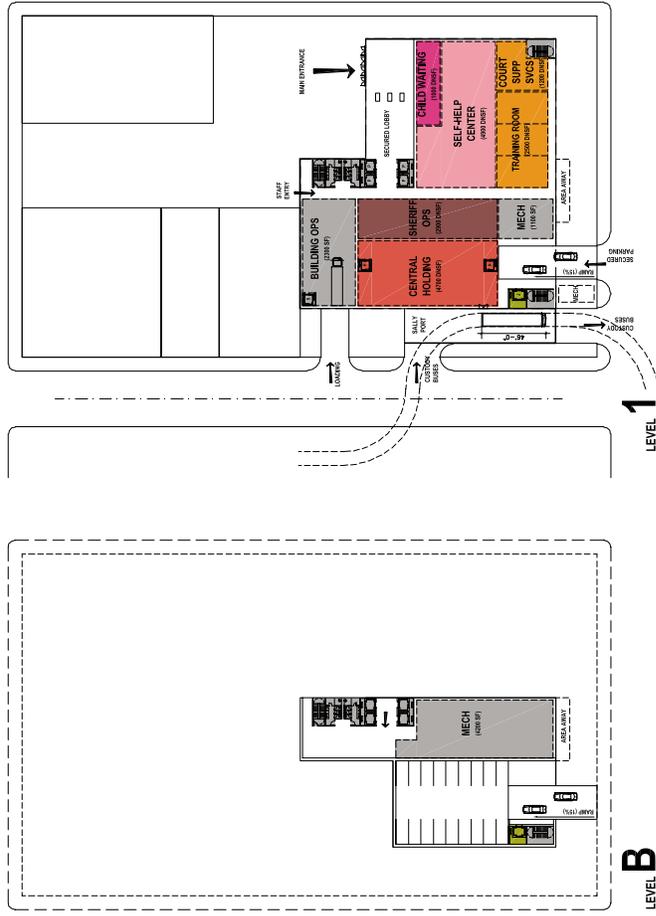


PROJECT LOCATION

PLANNING DIAGRAMS: OPTION B



SITE PLAN: OPTION B

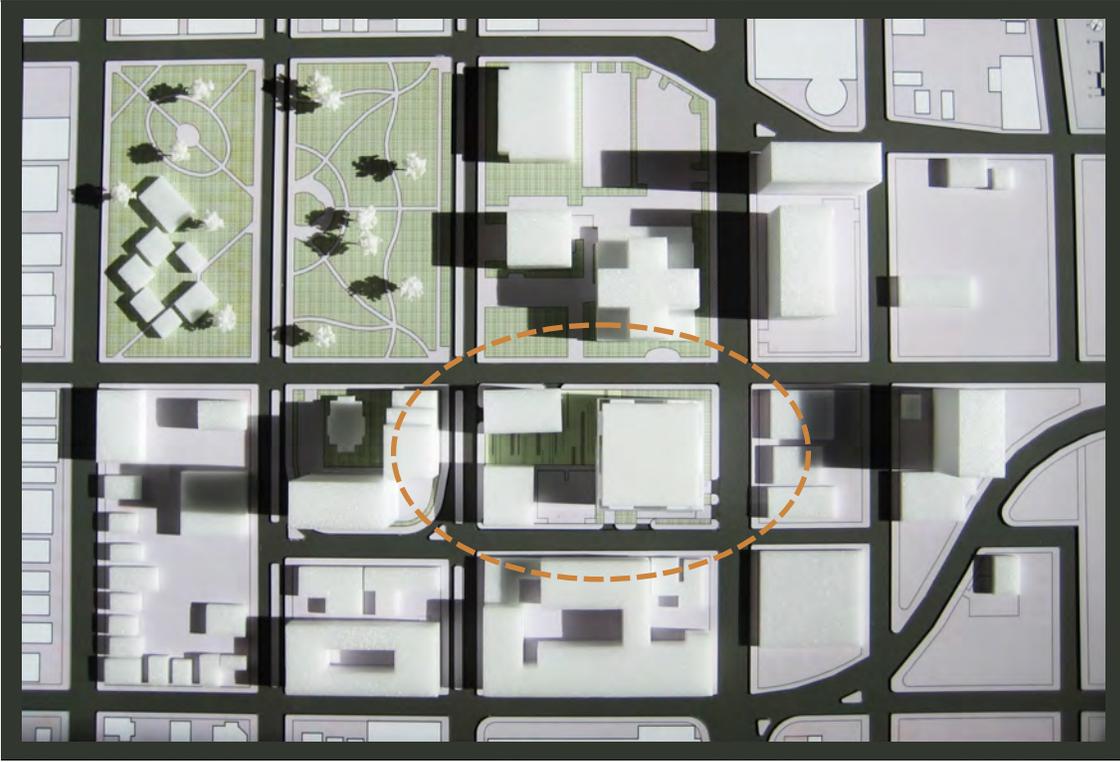


- COURTROOM + COURT WAITING
- JUDGES + COURT STAFF
- CLERKS
- JUSTICE PARTNERS
- SETTLEMENT + FAMILY COURT SERVICES
- COURT ADMIN + HR + FINANCE
- HOLDING
- SHERIFF OPERATION
- SELF-HELP CENTER
- CHILD WAITING
- COURT SUPPORT
- PROBATE + CIVIL GRAND JURY
- BLDG OPERATIONS + BLDG SUPPORT

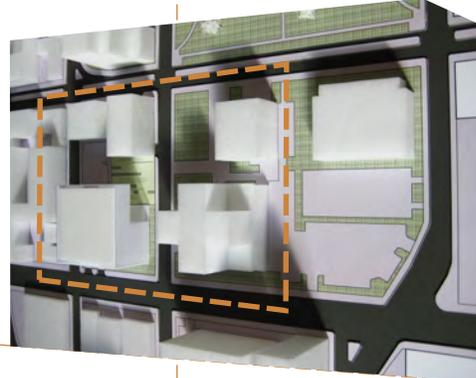
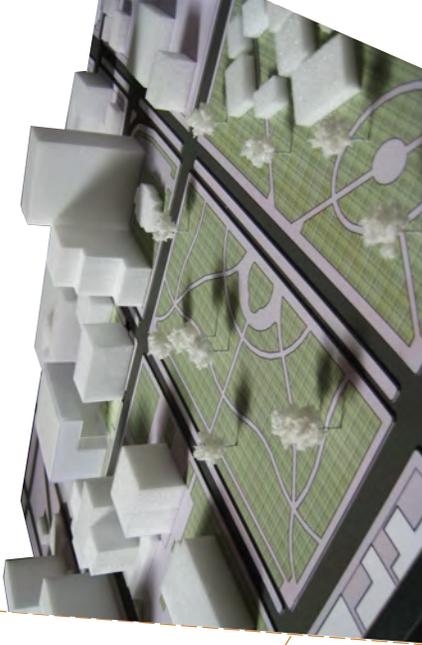
PLANNING DIAGRAMS: OPTION B



DOWNTOWN CONTEXT



RELATIONSHIP TO ST. JAMES PARK



COURTHOUSE CAMPUS

BUILDING MASSING: OPTION B

3.5 CONCEPTUAL DESIGN OPTION C – 20 Courtrooms**Site Development**

Option C does not utilize the VTA parcel and is also sited to take advantage of the largest contiguous portion of the remaining site. The concept is to create two wings that are stitched together by a multi-story lobby with bridges connecting courtrooms with their support functions. Due to the tight nature of the site, the on-grade sally port cannot accommodate the 46' detainee bus requested by the Sheriff's office. If this option is preferred, alternative bus route studies would need to be completed during subsequent design phases to validate this approach. Buses could potentially run below a portion of the building's footprint, or smaller bus sizes could be considered.

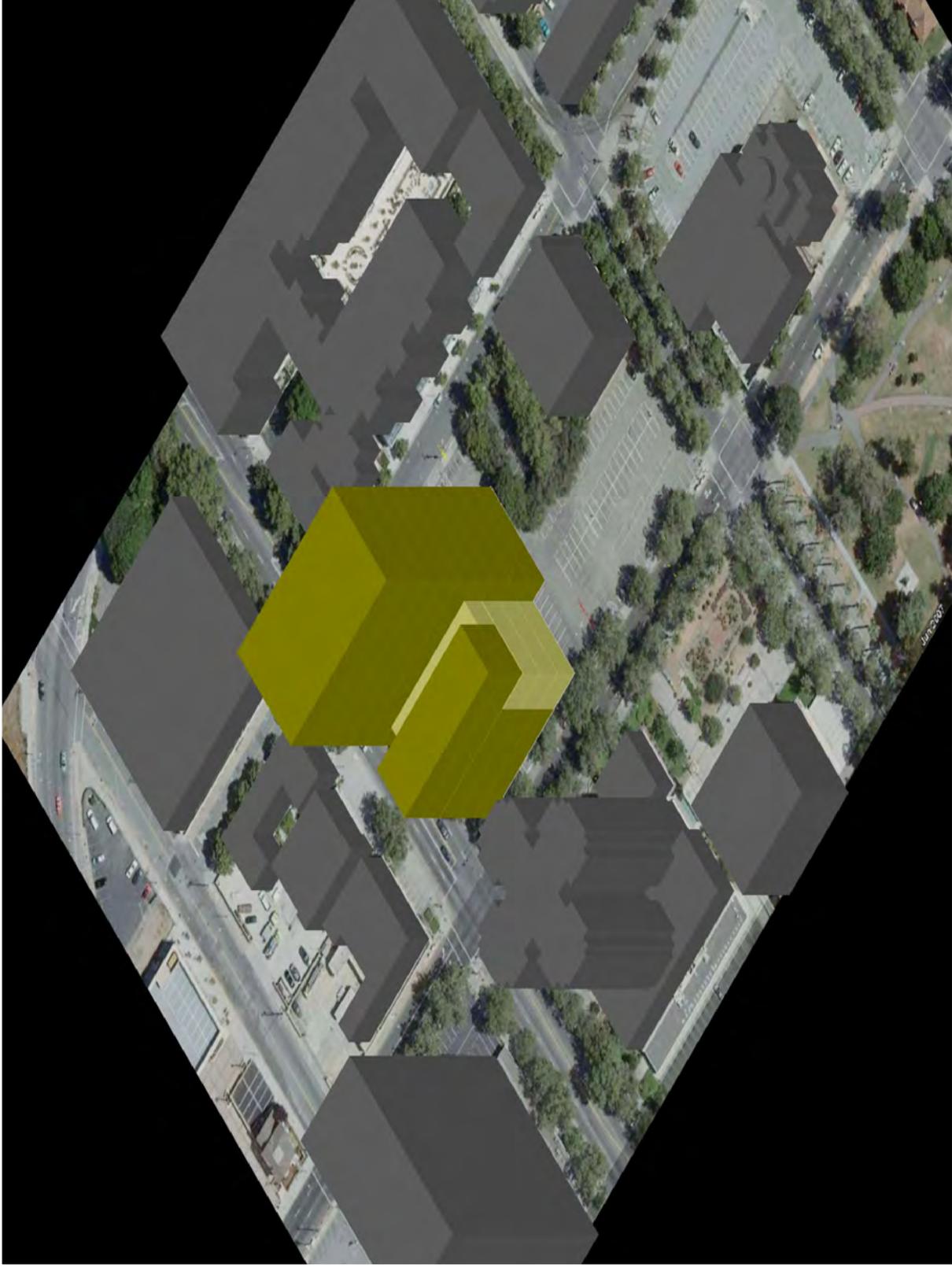
Functional Relationships

Option C provides the following key relationships desired:

- All Clerk service windows co-located on one floor
- Self-Help Center located on Level 1
- Child Waiting on Level 1 or 2
- Separate Entrances for Judges, Staff and Public

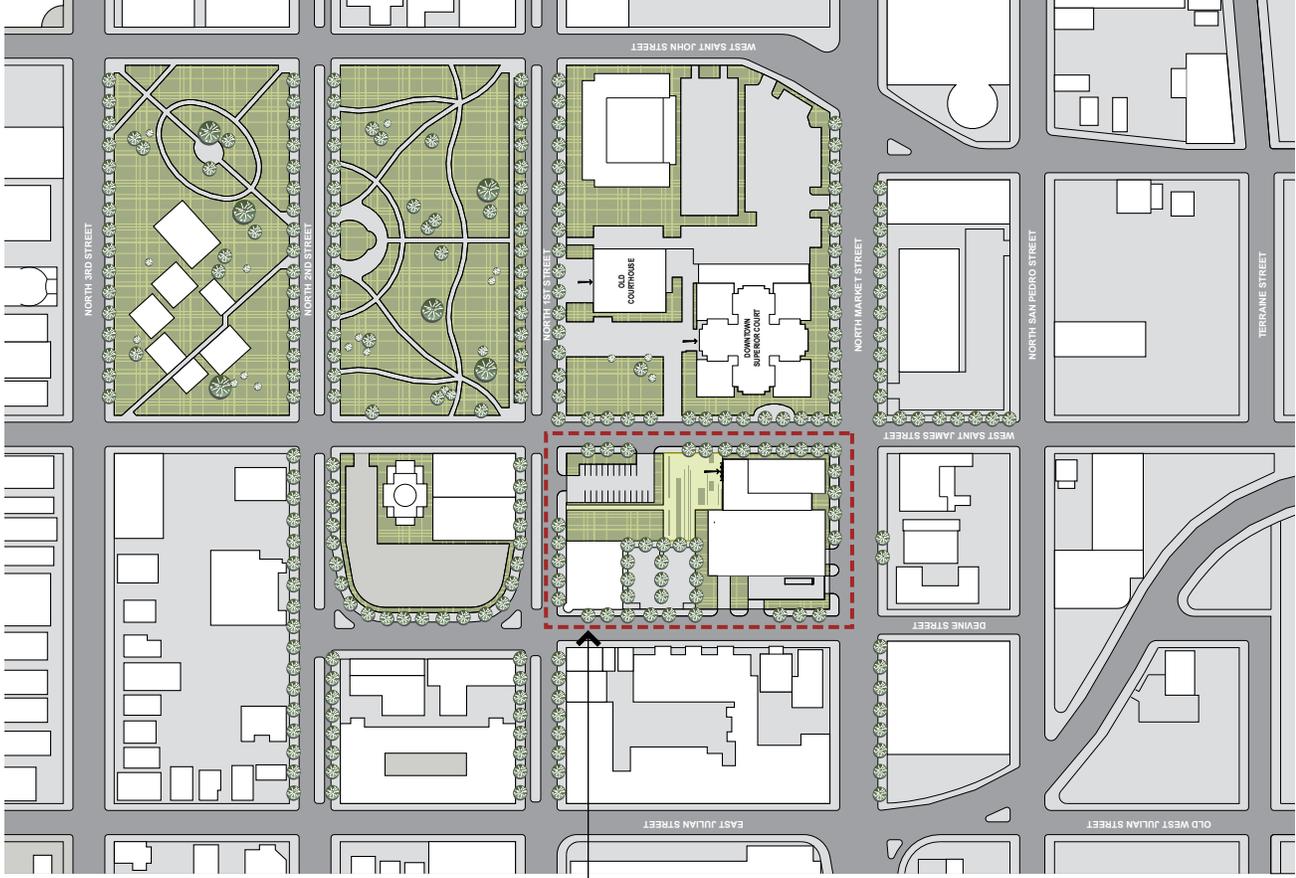
Option C proposes the judges secured parking located in the basement and accessed via Market Street. Deliveries and loading are located on Level 1 with access via Devine Street. As currently configured, the sally port is located on street level and can be entered via Market Street with an exit off Devine Street. Central Holding and the Sheriff's Office are located on Level 1 with direct access off the sally port. As described earlier, the sally port does not adequately support the 46' bus size requested and requires further study if this option is preferred.

A contextual plan, site plan, planning diagrams, model photo and massing study of Option C can be found on the following pages of this section.



BUILDING MASSING: OPTION C





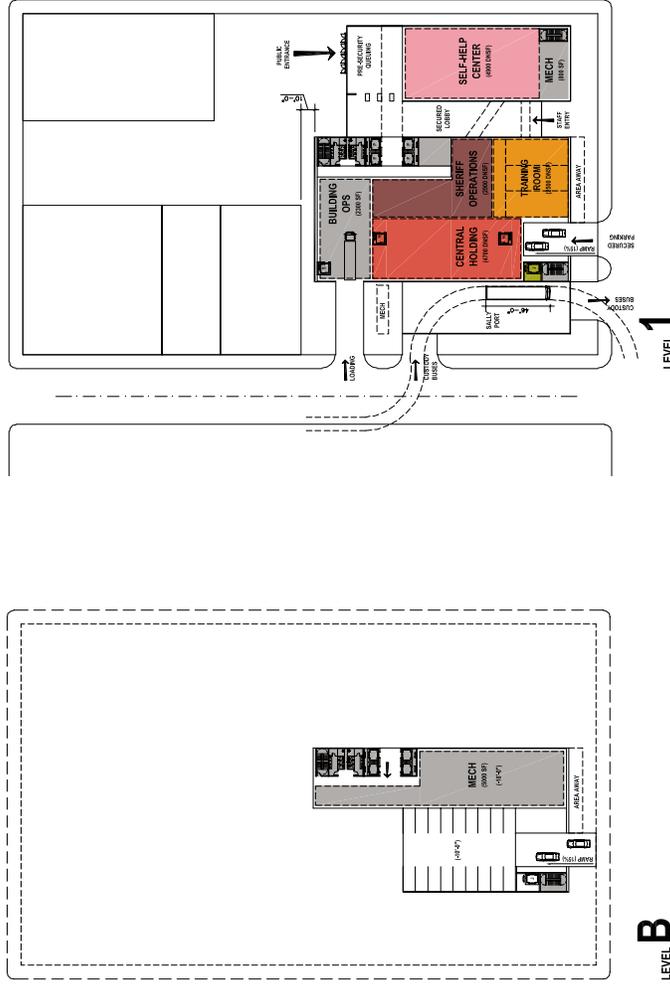
PROJECT LOCATION



PLANNING DIAGRAMS: OPTION C

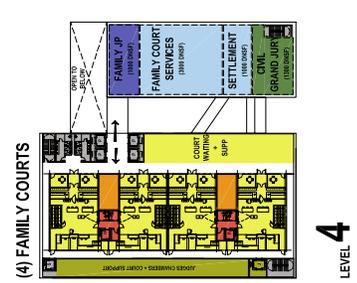
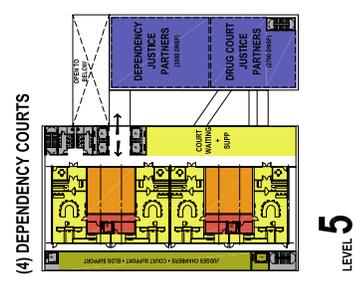
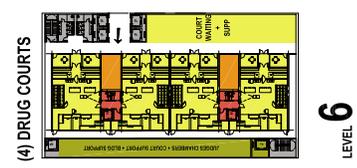
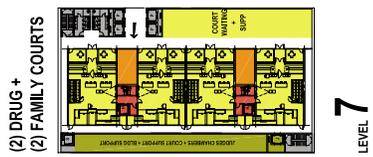
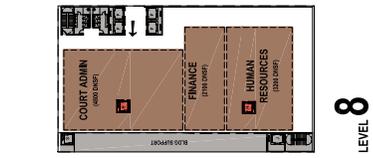
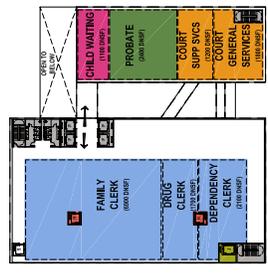
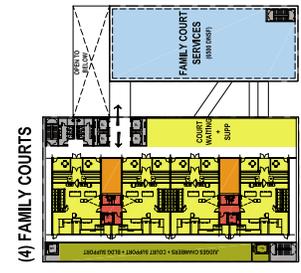


SITE PLAN: OPTION C



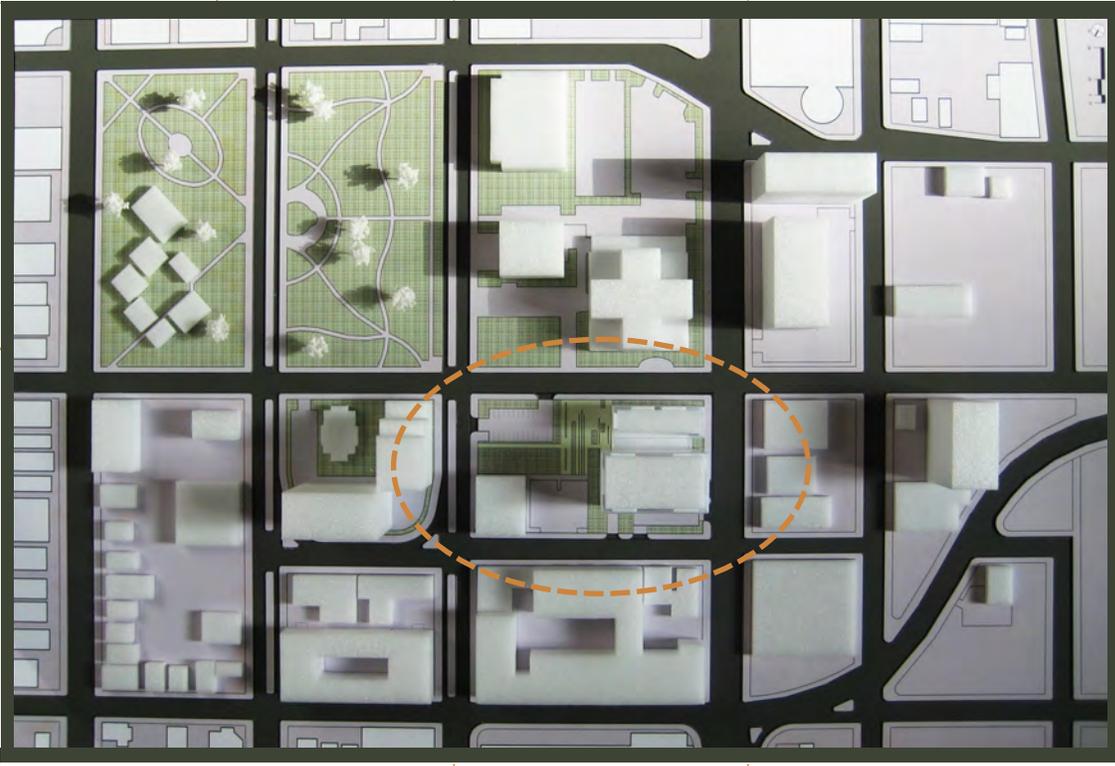
LEVEL B

- COURTROOM + COURT WAITING
- JUDGES + COURT STAFF
- CLERKS
- JUSTICE PARTNERS
- SETTLEMENT + FAMILY COURT SERVICES
- COURT ADMIN + HR + FINANCE
- HOLDING
- SHERIFF OPERATION
- SELF-HELP CENTER
- CHILD WAITING
- COURT SUPPORT
- PROBATE + CIVIL GRAND JURY
- BLDG OPERATIONS + BLDG SUPPORT

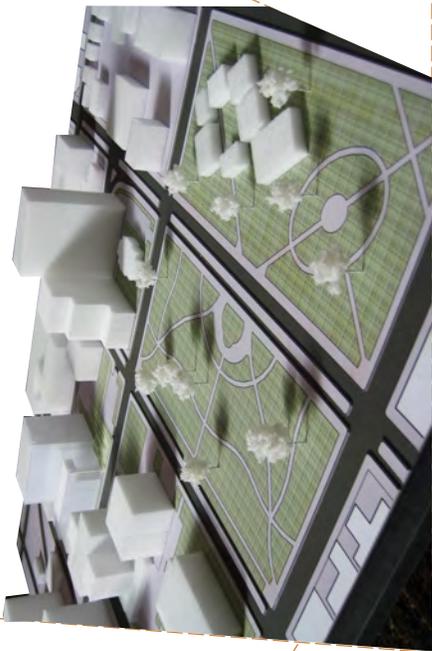


PLANNING DIAGRAMS: OPTION C

DOWNTOWN CONTEXT



RELATIONSHIP TO ST. JAMES PARK



COURTHOUSE CAMPUS



BUILDING MASSING: OPTION C

3.6 CONCEPTUAL DESIGN OPTION D – 20 Courtrooms**Site Development**

Option D is inspired primarily by the relationship of the site to St. James Park, the Downtown Superior and Old Courthouses as well as the functional organization of the space program. It is comprised of two intersecting building wings:

- The first wing has a two-story open plaza with three stories above. It houses public functions such as the Clerks, Family Court Services and Justice Partners. With views overlooking St. James Park, a portion of this bar sits above the site, allowing the green space of the Park and the Rose Garden to flow through the block. This component is narrow in its width to fit comfortably on the site, promote daylight to interior spaces and align with the urban edges defined by the Downtown Superior Court and the Old Courthouse.
- The second wing is a seven-story courtroom block that includes court administrative functions on the top floor and a mechanical equipment penthouse.

The proposed option works in tandem with the various design guidelines, with the lower component being the portion in the St. James Historic District. While it is between 5-10 feet over the prescribed height limit for the Historic District, it promotes interaction with the park and creates open space on the site as prescribed by the design guidelines. The main entrance is located at the center of the lower bar, aligned with cross-axis of the courthouses on the opposite side of St. James Street. Option D promotes the development of a Courthouse Campus comprised of the San Jose New Family Justice Center, the Old Courthouse and the Downtown Superior Court.

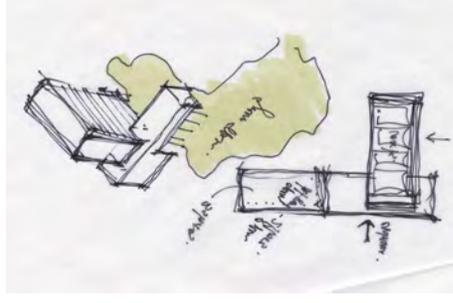
Functional Relationships

Option D provides the following key relationships desired:

- Drug Courts on the lower floors
- All Clerk service windows co-located on one floor
- Judges chambers clustered together
- Self-Help Center located on Level 1
- Child Waiting on Level 1 or 2
- Separate Entrances for Judges, Staff and Public

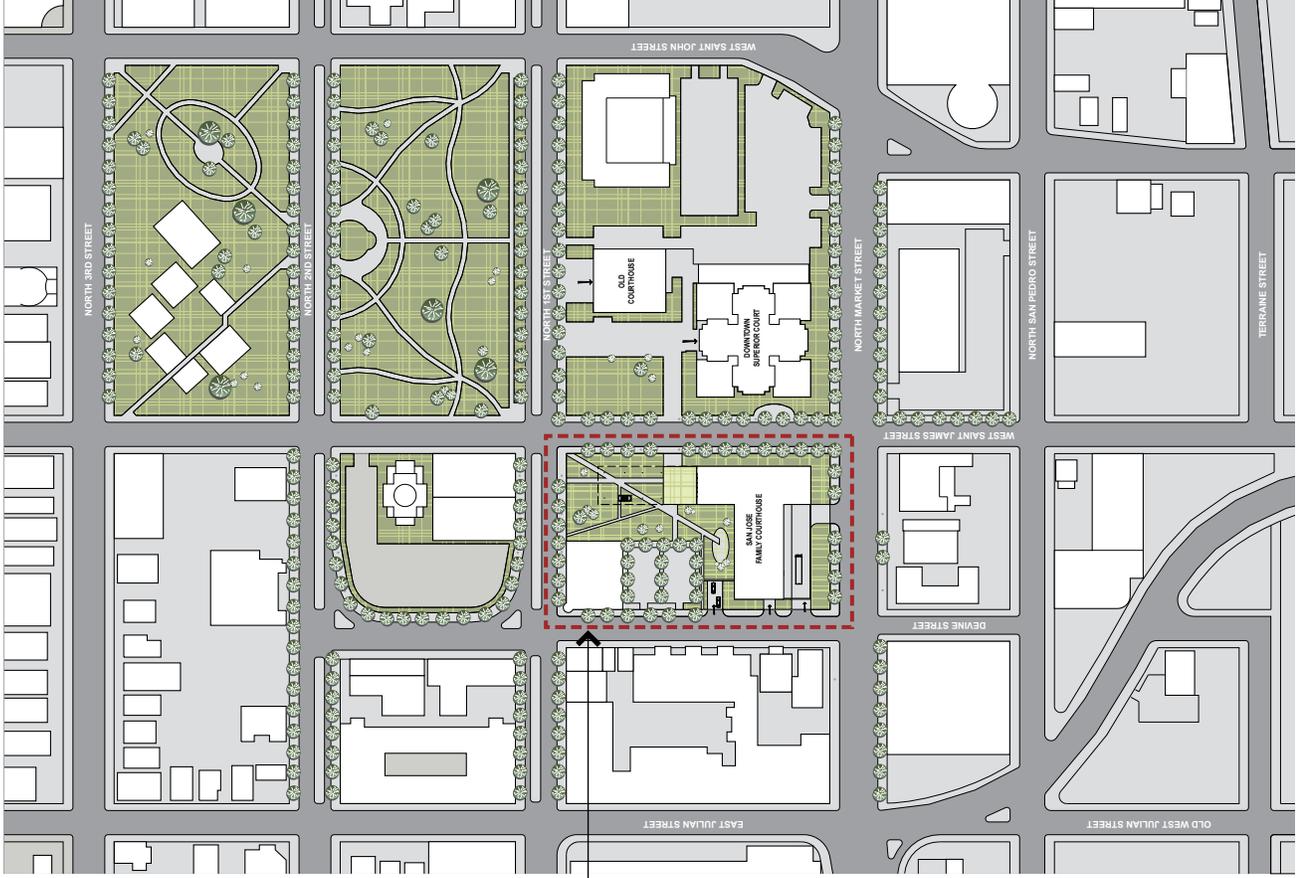
In this option, the judges secured parking is located in the basement below the plaza and accessed via Devine Street. The delivery and loading area is located on Level 1 with access via Devine Street. The sally port is located on grade and can be entered via Market Street with an exit off Devine Street. Central Holding and the Sheriff's Office are located in the basement. Detainees will need to be transported from the street level sally port down to the basement via a dedicated elevator on Level 1.

A contextual plan, site plan, planning diagrams, model photo and massing study of Option D can be found on the following pages of this section.



BUILDING MASSING: OPTION D





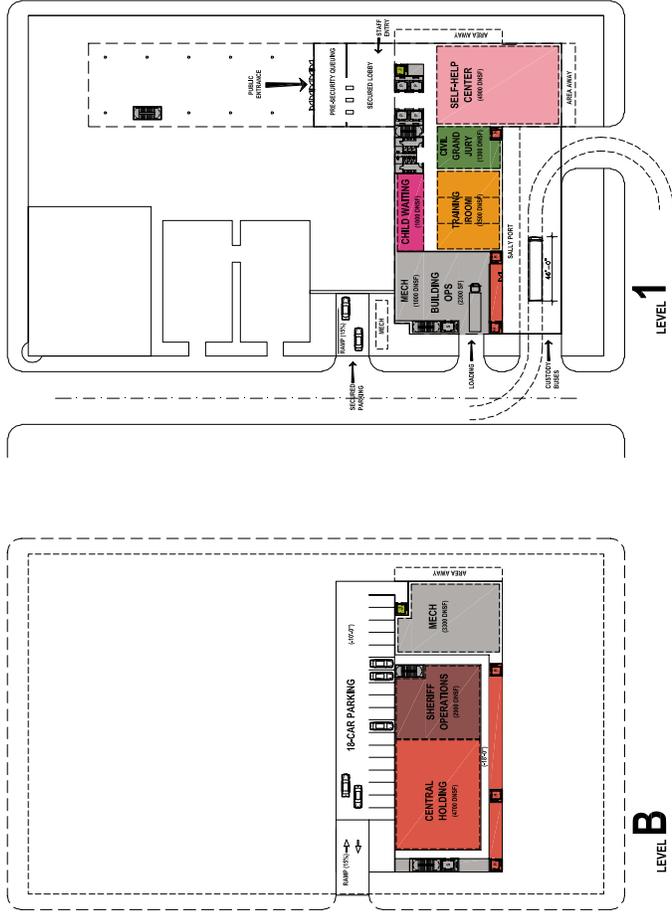
PROJECT LOCATION



SITE CONTEXT: OPTION D

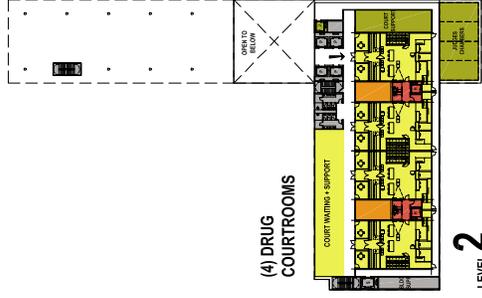


SITE PLAN: OPTION D

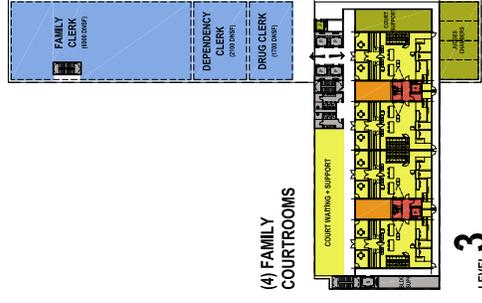


LEVEL B

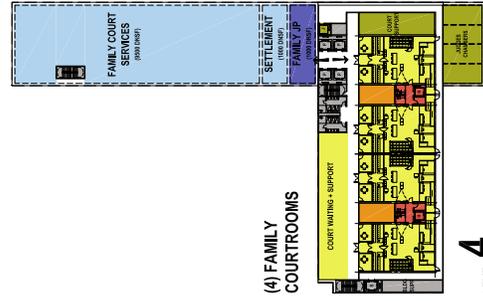
LEVEL 1



LEVEL 2

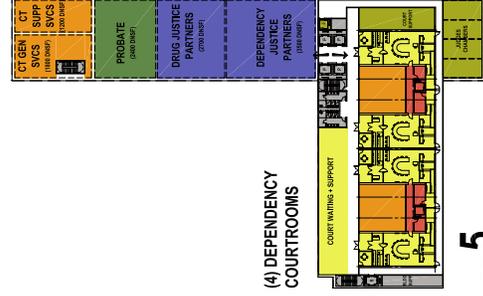


LEVEL 3



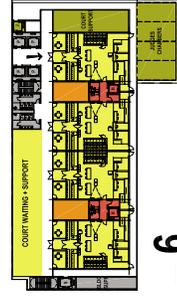
(4) FAMILY COURTROOMS

LEVEL 4



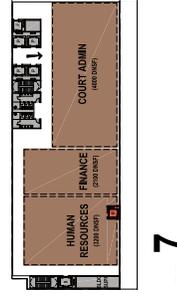
(4) DEPENDENCY COURTROOMS

LEVEL 5



(2) DRUG + (2) FAMILY COURTROOMS

LEVEL 6



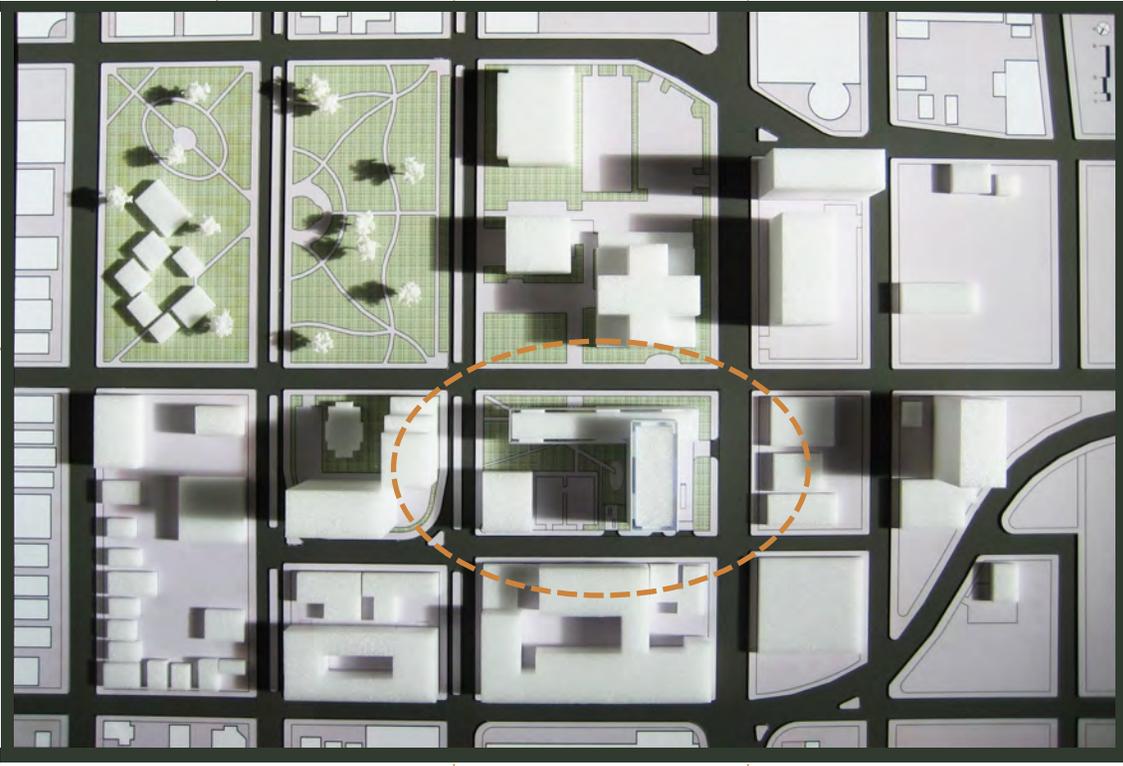
LEVEL 7

- COURTROOM + COURT WAITING
- JUDGES + COURT STAFF
- CLERKS
- JUSTICE PARTNERS
- SETTLEMENT + FAMILY COURT SERVICES
- COURT ADMIN + HR + FINANCE
- HOLDING
- SHERIFF OPERATION
- SELF-HELP CENTER
- CHILD WAITING
- COURT SUPPORT
- PROBATE + CIVIL GRAND JURY
- BLDG OPERATIONS + BLDG SUPPORT

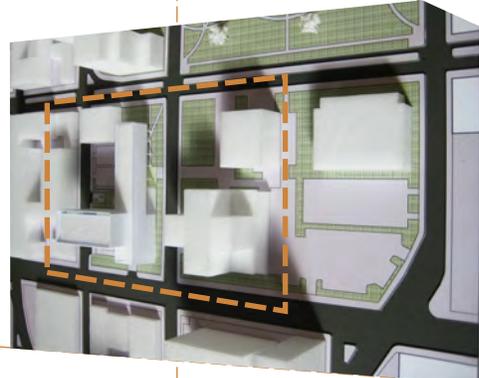
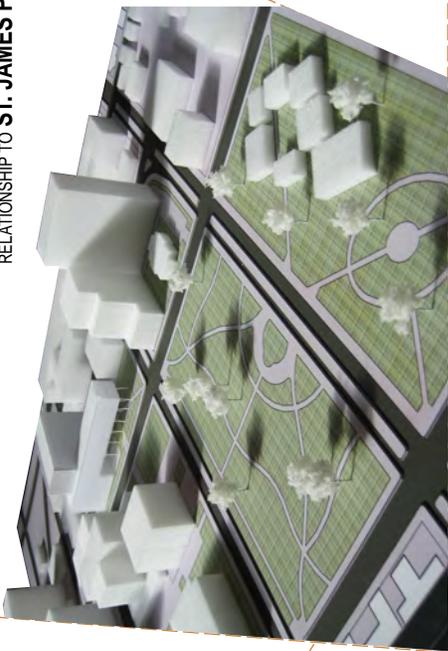


PLANNING DIAGRAMS: OPTION D

DOWNTOWN CONTEXT



RELATIONSHIP TO ST. JAMES PARK



COURTHOUSE CAMPUS

BUILDING MASSING: OPTION D

3.7 CONCEPTUAL DESIGN OPTION E – 20 Courtrooms**Site Development**

Option E is a 7-story rectilinear building with a partial basement sited to align with the urban edges defined by the Downtown Superior Court and the Old Courthouse. It exceeds the 70 foot St. James Historic District Height Limit at the VTA Parcel by 42-60 feet depending on rooftop treatment. However, its narrow footprint minimizes site usage, allowing for on-grade exterior secured judges parking as well as a sally port located on the same level as Central Holding. The main entrance is aligned with the cross-axis of the courthouses on the opposite side of St. James Square. The option includes a three-story lobby oriented towards these structures, supporting the concept of a campus of courthouses. Additionally, the proportions of the building promote adequate daylighting to interior spaces.

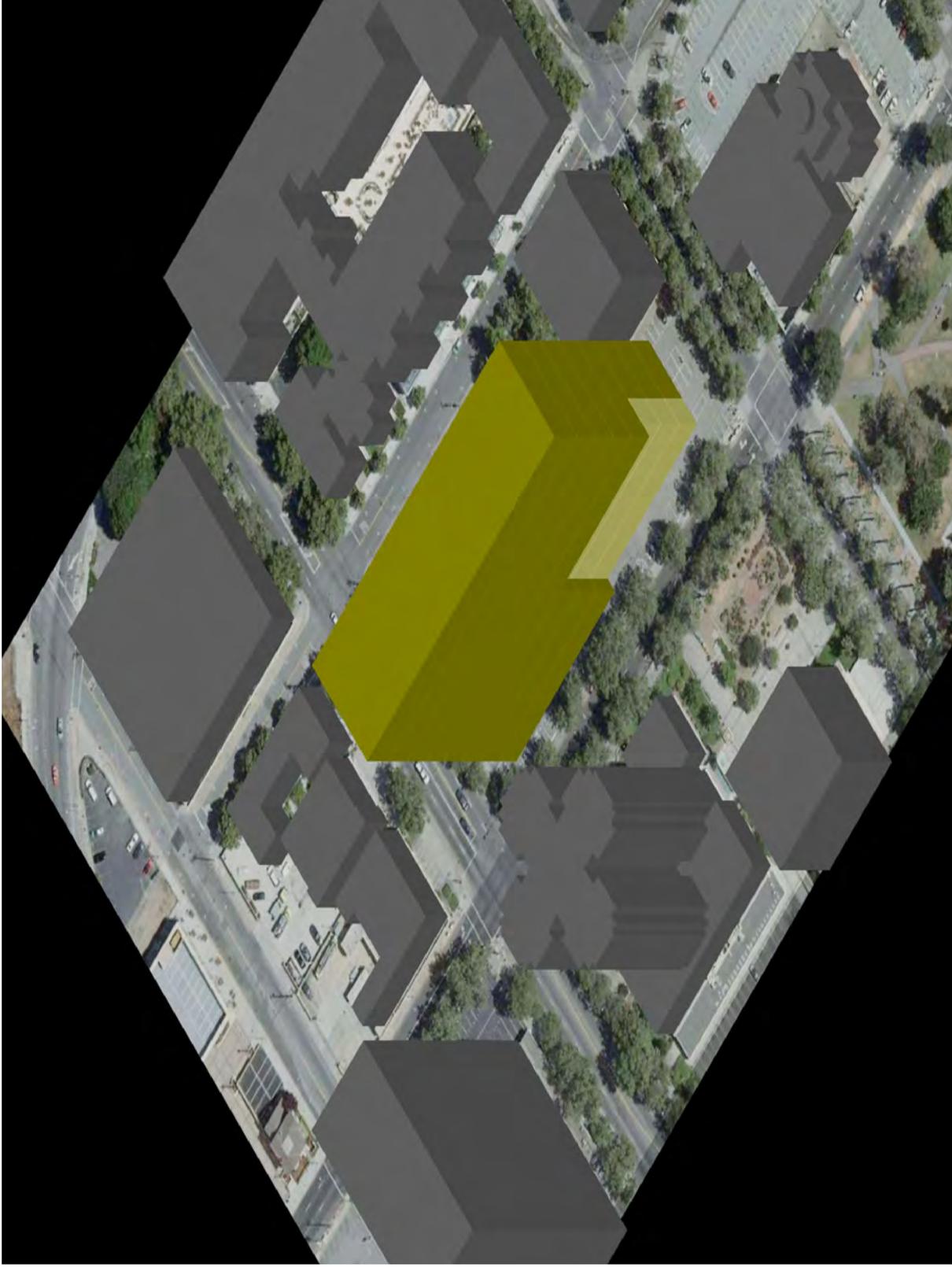
Functional Relationships

Option E provides the following key relationships desired:

- Drug Courts on the lower floors,
- Justice Partners located near the court types they serve
- All Clerk service windows co-located on one floor
- Judges chambers clustered together
- Self-Help Center located on Level 1
- Child Waiting on Level 1 or 2
- Separate Entrances for Judges, Staff and Public

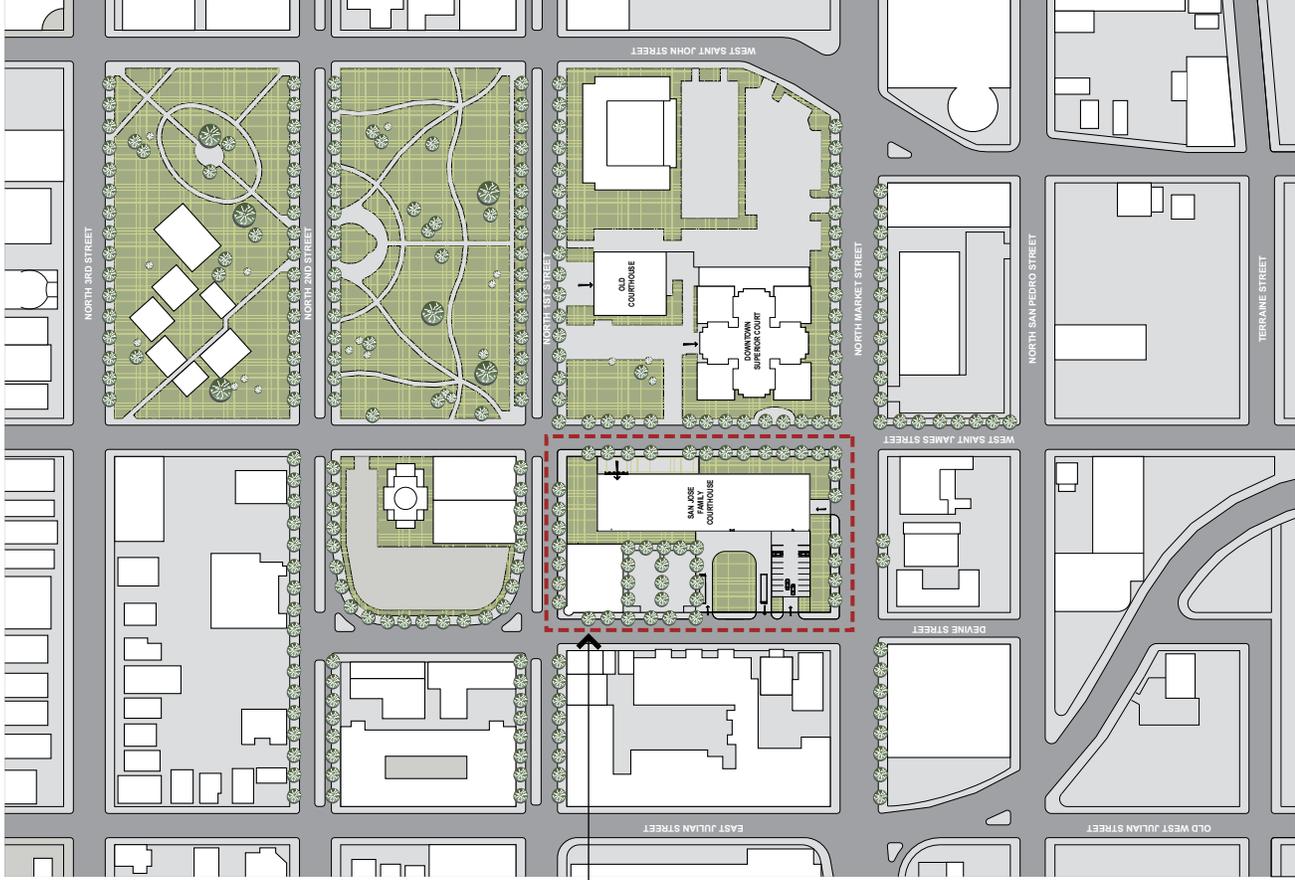
Option E proposes judges' secured parking on street level in an outdoor lot accessed via Devine Street. Deliveries and loading are located on Level 1 with access via Market Street. The sally port is located on street level with both entrance and exit off Devine Street. Central Holding and the Sheriff's Office are located on Level 1 with direct access off the sally port. A partial basement is proposed for heavy mechanical equipment. If desired, location of the mechanical equipment to the roof can be studied during subsequent design phases.

A contextual plan, site plan, planning diagrams, model photo and massing study of Option E can be found on the following pages of this section.



BUILDING MASSING: OPTION E





PROJECT LOCATION

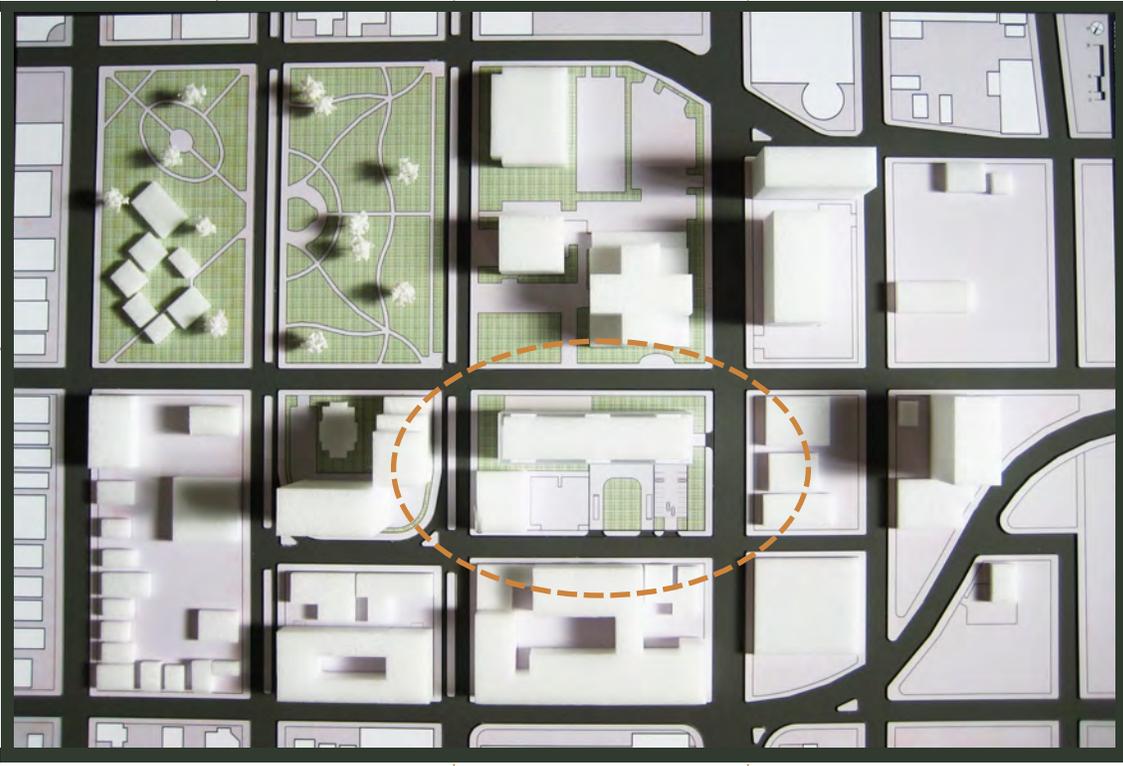


PLANNING DIAGRAMS: OPTION E

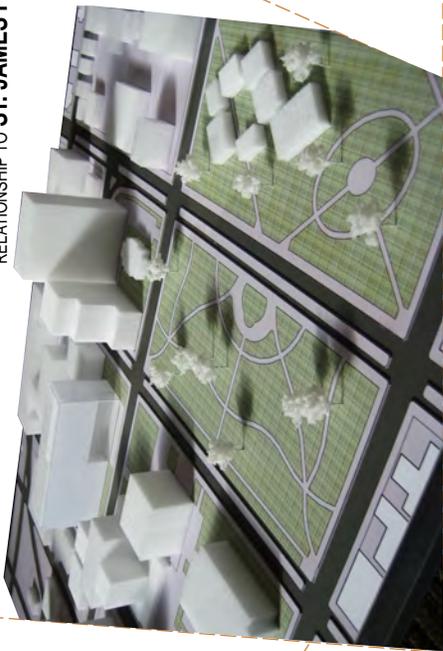


SITE PLAN: OPTION E

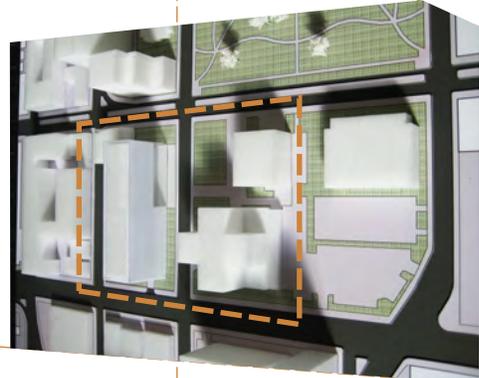
DOWNTOWN CONTEXT



RELATIONSHIP TO ST. JAMES PARK



COURTHOUSE CAMPUS



BUILDING MASSING: OPTION E

4.0 INTRODUCTION

The purpose of this section is to establish basic building system guidelines and criteria for the design of the Santa Clara Family Justice Center during subsequent design phases. The section has been organized by the various building disciplines, including Architecture, Civil, Structure, Mechanical, Electrical, Plumbing, Fire Protection, Data & Communication, Security and Sustainable Design. A summary of each building discipline is included on the following pages. A detailed description of each section can be found in the Appendix of this document.

Since this is a preliminary guideline, some of the systems may be replaced with current, more readily available options, during the design and documentation phases. This selection is an ongoing process, developing over time. The goal in establishing the building's systems early is to simplify, integrate and incorporate them as part of the overall concept for the project.

4.1 ARCHITECTURE

PRELIMINARY CODE ANALYSIS

The design and construction of the Santa Clara Family Justice Center shall conform to the current regulations of the State Fire Marshal for Fire and Life Safety, the Department of State Architect Regulations for Accessibility and the Corrections Standards Authority Rules and Regulations for Construction of Holding Cells.

A detailed code search must be performed at the beginning of the Schematic Design Phase after the scope of the project and site has been fully developed. The information in this section is not the result of a comprehensive code search but merely a preliminary code analysis.

Applicable Building Code:	2007 California Building Code
Building Area:	233,906 Gross Square Feet
Occupancy Classification:	Group B (as permitted for Courts by Fire Marshal Interpretation) with Group I-3 for In-Custody Holding
Construction Type:	Type 1B
Basic Allowable Area:	Unlimited
Basic Allowable Number of Stories:	11 stories (12 stories with automatic sprinkler increase)
Basic Allowable Building Height:	160 feet (180' with allowable automatic sprinkler increase)*
High-Rise Classification:	Proposed development options include human occupancy 75' above the lowest floor level, which necessitates high-rise construction.
Property Line Separation:	Where possible, recommend a minimum 20' separation between property lines, which permits unlimited unprotected openings (per Table 704.8 and Section 704.8.1) and requires 1-hour wall construction (per Table 602). 30' separation allows unlimited unprotected openings and unrated wall construction.

* If the proposed building height exceeds 180', the Construction Type should be modified to be Type 1A, which allows for unlimited building height.

ARCHITECTURAL EXTERIOR**Exterior Cladding**

The exterior skin system for the planned building should be durable, water-resistant, compatible with the surrounding context, cost effective and generally appropriate for the intended use.

The primary exterior skin system will likely include the use of stone, metal, concrete, and glass. Several types of metal, stone and window systems are available within the cost model for the exterior skin. The final choice of systems will be made during subsequent design phases after a detailed study of the design is conducted. Contrast and texture in the use of exterior materials should be studied carefully for visual interest and for the relationship to the interior function of the building. Careful attention should be given to avoid water and moisture intrusion at areas where different materials or building systems are joined, such as at exterior windows and door conditions. If a basement is provided, careful attention to drainage and moisture control will be required at the sub-grade conditions. To comply with the 2005 California Energy Efficiency Standards, the recommended minimum R-value for the exterior walls is R-11. In August 2009, the new Energy Efficiency Standards will take affect and should be reviewed for updated requirements.

Glass curtain wall might be considered at significant public spaces to allow large amounts of natural light. Sun shading, screening and glazing types should be studied to limit the effects of undesirable afternoon heat gains. The window system may be painted aluminum, structural curtain wall or other appropriate quality system and should be investigated during design.

At exterior doors, canopies or recessed entries can provide the necessary protection for inclement weather. The features at the entries, canopy or other, should also be used to give the courthouse presence and as a way-finding tool.

Where possible and applicable to the interior use, exterior windows shall be used to provide access to natural light and visual relief from the interior environment. Careful consideration should be given to the location of exterior windows with respect to interior furniture and specialty equipment placement. Operable windows may be considered at office areas if they do not have a significant negative impact upon the mechanical ventilation systems.

Roofing & Waterproofing

The selection of roofing systems will impact the environment and the long-term effects of sun, wind and rain. To comply with the 2005 California Energy Efficiency Standards, the roofing system should provide thermal insulation having a minimum value of R-19. As noted earlier, the new Energy Efficiency Standards will take affect and should be reviewed for updated requirements. Acceptable roofing membranes include built-up membranes with cap sheet and EPDM systems.

The programmatic restrictions of the project will likely necessitate air-handling units and exhaust fans be located on the roof rather than in an enclosed interior mechanical space. Exposed, roof-mounted equipment should be vibration isolated, located behind a parapet wall, screened from view and kept to a minimum. Roof-mounted equipment should be grouped together and rest upon common curbs to the extent possible. This equipment shall be well organized visually and functionally. Roof penetrations for piping and ductwork should be minimized with services requiring penetrations grouped together into single penetrations whenever possible.

ARCHITECTURAL INTERIORS

Floor-to-Floor Heights

Per the Judicial Council of California's Trial Court Facilities Standards, the recommended floor-to-floor height is between 14-16 feet. Pending the preferred massing option, a 16' floor-to-floor height is recommended due to the overall scale of the building and the Santa Clara County Superior Court judges' preference for high-ceiling courtrooms. Lower floor-to-floor heights may be acceptable for levels with offices only but needs to be considered in the overall context of the building design and the potential for future flexibility.

Interior Partitions and Doors

Metal stud and gypsum board partitions should be used as the primary interior partition system. Where appropriate, partitions should penetrate through the ceiling and extend full height to the underside of the structure. Partitions that do not extend to the structure should be braced to the structure above. Connections to the structure above shall be designed to accommodate a slight range of movement in the structure.

Gypsum board shall be 5/8" thick, Type X where required for fire-resistive construction. Partitions in wet areas should be designed according to the degree of exposure to moisture. Water-resistant gypsum board should be used in restrooms and toilets. Water-resistant gypsum board should be 5/8" thick Type X where required for fire-resistive construction. In areas subject to high exposure to moisture, such as showers, fiberglass mesh mortar panels (cement board) should be used.

Where heavy equipment or casework is to be mounted on partitions, structural backing appropriate to the loading should be installed on the loaded side of the partition. The backing should consist of metal backing plates welded to the metal studs. The anticipated maximum load should be calculated to determine the backing type, size, gauge, and spacing of the metal studs.

Doors and Frames

Doors may be solid core wood, hollow metal or structural glass construction. Preference should be given to utilizing wood finishes on doors in offices and public areas with low volumes of traffic. Typical locations for use of glass doors include exterior doors that serve as primary entrances, doors within curtain wall systems, and special locations where vision is desired. Hollow metal doors should be used in doors that require panic exit hardware, service-related back-of-house doors, and doors that need greater than 90-minute fire ratings.

Interior Finishes

Overall finishes should be considered for aesthetics, acoustics, durability, ease of cleaning, and sustainable qualities appropriate to the areas in which they will be installed.

Floors

Finish flooring materials should be slip-resistant and comply with the requirements of the American with Disabilities Act (ADA). Various floor materials should be considered during subsequent design phases. The selection of materials should be based on the acoustical, visual and vibration needs of each space.

Section 4: Building Systems

Flooring materials that may be considered are stone, terrazzo, exposed concrete, carpet and ceramic tiles among others.

Walls

All partitions should be finished with gypsum board to a smooth finish, ready for paint. Storage rooms and building support spaces should be finished in a light texture and ready for paint. Above finish ceilings and at concealed spaces a fire-rated level of finish is acceptable. All gypsum board wall surfaces exposed to view should be painted. Where ceramic tile, concrete, concrete unit masonry or metal surfaces occur, those surfaces may be left unpainted and their natural finish exposed. Latex enamel interior paint with a satin finish will be the typical paint used at partition.

Ceilings

Finish ceilings may consist of wood, gypsum board, metal or other appropriate finish that supports the overall vision of the interior design. Special consideration should be given to the Courtroom ceilings to provide the necessary acoustical and aesthetic desires without causing distraction during the proceedings.

Ceilings may not be appropriate for all of the spaces and should be omitted where a ceiling system is neither necessary nor desirable. Consideration should be given to the nature of adjacent spaces when determining whether the finish ceiling may be omitted. Finish ceilings should be provided in utility spaces that adjoin and may be visible on a regular basis from high profile public areas. Acoustics in the areas where open ceilings occur should be studied to achieve appropriate sound levels. For cost and sustainability considerations, finish ceilings can be omitted in mechanical rooms, electrical rooms, telephone/data room, and other similar spaces unless specifically required.

Where the control of noise or vibration is necessary, the ceiling design may be required to include additional layers of gypsum board, 3-1/2" acoustical batt insulation laid above the ceiling, and/or vibration isolated hanger devices.

Gypsum board ceilings should be installed primarily in toilets, locker rooms, showers, and other areas where there will be exposure to water vapor. Gypsum board ceilings should also be installed as required to control noise and vibration in spaces with high levels of equipment or fixture-generated noise or where aesthetic effects are warranted. All gypsum board ceilings should be constructed with ceiling framing independent of walls and columns and be attached with resilient channels or resilient hangers to the structure above. All joints between walls and ceilings should have an acoustic seal.

Gypsum board ceilings in spaces with little to no exposure to water vapor, such as public areas, offices, or other similar spaces where gypsum board is used solely for noise control or aesthetic effect, should be constructed with standard gypsum board. Standard gypsum board shall be 5/8" thick and comply with the requirements of ASTM C36.

Gypsum board used on ceilings should be finished smooth, ready for paint. Satin finish, latex enamel interior paint should be applied to ceilings in general use spaces where there is little or no exposure to vapor. Semi-gloss finish, latex enamel interior paint should be applied to ceilings in areas with low to moderate exposure to vapor. Semi-gloss finish, alkyd enamel paint should be applied to ceiling above showers and other spaces with high exposure to water vapor.

Stairs & Elevators

The stairs and elevators should be located to support the various functions in the building, which include public, judge/staff, detainee and service paths of travel. Stairs and elevators shall be designed to comply with all applicable standards and codes, particularly the American with Disabilities Act.

Stairs

A minimum of three stairs is recommended for all occupied floor levels with two stairs serving as the public means of egress and a third designated for secured judge and staff use. In case of emergency, the secured path of travel can exit through the public means of egress. Since the San Jose New Family Justice Center is classified as high-rise construction, vestibules at exit stairs are required.

An additional communicating stair (non-exit) may be considered from the lobby to the immediately adjacent floors. This stair would be designed as an architectural feature that functions as an open stair for public convenience.

Elevators

The quantity of passenger elevators required may vary with the number of stories designed and should be studied carefully in subsequent design phases. At a minimum, three elevator systems, one each for public, judge/staff and detainee access, will be needed. An independent service or freight elevator that is accessed directly from the loading dock and potentially serves the roof level should also be considered. One elevator for every pair of courtrooms is required for detainee access from Central Holding and the secured judge/staff elevator should be accessed directly from the secured parking area.

Elevator hoistways shall be enclosed with two-hour fire-rated partitions and should include a vestibule to comply with high-rise construction. Due to the projected building heights, the elevators should be electric traction units with consideration given to Machine Room Less (MRL) models, which are more energy efficient than traditional geared elevators.

4.2 CIVIL SYSTEMS

The existing utilities structures within the proposed site and the adjacent roadways have been field surveyed and mapped by BKF Engineers as part of the Topographic Site Survey performed for this project (See Appendix A). Additional research of the underground and overhead utility lines was performed by sending out requests for utility information from the following utility providers: PG&E, AT&T Comcast, AT&T, City of San Jose, and the San Jose Water Co. Information that was provided by the utility suppliers was incorporated into the Existing Conditions Plan (See Appendix A). A written summary of the findings is as follows:

Sanitary Sewer

There are 10" sanitary sewer lines running in Devine Street, West Saint James Street, North Market Street and also in the west side sidewalk along North First Street. There were no existing sewer laterals that have been identified for service to the proposed site. The site is currently used for a parking lot.

Section 4: Building Systems

Domestic Water

There is an 8" main in Devine Street and a 12" main in North First Street. There is a 16" main and an 8" main in North Market Street. There is a 16" main and also a 3" line in West Saint James Street. There are existing fire hydrants along W. St James, Devine and Market Streets that provide coverage for the proposed site.

Storm Drains

There is an 18" storm drain in West Saint James Street that flows west to east. There is a 12" storm drain in the west side sidewalk along North First Street that flows south to north and also a 12" line in Devine Street that flows west to east. The site itself drains from south to north across the paved lot into two existing site inlets at the northwest corner of the site. It is assumed that these inlets tie into the storm line located in Devine Street.

Natural Gas

There is an existing 3" gas line in West Saint James Street, North Market Street and North First Street. There is a 2" gas line in Devine Street. No existing gas meters or services for the site have been identified.

Electrical

There are overhead electrical lines along Devine Street that terminate at each on the street at a riser pole and underground service box. Underground service boxes, manholes, and duct banks have been identified along North First Street, North Market Street, and West Saint James Street. There is street light along all four streets surrounding the site.

Telecom and Comcast

There is an existing underground duct bank and vaults that runs along North First Street and provides service. There is also a duct bank that runs through the intersection of North Market and West Saint James Street and continues west on Saint James and south along Market Street.

4.3 STRUCTURAL SYSTEMS

This study encompasses five architectural options for a multi-story courthouse, with varying overall dimensions and floor areas. The story heights for all options are anticipated to be 16'-0" for all levels above grade and 18'-0" for the basement level. Option A has East and West wings while Option C has North and South wings. Both Option A and C require the introduction of seismic joints between the different wings which will reduce occupiable area. Option D is characterized by having its southeast corner cantilevered at Levels 5 and 6 which will require the introduction of three-story trusses of unknown weight and complexity. Options B and E are the most regular of the five options and lend themselves to repetition of structural elements and details which in turn results in economies of scale in structural costs.

Bay sizes for the different options are expected to vary to accommodate the different programming requirements. The gravity system consists of structural steel "W" section beams, girders, and columns.

Normal weight concrete fill on steel deck will occur at Levels 1 through Roof for building options which include a basement. For options without a basement, concrete fill on steel deck will be used at Level 2 through Roof. Non-frame W14x columns from foundation to roof with splices at every third level are anticipated. The foundation system cannot be determined at this stage because of the lack of a geotechnical report.

The Seismic Load Resisting System (SLRS) consists of Buckling-Restrained Braced Frames (BRBFs) in one direction and Special Moment Frames (SMFs) in the other direction. BRBFs are a special class of concentrically braced frames that are characterized by the ability of the Buckling Restrained Braces (BRBs) to yield in compression as well as in tension. SMFs consist of frame beams field-connected with complete-joint-penetration welds to the flanges of frame columns. During a seismic event the top of a story is anticipated to deform laterally about 3" with respect to the bottom of the story. These large horizontal deformations may have an impact on the design the exterior wall.

A conceptual-level analysis was performed on Option E to arrive at structural material quantities for consideration by a cost estimator in a rough-order-of-magnitude estimate. Sustainable design practices for structural systems have been defined for different materials. A detailed analysis of the structural systems can be found in Appendix B.

4.4 MECHANICAL SYSTEMS

The purpose of this analysis is to evaluate and recommend building mechanical systems consistent with the Program and with high quality, reliability, and energy efficiency. The mechanical systems consist of chillers, cooling towers, heating hot water boilers, pump/piping systems, air handlers, distribution ductwork, exhaust fans, air conditioners, and Building Automation System. See Appendix C: Mechanical Engineering Systems Detailed Analysis for additional information.

Chilled Water System

- Estimated building cooling load is 500 tons.
- Chillers: Recommend two high-efficiency (approximately 0.35 kw/ton) variable speed chillers, 300 tons capacity each.
- Cooling towers: Recommend two low-approach (approximately 5 deg F), variable speed drive, cross-flow towers with stainless basins. One cooling tower can handle both chillers, should one cooling tower fail. The cooling towers could be located on the roof.

Heating Hot Water System

- Estimated building heating load is 3,500,000 btuh
- Boilers: Recommend three high-efficiency condensing boilers with 2,000,000 btuh input each (1,700,000 btuh output at 85% efficiency operation).
- Recommend two variable volume pumps, one operating and one standby.

Section 4: Building Systems

- Recommend heating hot water piping distribution throughout the building to the terminal reheat coils.

Air Handling Systems

- Estimated building airflow rate is 170,000 cfm.
- Supply air system: Recommend two rooftop air handlers (85,000 cfm each) each including two supply fans, soundtraps (if required), two return/exhaust fans, economizer dampers, filters, and chilled water cooling coil.
- Air distribution systems should consist of commercial grade variable volume terminals with terminal reheat coils on the supply air system. Return air is via the ceiling plenum. Conventional ceiling-type air outlets and inlets are used.

Building Automation System (BAS)

- The BAS should be a direct digital control system open to qualified bidders (TBD).

Seismic Bracing

- Mechanical components should be installed and braced to conform to the California Building Code requirements for non-structural systems.
- Probable Importance Factor = 1.0.

Testing and Balancing

- Testing and balancing should be performed by a specialty testing and balancing firm (TAB) that is under contract to the General Contractor.

Commissioning

- The HVAC systems should be commissioned by the contractor using Functional Performance Test Procedures produced by a contractor-independent commissioning agent who would work directly for the AOC.

4.5 ELECTRICAL SYSTEMS

The purpose of this analysis is to evaluate and recommend electrical service systems in compliance with the Program and with high quality, reliability and energy efficiency. The electrical system consists of an electrical service, main switchboards, emergency power generator, distribution system, motor control centers, lighting sub-panels, step-down transformers, general power low-voltage panelboards, lighting control system, and fire alarm system. See Appendix D: Electrical Engineering Systems Detailed Analysis for additional information.

Design Criteria:

Design criteria should be in compliance with the requirements of the California Trial Court Facilities Standards (2006 edition), California Electrical Code, California Building Code, California Fire Code, California Energy Code. The calculated electrical load of the normal power system, including 25% spare capacity, is 3243kva or 3903Amperes at 277/480volts, 3-phase. A diesel-engine generator and distribution system should provide emergency for power to selected systems upon a loss of normal power to the building. The calculated emergency power load, including 25% spare capacity, is 1351kva or 1627 Amperes at 277/480volts, 3-phase. (Refer to the enclosed load calculation summary in Appendix D for additional information).

Power Distribution & Service:

Electric service to the courthouse will be delivered from a PG&E pad-mounted transformer. The location of the PG&E transformer is to be determined. Clearances around the transformer are to comply with PG&E requirements.

The main electrical room should house a new 4000 amp main distribution switchboard with 100% rated main circuit breaker and distribution section at 277/480volt, 3-phase, 4-wire system. The main distribution switchboard and all downstream 120/208v distribution panelboards would have Transient Voltage Surge Suppressor (TVSS) system.

Dry-type transformers should be provided to step down 480-volt service to 120/208volt for serving general power low-voltage branch circuits. All lighting panelboards and general power panelboards should be provided with door-in-door trim and 200% neutral bars. Distribution panelboards should be provided with door-in-door trim, and distribute power to normal, life safety/standby lighting and general power panelboards, respectively.

Emergency Generator System:

Upon a loss of normal power to the building, emergency power should be provided by a diesel-engine generator. The generator is estimated to be rated at 1500kw/1875kva, 80% power factor, 277/480v, 3-phase, 4-wire with a day tank and a 3000 gallon fuel tank. The run time at 100% load is approximately 24-hour based on 3000 gallons of fuel. Fuel tank capacity is to be verified by the Administrative Office of Court (AOC). Two transfer switches with bypass isolation switch are required to transfer life safety and standby power loads to the generator. The emergency power system would serve the fire pump, elevators, fire alarm, security system, telecom equipment and related cooling system, exit sign, egress lighting, lighting in Judge's parking, detention, custody, and court/assembly rooms.

Lighting System & Energy Efficiency Measures:

In general, lighting should be provided by fluorescent fixtures with parabolic louvers or lens diffusers. In terms of energy efficiency, the project should strive to exceed Title 24 requirements by 15% for interior lighting. Energy efficient T8, T5, and compact fluorescent lamps with high power factor and low total harmonic distortion (THD) ballasts are recommended. Exit sign fixtures have long life and energy efficient LED type lamps. Programmable lighting relay panels should be provided per floor to automatically turn ON and OFF all lighting circuits, with exception of exit signs and emergency lights, to further conserve energy. Motion sensors can be used to control lights in toilet and storage areas. Lights in private office, conference rooms, or similar rooms can be controlled by either motion sensor with

Section 4: Building Systems

multi-level switching or automatic control switch (i.e. sentry switch). Lighting in video or visual presentation room can be controlled by dimmers. In daylight areas larger than 250 square feet, lighting can be controlled by means of photosensors activated by multi-level controls.

General Power:

Duplex convenience outlets should be provided to serve computers, appliances, workstations, photocopy machines, kitchen equipment, and miscellaneous equipment. Branch circuits and connections should be provided to all equipment in MDF/MPOE, IDF, and security equipment rooms. Disconnect switches should be provided for all new mechanical equipment, mechanical controls, and elevators.

Fire Alarm System:

The fire alarm and smoke detection system throughout the building should consist of control panels, manual pull stations, smoke detectors, horns and strobe coverage throughout the building, monitoring of fire sprinkler flow and tamper switches, and heat detectors in areas required by code such as elevator machine rooms. Duct smoke detectors should be provided for shutdown of air handling units having 2000 cfm or more capacity. Fire/smoke dampers could be operated by duct smoke detectors or area smoke detectors (to be determined).

Seismic Bracing

Electrical components should be installed and braced to conform to the California Building Code requirements for non-structural systems.

Probable Importance Factor = 1.0.

Commissioning

The Electrical systems should be commissioned by the contractor using Functional Performance Test Procedures produced by a contract-independent commissioning agent who would work directly for the AOC.

4.6 PLUMBING + FIRE PROTECTION SYSTEMS

The purpose of this analysis is to evaluate and recommend building plumbing and fire protection systems consistent with the Program and with high quality, reliability, and energy efficiency. The plumbing and fire protection systems consist of domestic cold and hot water systems, waste and vent systems, rainwater drainage systems, natural gas system, diesel fuel system, and fire sprinkler system. See Appendix E: Plumbing and Fire Protection Systems Detailed Analysis for additional information.

PLUMBING SYSTEMS

Domestic Cold Water Supply System (meters, backflow preventers, pressure booster systems, pressure regulating valves, isolation valves, etc.)

The site appears to have water mains on all streets. The Existing Conditions Plan provided by BKF Engineers shows an 8" line in Devine Street, a 12" line in North First Street, a 3" and a 16" lines in West St James Street, an 8" and 16" line in North Market St. The Civil Engineer in conjunction with the City Water Department should determine the appropriate water main connection.

The estimated domestic water load is about 225 gpm (4" main)

Domestic Hot Water Supply System (water heaters, circulating pumps, isolation valves, balancing valves, thermal insulation, etc.)

Domestic Hot Water should be generated by high-efficiency, storage type, natural gas-fired water heaters.

Sanitary Drainage and Vent System (floor drains, floor sinks, fixture drainage, stacks, ejectors, etc)

Sanitary waste from the toilet room fixtures, janitor's rooms, and miscellaneous sinks, floor drains and floor sinks located in the mechanical room should be piped down within the building for connection to the street sanitary sewer main.

The Existing Condition Plan shows 10" sanitary sewers in Devine Street, North First Street, West St James Street, and North Market Street. The Civil Engineer in conjunction with the City Public Works Department should determine the appropriate sewer connection.

The estimated sewer load is about 225 gpm (10" main). Depending on existing flow, the loads may have to be split to different streets, so as not to overburden the street sewer system

Rainwater Drainage System (roof drains, overflow drains, rainwater leaders, scuppers, area drains sump pumps, etc.)

Roof drains should collect rainwater at the roof level, which is piped down within the building for connection to the street storm drainage system. Overflow drains should be piped down to daylight at the building exterior wall at least 12 inches above grade. Should there be a foundation drainage system, the collection sump pump would discharge to the building's storm drainage system.

The Existing Conditions Plan show a 12" storm drain in Devine Street, a 12" storm drain in North First Street, an 18" storm drain in West St James Street, and no drain is shown in North Market St. The Civil Engineer in conjunction with the City Public Works Department, should determine the appropriate sewer connection.

The estimated rainwater load for the site is about 736 gpm (10" main). Depending on existing flows, the loads may have to be split to different streets, so as not to overburden the street storm drain system

Section 4: Building Systems

Natural Gas Supply System (meter, meter room, ventilation, valves, regulators, etc.)

Natural Gas should be piped to all gas-fired equipment, such as boilers, water heaters and kitchen equipment. The gas meter should be located in an enclosed room or in exterior location and comply with the local utility regulations.

The existing site condition plans show a 2" PG&E line in Devine Street and 3" lines in North First Street, West St James Street, and North Market Street. The appropriate street connection will be determined by PG&E.

Fuel Oil Supply System (underground storage tanks, double wall piping, pumps, day tank, etc.)

The tank fuel storage capacity for the generator system should be determined based on emergency operational durations, availability of timely fuel deliveries, and the emergency response plans scenarios of the facility. Any additional external fuel day-tanks for the generator system should be located adjacent to the generator. The system should comply with the California Fire Code and UL listings for double containment tanks, pumps, piping, regulatory leak detection systems and local environmental ground water regulations. The capacity based on the Electrical division requirements is 3,000 gallons.

Plumbing Fixtures (water closets, urinals, lavatories, sinks, flush valves, faucets, etc.)

Plumbing fixtures and faucets should be water efficient, commercial grade type fixtures. Fixtures should have sensing devices for saving water and wired automatic flush valves with optional manual flush activation for water urinals, water closets, and automatic faucets in public toilet rooms. Plumbing fixtures in detention holding areas should be vandal-resistant, penal-type fixtures.

FIRE PROTECTION SYSTEMS

Water Supply for Fire Protection (backflow preventers, fire pumps, etc)

The fire water flow and pressure required for the building shall comply with NFPA 13 and the California Fire Code. The existing street water supply should be assessed for capacity and duration adequacy. If the water pressure is not adequate a fire pump would be necessary to supplement the building's fire water pressure. The pump shall be sized to comply with NFPA 13, 14, and 20.

Automatic Fire Sprinkler System (floor control valves, sprinklers, etc)

Automatic sprinklers should be installed throughout the building, including elevator machine rooms, boiler rooms, mechanical equipment rooms, essential electronic facilities, electrical closets, telephone closets, emergency generator room, data closets, electrical switchgear rooms, transformer vaults, and telephone rooms. The system should comply with NFPA 13 and the California Fire Code.

Standpipe and Fire Hose System: (stand pipes, hose valves, roof manifolds, etc)

Standpipes should be installed in fire escape stairwells and on both sides of horizontal exits through 2-hour rated wall separation. Each standpipe should be provided with 2-1/2" fire department hose outlets. All standpipes should be connected to the fire protection water supply, continuously pressurized, and installed in accordance with NFPA 14.

Non-Water Based Fire Extinguishing System (pre-action fire sprinkler system, clean agent fire suppression system)

Data Center, Control Center, Server Room and Telecom Fire Protection rooms in excess of 200 sf should be protected by either pre-action fire sprinkler system or similar chemical fire suppression systems with standard fire sprinkler system (TBD). For smaller server rooms and telecom rooms of less than 200 sf., a fire sprinkler system should be provided.

4.7 DATA + COMMUNICATION SYSTEMS

The data and communications analysis contains the requirements for infrastructure, though does not cover the communications equipment itself. Infrastructure includes:

- Site Connection to Telco Utility
- Spaces (Building Distribution Facility/BDF, Intermediate Distribution Facilities/IDFs)
- Backbone and Building Pathways
- Backbone and Horizontal Cabling

See Appendix F: Data and Communication Systems Detailed Analysis for additional information.

4.8 SECURITY SYSTEMS

The San Jose New Family Justice Center should have an enterprise level system to provide security and protection for their staff and visitors. With the current architectural massing options, it is imperative for the architectural and the security system design to provide a separation between public, private, and in-custody spaces using CPTED principles.

The security systems will meet the AOC security requirements and should include the following:

- Access Control & Alarm Monitoring System
- Intrusion Detection System
- Video Surveillance System
- Intercom System

See Appendix G: Security Systems Detailed Analysis for additional information.

4.9 AUDIO-VISUAL SYSTEMS

This analysis assesses the audiovisual system pathway requirements of the facility, and evaluates these requirements in conjunction with the AOC design guidelines. Data for the analysis was derived from a review of programming work for the project and the audiovisual system design guidelines included in the 2006 edition of the California Trial Court Facilities Standards. This section includes the pathway needs of the audiovisual systems and its supporting technology, including conduit and back boxes. See Appendix H: Audio-Visual System Detailed Analysis for additional information.

4.10 SUSTAINABLE DESIGN

Green building practices can substantially reduce or eliminate negative environmental impacts; improve our current unsustainable practices and produce high performance buildings that reduce the consumption of energy. While the sustainability goal for the Santa Clara Family Justice Center is equivalency to LEED (Leadership in Energy and Environmental Design) Silver Rating, the project should strive to exceed that minimal value wherever possible. The Courthouse should achieve to exemplify sustainable, healthy, and environmentally responsible design and construction. Its environmental impact can be minimized through attention to sensitive site development, water and energy conservation, indoor air quality, environmentally responsible building materials, and waste reduction among other principles. Green building design features should be considered for each building discipline to maximize the sustainability of the project. See Appendix J: Sustainable Design Detailed Outline for additional information.

APPENDIX A: CIVIL DETAILED SYSTEMS ANALYSIS

INTRODUCTION

The purpose of this systems analysis is to identify the existing utilities mains that are available on the site or adjacent to the site in the public right-of-way and determine potential points of service for the new building.

DESCRIPTIONS OF EXISTING UTILITIES

Sanitary Sewer

There are 10” sanitary sewer lines running in Devine Street, West Saint James Street, North Market Street and also in the west side sidewalk along North First Street. There were no existing sewer laterals that have been identified for service to the proposed site. The site is currently used for a parking lot.

Domestic Water

There is an 8” main in Devine Street and a 12” main in North First Street. There is a 16” main and an 8” main in North Market Street. There is a 16” main and also a 3” line in West Saint James Street. There are three existing fire hydrants along W. St James, Devine and Market Streets that provide coverage for the proposed site.

Storm Drains

There is an 18” storm drain in West Saint James Street that flows west to east. There is a 12” storm drain in the west side sidewalk along North First Street that flows south to north and also a 12” line in Devine Street that flows west to east. The site itself drains from south to north across the existing asphalt concrete paved lot into two existing site inlets at the northwest corner of the site. It is assumed that these inlets tie into the storm line located in Devine Street.

Natural Gas

There is an existing 3” gas line in West Saint James Street, North Market Street and North First Street. There is a 2” gas line in Devine Street. No existing gas meters or services for the site have been identified.

Electrical

There are overhead electrical lines along Devine Street that terminate at each end of the street at a riser pole and underground service box. Underground service boxes, manholes, and duct banks have been identified along North First Street, North Market Street, and West Saint James Street. There is street lighting along all four streets surrounding the site.

Telecom and Comcast

There is an existing underground duct bank and vaults that runs along North First Street and provides service to buildings along First and Devine Streets. There is also a duct bank that runs through the intersection of North Market and West St James Street and continues west on Saint James and south along Market Street. Services to the existing buildings along St James Street are served from this duct bank.

Appendix

DISCUSSION

Sanitary Sewer

The daily sewer flows from the new building are estimated at 150 -200 GPM (gallons per minute) during business hours. We estimate the sewer lateral to be a 6" line and probably connect to the 10 inch main in Devine St. The City of San Jose is the owner of the sewer system and will issue the permit/approval for connection. In discussing the project with them, they did not identify any specific issues with capacity of their system, however they did comment that they may require flow testing of the existing line that we are proposing as a connection point to confirm capacity.

Domestic Water and Fire Water

The daily demand for domestic water has been estimated to be 225 GPM and will require a 4" service line to the building. The water service will require a meter and backflow prevention device. Service points of connection appear to be available from either the 8" main in North Market Street or the 8" main in Devine Street.

The demand for the fire sprinkler system has not been calculated, however it is anticipated that the sprinkler line will be a 6" service. A fire department connection port will be required and located behind the back of walk and in proximity to the required backflow device and one of the existing fire hydrants. Service points of connection for the fire service could also be available from the 8" mains in North Market or Devine Street.

The San Jose Water Department is the owner of the domestic water system and will issue the permits/approval for both water services.

Storm Drainage

The estimated site drainage runoff from the site has been estimated to be in the range of 2.5-3.0 CFS (cubic feet per second) for a 10-year storm event. The drainage calculations will be refined as the site plan is developed further. We anticipate new storm drain collection lines(6"-10" in size) along Devine, North Market, and West St James Street from stages to drain the landscape areas, paved areas and the building roof rain leaders.

Water quality regulations will require that the storm water be filtered on site before it can be released into the public storm drain. This can be accomplished by filtering the storm water through the landscape areas or implementing mechanical treatment devices on the storm drain line outfalls.

The City of San Jose is the owner of the storm drainage system and will be issuing the permits/approvals for the storm drain connections and for storm water treatment measures.

Natural Gas

The gas demand is approximately 6,800 CFH (cubic feet per hour) as estimated by Gayner Engineers. The service line to the building will need to be a 6" line. It is expected that service to the building could come from one of the gas mains located in Devine or South Market Streets. PG&E is the owner of the gas system and will engineer and design the service up to the meter adjacent to the building, pending submittal of an application for service.

Electrical Service

For coordination purposes, it is recommended that the electrical service be designed and coordinated by the Electrical Engineer. Any site structures (transformers and vaults) and duct banks should also be designed by the electrical engineer and coordinated with the other site utilities by the Civil Engineer. PG&E is the owner of the electrical system.

Telecommunications

For coordination purposes, it is recommended that the telephone, data, and cable service to the building be designed and coordinated by the Telecommunication consultant. Any site structures (vaults and pedestals) and duct banks should also be designed by the Telecommunication Consultant and coordinated with the other site utilities by the Civil Engineer. AT&T is the owner of the telecom system

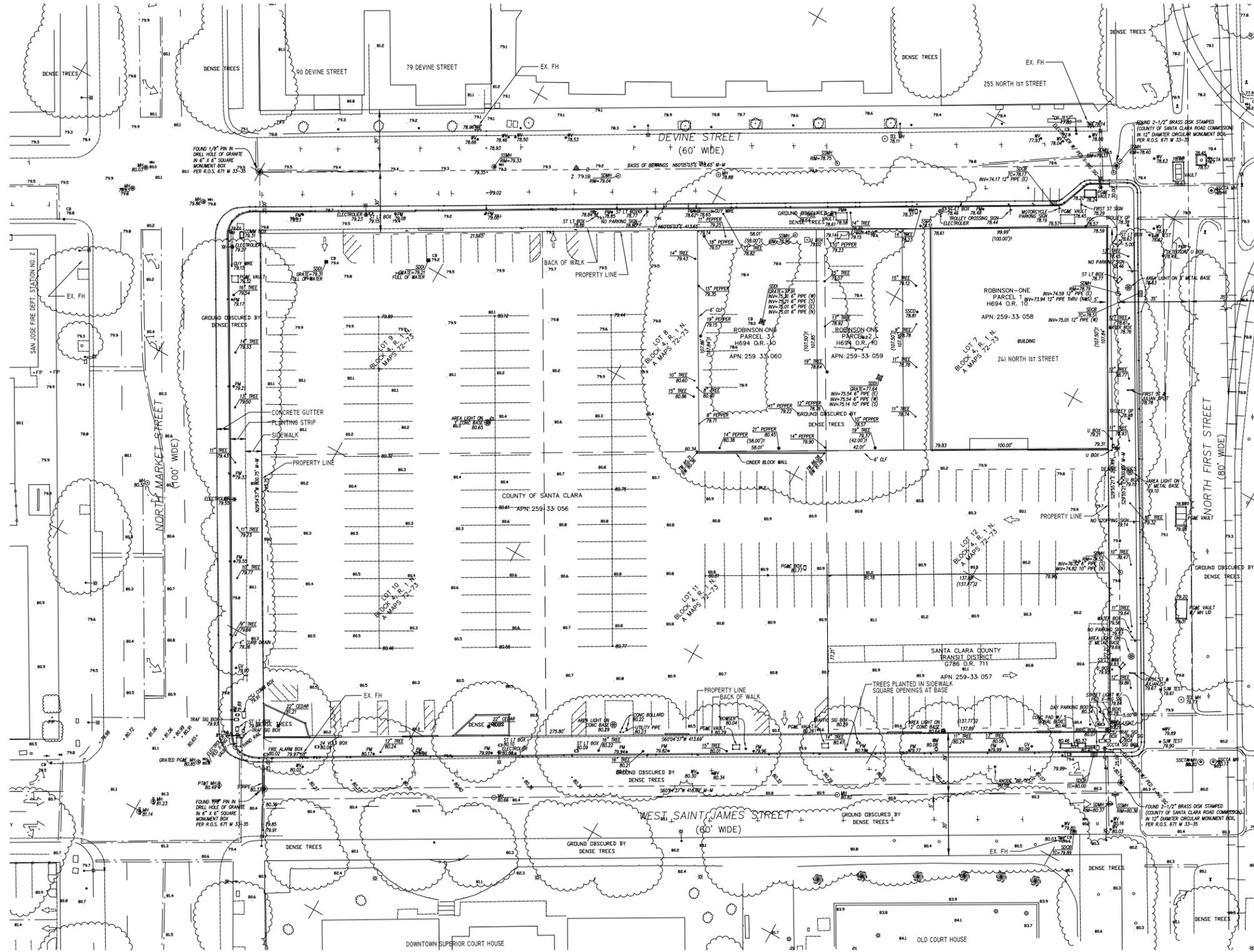


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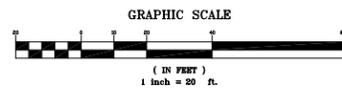
SANTA CLARA COUNTY

CITY OF SAN JOSE

TOPOGRAPHIC SURVEY
SANTA CLARA COUNTY COURT HOUSE



- LEGEND**
- AC ASPHALT CONCRETE
 - CF CONCRETE
 - CSJ CITY OF SAN JOSE
 - COMB BOX COMMUNICATIONS
 - DM DRY
 - FL FLOW LINE
 - GV GAS VALVE
 - GP GUY POLE
 - HOP HANDICAP RAMP
 - IRING BOX IRRIGATION BOX
 - LC LIFT
 - MA MANHOLE
 - PEX X-ING PEDESTRIAN CROSSING
 - PM PARKING METER
 - SCSA SANTA CLARA COUNTY TRANSPORT AUTHORITY
 - SK SIGNAL
 - ST LT BOX STREET LIGHT BOX
 - ST LT BOX STREET LIGHT BOX
 - TOP FACE OF CURB
 - TRAF SIG BOX TRAFFIC SIGNAL BOX
 - WM WATER METER
 - WV WATER VALVE
 - WY ELECTRIC (UNLESS NOTED OTHERWISE)
 - CL JOINT POLE
 - FD FIRE HYDRANT
 - SON SON
 - (J) RECORD DATA PER HEMA O.R. 10
 - (J) RECORD DATA PER G786 O.R. 711
 - ELECTRICAL
 - GAS
 - SANITARY SEWER
 - STORM DRAIN
 - TELECOM (AT&T)
 - TELECOM (COMCAST)
 - WATER
 - OVERHEAD ELECTRICAL



Revision	No.	Date	By	Check

Date: 02-04-09
 Scale: 1"=30'
 Design:
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 Approved:
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PLEASANTON, CA 94588
925-896-7799 (FAX)

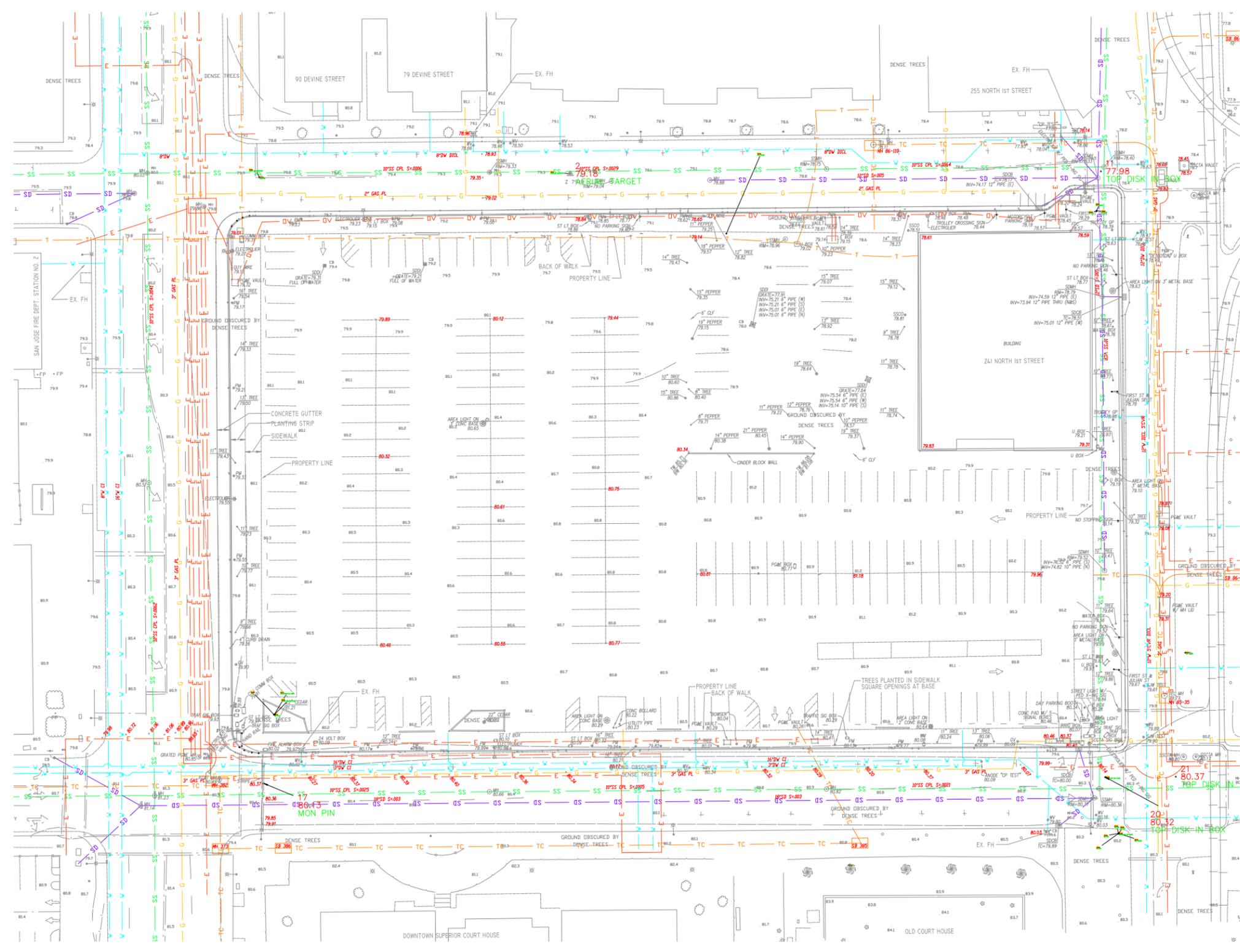


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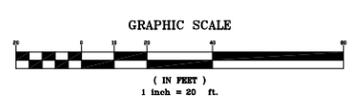
SANTA CLARA COUNTY

EXISTING CONDITIONS
SANTA CLARA COUNTY COURT HOUSE

CITY OF SAN JOSE



- LEGEND**
- AC ASPHALT CONCRETE
 - CL CHAIN LINK FENCE
 - CONC CONCRETE
 - CSJ CITY OF SAN JOSE
 - COMM BOX COMMUNICATIONS
 - CP CURB
 - FL FLOW LINE
 - GV GAS VALVE
 - GP GUY POLE
 - HOB HANDICAP RAMP
 - IRING BOX IRRIGATION BOX
 - LG LIP OF GUTTER
 - MA MANHOLE
 - PEX X-ING PEDESTRIAN CROSSING
 - PM PARKING METER
 - SCCTA SANTA CLARA COUNTY TRANSPORT AUTHORITY
 - SN SIGNAL
 - ST LT BOX STREET LIGHT BOX
 - ST LT BOX STREET LIGHT BOX
 - TOP/FACE OF CURB
 - TRAF SIG BOX TRAFFIC SIGNAL BOX
 - WM WATER METER
 - WV WATER VALVE
 - ELCRO (UNLESS NOTED OTHERWISE)
 - JOINT POLE
 - FIRE HYDRANT
 - SDM RECORD DATA PER HES4 O.R. 10
 - SDR RECORD DATA PER G786 O.R. 711
 - ELECTRICAL
 - GAS
 - SANITARY SEWER
 - STORM DRAIN
 - TELECOM (AT&T)
 - TELECOM (COMCAST)
 - WATER
 - OVERHEAD ELECTRICAL



DATE PLOTTED: 05/04/09 11:52 AM

Revisions	No.	Description

Date: 05/04/09
 Scale: 1"=30'
 Design:
 Drawn:
 Approved:
 Job No: 20080103-10
 Drawing Number:

APPENDIX B: STRUCTURAL DETAILED SYSTEMS ANALYSIS

OVERVIEW

This project consists of several architectural options for a multi-story courthouse, with varying overall dimensions and floor areas. The story heights for all options are anticipated to be 16'-0" for all levels above grade and 18'-0" for the basement level. The options being considered are as tabulated below.

Option	Levels Above Ground	Total GSF	Remarks
A	7	206,700	Basement under West Wing. Seismic joint required between 7-story West Wing and 5-story East Wing. Columns under 5-story East Wing will be cruciform in shape and about 30" x 30".
B	7	199,700	Presentation material shows no basement and a penthouse. Penthouse may be eliminated in favor of a partial basement.
C	8	216,200	Basement under North Wing. Pedestrian bridges connecting North and South Wings required at Levels 2 through 5. Seismic joint required to fully isolate wings.
D	6	207,800	Partial basement located under North end of building. Three-story trusses are required to support the cantilevered southeast corner of the building at Levels 5 and 6.
E	10	211,700	Basement over full plan area of Level 1

The gravity system consists of structural steel "W" section beams, girders, and columns. Normal weight concrete fill on steel deck will occur at Levels 1 through Roof for building options which include a basement. For options without a basement, concrete fill on steel deck will be used at Level 2 through Roof.

Bay sizes vary with options. See table below

Option	Dimensions of typical bay	
A	East Wing	21'-0" x 30'-0"
	West Wing	28'-9" x 42'-6"
B 28	'-9" x 44'-0"	
C	North Wing	Varies with largest bay being 28'-0" x 42'-6"
	South Wing	27'-0" x 22'-8"
D 35	'-3" x 42'-6"	
E	28'-9" x 42'-6"	

The Seismic Load Resisting System (SLRS) consists of Buckling-Restrained Braced Frames (BRBFs) in one direction and Special Moment Frames (SMFs) in the other direction.

The foundation system cannot be determined at this stage because of the lack of a geotechnical report.

Appendix

BASIS OF STRUCTURAL DESIGN

Codes

Applicable Code: California Building Code 2007 edition.

Concrete Design: American Concrete Institute (ACI) *Building Code Requirements for Structural Concrete (318-08)*.

Steel Design: ANSI/AISC 360-05 *Specification for Structural Steel Buildings*.

Seismic Design of Steel Elements: ANSI/AISC 341-05 *Seismic Provisions for Structural Steel Buildings*.

Type of Construction

Architect has classified this building as B occupancy and 1B construction type.

DESIGN CRITERIA

Floors will be designed to support their self weight and the applicable live loads defined in CBC Table 16B.

Roof areas not supporting mechanical loading will be designed to support their self weight plus a live load of 20 pounds per square foot.

Roof areas supporting mechanical loading will be designed for their self weight plus the weight of the equipment curbs/pads plus the actual equipment operating weight.

Vibration

The suspended floor system will be designed to limit susceptible vibrations in accordance with the AISC Design Guide 11: *Floor Vibrations due to Human Activity*. The floor system will be designed to limit the peak floor acceleration, a_p , produced by the heel-drop action of a typical walker to 0.005g.

Wind

$V = 85$ mph (ASCE 7-05 Figure 6-1)

Occupancy Category II

$I = 1.15$

Exposure Category C (ASCE 7-05 Figure C6-5)

Seismic

At this early stage, a soil profile and earthquake hazard values have not been defined in a geotechnical report. However, certain assumptions have been made regarding the site seismicity as described below.

Soil Site Class D

$S_{DS} = 1.00$

$S_{D1} = 0.60$

Occupancy Category III

$I = 1.25$ (ASCE 7-05 Table 11.5-1)

Seismic Design Category D

Allowable Interstory Drift Ratio = 0.015 radians

Buckling-Restrained Braced Frames: $R = 8$, $C_d = 5$, and $\Omega_o = 2.5$

Special Moment Frames: $R = 8$, $C_d = 5.5$, and $\Omega_o = 3$

Seismic Drift, Seismic Joints, and Cladding joints

Anticipate that Δ_m values may be about 3" per story height in the direction of the Special Moment Frames and about 3" in the direction of the Buckling-Restrained Braced Frames. Both SmithGroup and the OCCM need to be aware of the impact that these large interstory drifts will have on the exterior wall of the building.

Exterior cladding should be designed to accommodate the Δ_m interstory drift in accordance with CBC 1633.2.4.2. Consideration should be given to use of tempered or protected (with film) glazing, where the Δ_m interstory drift will result in glass breakage. Glazed areas over egress-ways should be given highest priority.

STRUCTURAL SYSTEMS DESCRIPTION

Roof Systems

3" normal weight structural concrete over 2" steel deck spanning approximately 10'-0" maximum to composite steel framing that is sloped to drain with insulation board plus conventional roofing. Spray-applied fireproofing is required at the underside of steel deck to obtain the required fire rating. Location of roof drains and corresponding low points of steel elevation has not been determined. Typical bay at roof consists of W24x composite steel floor beams spanning the long direction of the bay supported by W27x composite steel girders spanning the short direction of the bay.

Roof Screen

Over surface area of roof screen, assume welded, hot-dip galvanized hollow structural steel sections with a weight of 6.5 psf.

Stair Pop-up Roof

If one stair is to provide roof access, then structure to enclose and protect stair access would be required.

Floor Systems

At all levels except Level 1, the floor system consists of 3" normal weight structural concrete fill over 2", 18 gage steel deck spanning approximately 10'-0" maximum to composite steel framing. Reinforce concrete fill with # 4 at 18" O.C., E.W. Spray-applied fireproofing is required at the underside of steel deck to obtain the required fire rating. At Level 1, the floor system consists of 5" normal weight structural concrete fill over 2", 16 gage steel deck spanning approximately 10'-0" maximum to composite steel framing. Reinforce concrete fill with # 5 at 12" O.C., E.W. Two-hour rated assembly. Typical bay at floor levels consists of W24x composite steel floor beams spanning the long direction of the bay supported by W27x composite steel girders spanning the short direction of the bay.

Appendix

Non-Frame Columns

W14x columns from foundation to roof with splices at every third level.

Foundations

The foundation system cannot be determined at this stage because of the lack of a geotechnical report. It is anticipated that the design recommendations section of a geotechnical report may suggest either a pile or a mat foundation system. Where uplift may be encountered, added piles or a thickened mat or soil anchors may be specified.

Seismic Load Resisting System

The Seismic Load Resisting System (SLRS) consists of BRBFs in the short direction of the building and SMFs along the perimeter in the long direction.

BRBFs are a special class of concentrically braced frames that are characterized by the ability of the Buckling Restrained Braces (BRBs) to yield in compression as well as in tension. BRBs consist of a steel core that is surrounded by a casing that prevents the steel core from buckling. BRB casings vary in size from 12" x 12" to 14" x 14". Frame columns will be W14x and frame beams will be W21x. In a seismic event, the steel core plate can yield in both tension and compression, and overall buckling of the brace does not occur. This type of mechanism qualifies the system to use a lower design base shear as compared to a conventional braced frame system. For the range of BRB sizes anticipated and the BRB manufacturers to be considered for this project no project specific testing will be necessary.

SMFs consist of frame beams field-connected with complete-joint-penetration welds to the flanges of frame columns. Frame beams are anticipated to vary in size from W21x to W33, with shallower beams at the roof and deeper beams at Level 2. Frame columns are expected to be heavy W27x throughout the height of the building. As a minimum, corresponding to Option E, it is anticipated that 8 SMF bays are required at each side of the long direction of the building. The east wing of Option A is an exception and contains SMF columns that are cruciform in shape that are built-up from two independent heavy W27x sections welded together. In a seismic event, frame beams dissipate energy by yielding in flexure. Frame columns are proportioned so that they remain essentially elastic.

PRELIMINARY STRUCTURAL SCOPE FOR A ROUGH ORDER OF MAGNITUDE CONCEPTUAL-LEVEL ESTIMATE

A conceptual level analysis was performed on Option E to arrive at structural material quantities for consideration by a cost estimator.

- Structural Steel weight = 2,350 tons.
- Quantity of BRBs = 100 with steel core areas ranging from 2 in² to 13 in². BRB length is approximately 21'-0".
- Area of W2, 18 gage steel deck = 200,000 square feet.
- Area of W2, 16 gage steel deck = 20,000 square feet.
- Volume of 4,000 psi, normal weight concrete fill on steel deck = 3,100 cubic yards.
- Volume of 5,000 psi, shotcrete for basement walls = 650 cubic yards
- Reinforcement for basement walls = 83,000 pounds

Excluded from the above quantity estimates are structural steel required for framing of any monumental stair, support of stair pop-up roof, if any, and elevator guide rail backing. The above quantities do not take into account added material quantities for connections, laps, or waste. A contingency factor may be used at the discretion of the cost estimator.

At this stage of work, no analyses have been performed to evaluate the blast-resistance of the structure. Thus, any increase in material quantities required by such analyses is not captured in the above estimates.

Cost estimator is requested to provide an allowance for the following

- Foundation system.
- Perimeter angle kickers and miscellaneous steel for exterior wall support
- Additional framing at building utility shafts
- Design-build stairs
- Hot-dipped galvanized hollow structural sections for roof screen support
- Housekeeping pads and concrete curbs

Based on assumptions of building size and structural complexity, material quantities ratio factors were developed for the other options for consideration by the cost estimator and presented in the table below.

Option	Structural Steel - Weight	Buckling Restrained Braces - Number	2" (W2) 18 Gage Steel Deck - Area	2" (W2) 16 Gage Steel Deck - Area	Normal Weight Concrete Fill - Volume	Steel Reinforcement On Deck - Weight	Concrete Walls - Volume	Reinforcement - Weight
A	1.15	0.80	0.90	1.20	0.75	0.90	1.15	1.15
B	1.00	1.00	1.00	-	0.90	1.00	-	-
C	0.90	1.10	0.90	0.95	0.90	0.90	1.00	1.00
D	0.95	1.05	0.95	0.95	0.95	0.95	1.00	1.00
E	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

The structural steel ratio factor for Option D excludes the steel required for the large three-story trusses required to support the southeast corner at Levels 5 and 6. Quantity of trusses required, their weight, and their fabrication and erection complexity cannot be determined at this stage of design. Cost estimator is requested to provide an allowance for such trusses.

OTHER SYSTEMS REQUIRING DESIGN-CONSULTANTS/ GENERAL CONTRACTOR COORDINATION WITH STRUCTURAL CONSULTANT

Skin System

System needs to be designed to be able to withstand the interstory drifts defined in the design criteria section of this narrative.

Appendix

Stairs

Design-build stairs are anticipated where performance criteria, and stair support locations are coordinated between a stair fabricator and the design team. Design-build stairs are expected to be designed by the manufacturer and signed and sealed by a civil engineer licensed in the state of California.

Window Washing Equipment

The system is expected to be designed by the manufacturer and signed and sealed by a civil engineer licensed in the state of California. Details in structural drawings will list the basis-of-design reactions that the equipment is assumed to impart on the primary building structure.

Elevators

Elevator manufacturer to coordinate with design team regarding height overrun, guide rail backing deflection requirements, machine room requirements, and elevator pit requirements.

Mechanical

Stand-alone, roof-mounted AHUs on concrete pads are anticipated.

Electrical/Data Distribution

Electrical/data conduits in concrete fill over steel deck are not permitted. Poke through floor outlets in concrete fill over steel deck where floor outlets required. Conventional distribution in ceilings and walls is assumed. Floor boxes in slab on grade where floor outlets are required; thicken slab locally as necessary to accommodate boxes.

APPENDIX C: MECHANICAL DETAILED SYSTEMS ANALYSIS

INTRODUCTION

The purpose of this analysis is to evaluate and recommend building mechanical systems consistent with the Program and with high quality, reliability, and energy efficiency. The mechanical systems consist of chillers, cooling towers, heating hot water boilers, pump/piping systems, air handlers, distribution ductwork, exhaust fans, air conditioners, and Building Automation System.

APPLICABLE CODES, GUIDELINES, AND STANDARDS

The latest edition of the approved year of the following codes or combination codes and guidelines govern the mechanical systems and associated support system designs:

Applicable Codes, Guidelines, and Standards

- California Trial Court Facilities Standards
- ADAAG - Americans with Disabilities Act Accessibility Guidelines.
- ANSI - American National Standards Institute, Inc.
- CAC - California Administrative Code
- CBC - California Building Code
- CMC - California Mechanical Code
- CPC - California Plumbing Code
- CEC - California Electrical Code
- CFC - California Fire Code
- California Building Energy Efficiency Standards (T24 Energy Efficiency Standards)
- CAL.OSHA - California Occupational Safety Hazard Authority
- FM - Factory Mutual
- NFPA - National Fire Prevention Association
- SFM - California State and Local Fire Marshal
- UL - Underwriter's Laboratories, Inc
- SMACNA – Sheet Metal Contractor's National Association

OUTSIDE DESIGN CONDITIONS

Winter Design: 29 deg. F db (ASHRAE median of extremes)

Summer Design: 86 deg. F db / 66 deg. F wb (ASHRAE 0.5%)

Appendix

Inside Winter Design Conditions

Design	Temperature (deg. F)	Operating Temperature Range	Relative Humidity %RH
Occupied Spaces	70	68-70.5	N/A
Mechanical	60	60-85	N/A
Electrical 60		60-85	N/A
Elevator Machine Room	60	60-85	N/A
Server Room	68	66-70	N/A

Inside Summer Design Conditions

Design	Temperature (deg. F)	Operating Temperature Range	Relative Humidity %RH
Occupied Spaces	75	73.5-75	N/A
Mechanical 85		60-85	N/A
Electrical 85		60-85	N/A
Elevator Machine Room	85	60-85	N/A
Server Room	68	66-70	N/A

HVAC DESIGN PARAMETERS

Expected Hours of Operation

- Normal business hours: Mon-Fri 8:00 – 5:30 (all areas)
- Extended hours: Sat-Sun 8:00 – 5:30 (select areas)
- Special hours: as needed (select areas)
- IT Server Room: 24/7

Air Change Rates and Ventilation Rates

- Occupied Spaces: 3 – 15 air changes per hour (ACH), 0.5 – 3 cfm/sf depending on load.
- Toilets: 15 ACH, 2.5 cfm/sf
- Ventilation rate: 15 – 20 cfm per person.
- CO2 sensor- based demand ventilation control for highly variable occupancy spaces such as Courtrooms, Jury Deliberation Room, etc.

Area Pressure Control

- Toilets negative pressure to adjacent areas.
- Building positive with respect to the outdoors.

Vibration Isolation and Acoustic Control

- Vibration isolation designs for rotating equipment and acoustic control designs should be as recommended by the vibration/acoustic consultant.
- Mitigation Measures Include:
 - Sound attenuators – Minimized or avoided, as recommended by acoustical engineer
 - Internal acoustic duct liner.
 - Use of internal duct liner between VAV terminal and air outlets and inlets.
 - Use of low duct air velocities – 1,500 feet per minute maximum.
 - Carefully selected and coordinated variable air volume terminals and air outlets and inlets.
 - Position volume dampers at a distance to air outlets and inlets.
 - Use of flexible duct for final air outlet and inlet connections.
 - Un-housed spring isolators with separate seismic snubbers for base-supported rotating equipment.
 - Spring isolators with slack-cables seismic bracing for suspended rotating equipment and certain pipes. All piping over 2- 1/2” located in the mechanical room is suspended with spring isolators.

Chilled Water System

- Estimated building cooling load is 500 tons.
- Chillers: Recommend two high-efficiency (approximately 0.35 kw/ton) variable speed chillers, 300 tons capacity each.
 - McQuay, Trane, Carrier, York, or Smardt.
 - Chillers should be arranged either as primary/secondary pumping, or as primary pumping only. (To be determined.)
 - Chillers and pumping systems should be located in the Basement Mechanical Room.
- Cooling towers: Recommend two low-approach (approximately 5 deg F), variable speed drive, cross-flow towers with stainless basins. One cooling tower can handle both chillers, should one cooling tower fail. In the architectural concept options, the cooling towers are located on the roof.
- Closed system chemical treatment for the chilled water. Chemical-free treatment system for the open condenser water system. Dolphin, or equal.

Heating Hot Water System

- Estimated building heating load is 3,500,000 btuh
- Boilers: Recommend three high-efficiency condensing boilers with 2,000,000 btuh input each (1,700,000 btuh output at 85% efficiency operation).

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- Aerco Benchmark, Cleaver-Brookes, or equal.
- Boilers and pumping systems should be located in either the Basement Mechanical Room or, ideally, in a Roof Mechanical Room (to minimize flue distance).
- Direct vent flue and combustion air intake.
- Two variable volume pumps, one operating and one standby.
- Heating hot water piping distribution throughout the building to the terminal reheat coils.
- Closed system chemical treatment for heating hot water.

Air Handling Systems

- Estimated building airflow rate is 170,000 cfm.
- Supply air system: Recommend two rooftop air handlers (85,000 cfm each) each including two supply fans, soundtraps (if required), two return/exhaust fans, economizer dampers, filters, and chilled water cooling coil.
- Air distribution systems should consist of commercial grade variable volume terminals with terminal reheat coils on the supply air system. Return air is via the ceiling plenum. Conventional ceiling-type air outlets and inlets are used.
- Temperature control zoning should consist of:
 - Each Courtroom
 - Each Chamber Suite
 - Jury Deliberation
 - Lobby
 - Holding Area
 - Group of 2 to 4 offices along the exterior of the building. Alternate: each office is a separate zone with operable window shutoff interlock.
 - Group of 2 to 4 offices in the interior of the building. Alternate: each office is a separate zone.
 - 500 to 1,500 sf of low-partition interior space.
 - CO2 sensors for courtrooms and multipurpose room (or similar rooms with widely variable occupancy density) for demand ventilation control.
- The air handlers are not expected to operate during non-business hours except as needed for extended or special hours that are either pre-defined or user implemented.
- Cooling for the telecomm equipment (data servers, telephone, network, etc) room(s) should be by dedicated split-system air conditioning units with backup cooling from the building ventilation system.
 - The building air handling system is expected to be shut down during non-business hours and the telecomm equipment will likely require 24/7 cooling (to be determined).

- Holding areas may require compliance in the following areas (to be determined):
 - Security bars in ducts
 - Minimum security level air inlets and outlets.
 - Maximum security air inlets and outlets suitable for suicide prevention.
- Fire/Smoke dampers are provided at fire-rated partition penetrations by ductwork.
 - Control of fire/smoke dampers by either local duct smoke detectors or area smoke detectors (to be determined).

Toilet and Special Exhaust

- Toilets should be either grouped or individually exhausted, as appropriate. Toilet exhaust fans are anticipated to be installed on the roof.
- Special exhaust, such as for copy rooms, should be provided (to be determined).
- Holding areas with toilets should be exhausted.

Generator Exhaust

- If indoors, the generator (see Appendix D for Detailed Electrical Analysis) should have a muffler within the generator room and the exhaust pipe should be terminated outdoors in a location that will not result in objectionable odors inside the building.
- If outdoors, no additional mechanical work is required as the generator / enclosure would have an integral muffler and exhaust pipe.

Building Automation System (BAS)

- The BAS should be a direct digital control system open to qualified bidders (TBD). Control valves to the coils and damper actuators are electric/electronic type. Room sensors are DDC type. VAV terminals controllers are DDC Type.
- The system monitors and controls HVAC building systems and schedules lighting via interface to lighting controller(s).
- A workstation should be provided to include the new building systems graphical displays for the chilled water system, heating hot water system, air distribution, generator, etc.
- Outside access should be via the internet.
- The BAS interfaces with systems and equipment of other manufacturers:
 - Chillers
 - Boilers
 - Specialty air conditioners (if applicable)
 - Variable frequency drives.
 - Water heater.

Appendix

- Domestic hot water temperature and scheduling.
- Lighting control system (if applicable)
- Generator status
- Generator fuel monitoring (if applicable)
- Natural gas and water meters (if applicable)
- Controls to satisfy various energy efficiency measures described in paragraph Energy Efficiency Measures below.

Generator Power Operation for Mechanical Systems

- Split system air-conditioning units should serve the Telecom and Server rooms.

ADDITIONAL HVAC PARAMETERS

Seismic Bracing

- Mechanical components should be installed and braced to conform to the California Building Code requirements for non-structural systems.
- Duct and pipe systems may be braced using pre-engineered seismic bracing systems.
- Probable Importance Factor = 1.0.

Testing and Balancing

- Testing and balancing should be performed by a specialty testing and balancing firm (TAB) that is under contract to the General Contractor.
- Testing and balancing could be limited to air and water systems.
- Vibration testing of rotating equipment.
- Sound level testing of systems.

Commissioning

- The HVAC systems should be commissioned by the contractor using Functional Performance Test Procedures produced by a contractor-independent commissioning agent who would work directly for the AOC.
- All Mechanical systems should be formally commissioned to insure proper operation.
- Extent of commissioning scope to be determined with the AOC.

APPENDIX D: ELECTRICAL DETAILED SYSTEMS ANALYSIS

INTRODUCTION

The purpose of this analysis is to evaluate and recommend electrical service systems in compliance with the Program and with high quality, reliability and energy efficiency. The electrical system consists of an electrical service, main switchboards, emergency power generator, distribution system, motor control centers, lighting sub-panels, step-down transformers, general power low-voltage panelboards, lighting control system, and fire alarm system.

APPLICABLE CODES, GUIDELINES, AND STANDARDS

The latest edition of the approved year of the following codes or combination codes and guidelines govern the mechanical systems and associated support system designs:

- California Trial Court Facilities Standards
- ADAAG - Americans with Disabilities Act Accessibility Guidelines.
- ANSI - American National Standards Institute, Inc.
- CAC - California Administrative Code
- CBC - California Building Code
- CMC - California Mechanical Code
- CPC - California Plumbing Code
- CEC - California Electrical Code
- CFC - California Fire Code
- California Building Energy Efficiency Standards (T24 Energy Efficiency Standards)
- CAL.OSHA - California Occupational Safety Hazard Authority
- FM - Factory Mutual
- NFPA - National Fire Prevention Association
- SFM - California State and Local Fire Marshal
- UL - Underwriter's Laboratories, Inc

DESIGN CRITERIA

- The calculated electrical load for the building, including 25% spare capacity, is 3243 kva (or) 3903 Amperes at 277/480v, 3ph, and 4w. Refer to enclosed load calculation for details.
- The calculated emergency and standby power load, including 25% spare capacity, is 135.1 kva (or) 1627 Amperes at 277/480v, 3ph, and 4w.

Appendix

- Provide interior lighting to suit recommended footcandle (fc) requirements of AOC:

Courtrooms:	
Judge's bench:	45 – 55 fc
Clerk:	45 – 55 fc
Spectator seating:	15 – 25 fc
Litigant's table:	45 – 55 fc
Podium:	45 – 55 fc
Witness chair:	30 – 40 fc
Offices:	
Intensive VDT:	30 – 40 fc
Intermittent VDT:	45 – 55 fc
Library:	
Book stacks:	25 – 35 fc
Reading Areas:	30 – 40 fc
Circulation & Public Lobbies:	15 – 20 fc
Conference Rooms:	30 – 40 fc
Holding Areas:	25 – 35 fc

ELECTRICAL DESIGN PARAMETERS

Power Distribution & Service

- The service transformer is provided by PG&E and located on-grade, with 24-hr access to the service provider. Clearances around the equipment shall comply with PG&E requirements.
- Provide a new concrete pad for a new PG&E transformer and provide (2) 4" underground medium voltage service conduits to point of connection of PG&E medium voltage system; Point of connection to be verified by PG&E.
- Provide a new 4,000 amp service entrance switchboard (nearby PG&E transformer) with main circuit breaker (100% rated) and PG&E metering section on a concrete pad.
- Provide 4,000 amp bus duct from new service entrance switchboard to PG&E transformer via a PG&E provided bus duct entrance termination box.
- Provide a new 4,000 amp, 277/480v, 3ph, 4w main distribution switchboard with a 4,000 Amp, 100% rated main circuit breaker and distribution section in the main electrical room.
- Provide a 4,000 amp underground feeder from service entrance switchboard (on grade) to the main distribution switchboard in the main electrical room.
- Provide a TVSS (transient voltage surge suppressor) system at the main distribution switchboard and downstream 120/208v, 3ph, 4w distribution panelboards.
- Provide 277/480v lighting panelboards with door-in-door trim and 200% neutral bars.
- Provide low voltage 120/208v general power panelboards with door-in-door trim and 200% neutral bars.

- Provide all distribution panelboards with door-in-door trim, to distribute power to normal, emergency and standby lighting & general power panelboards, respectively.
- Provide feeders to interconnect all new electrical system equipment.

Emergency Generator System

- The emergency power source for the building should be a diesel-powered engine generator to serve a fire pump, building life safety, and standby loads.
- For indoor generator locations, provide a 1-hr rated room to house the generator and be independent from other non-emergency power system equipment. For outdoor installations, provide a weatherproof and acoustic enclosure for the generator.
- The generator should be rated 1,500kw /1,875kva, 80% power factor, 277/480v, 3ph, 4w. The diesel fuel tank is anticipated to be an above ground, 3000-gallon concrete vault style, to provide backup power for 24Hour. Fuel tank capacity to be verified with AOC. Need for a below grade tank should be investigated.
- Two automatic transfer switches with bypass isolation switch should be provided to transfer life safety and standby power loads to the generator.
- The following loads should be served by the emergency and standby power branches:

Life Safety Branch: Interior/exterior egress lighting & Exit signs

Judge parking lighting

Two elevators

Fire alarm

50% of lighting in detention

50% of lighting in custody

50% of lighting in court/assembly rooms

50% of lighting in equipment rooms.

Standby branch: Telecom/security equipment and related cooling systems

Motorized gates

Selected receptacles in Elec/Mech, Telecom & Elevator machine rooms

Control desk

Lighting Systems

- Provide fluorescent fixtures with energy efficient T8, T5 and compact fluorescent lamps with high power factor & low THD (total harmonic distortion) ballasts.
- Provide exit sign fixtures with long life and energy efficient LED type lamps.
- Provide lighting in conformance with architectural floor plans.

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- Provide programmable lighting relay panel per floor to automatically turn ON-OFF all lighting circuits except exit signs and emergency lights. Provide low-voltage override switches for the lighting relays for housekeeping staff use.
- Provide motion sensors with time adjustments to control lighting in toilet and storage rooms.
- Lighting should be controlled by Automatic Control Switches (i.e. sentry switch) in all areas where lighting is not controlled by occupancy sensors and not controlled by low-voltage override control switches.
- In daylight areas larger than 250 square feet, lighting shall be controlled by means of photosensor activated multi-level controls.
- Provide dimming of lighting in video rooms.
- Provide branch circuits to serve all lighting and controls.
- Exterior lighting should consist of lighting fixtures having cut-off distribution in order to minimize light pollution beyond the property line.

General Power

- Provide duplex convenience power outlets and branch circuits to serve computers, appliances, workstations, photocopy machines, kitchen equipment, and miscellaneous equipment to conform with architectural floor plans.
- Provide branch circuits and connections to all equipment in MDF/MPOE, IDF, and security equipment room.
- Provide disconnect switches and branch circuits for all new mechanical equipment, mechanical controls, and elevators.
- Provide motor control centers with combination circuit breakers and solid state starters for mechanical fans, pumps and other motor loads.

Fire Alarm System

- Provide fire alarm and smoke detection system throughout the building, consisting of control panels, manual pull stations, smoke detectors, horns & strobe coverage throughout the building, monitoring of fire sprinkler flow and tamper switches, and heat detectors in areas required by Code, such as elevator machine rooms. Duct smoke detectors should be provided for shutdown of air handling units having 2,000 cfm or more capacity. Fire smoke dampers should be operated by duct smoke detectors or area smoke detectors (to be determined).
- All devices shall be of a single fire alarm system manufacturer under appropriate UL category, and all wiring shall be class B in minimum of ¾" size conduit. A performance-based specification should be provided along with drawings for bid.
- The fire alarm system shop drawings, calculations and product data shall be submitted by the general contractor to authorities having jurisdiction, as deferred approval. Installation shall be tested by contractor in the presence of local fire, building authorities and the owner's insurance underwriter.

ADDITIONAL ELECTRICAL PARAMETERS

Seismic Bracing

- Electrical components should be installed and braced to conform to the California Building Code requirements for non-structural systems.
- Conduit systems may be braced using pre-engineered seismic bracing systems.
- Probable Importance Factor = 1.0.

Commissioning

- The electrical systems should be commissioned by the contractor using Functional Performance Test Procedures produced by a contract-independent commissioning agent who would work directly for the AOC.
- All electrical systems should be formally commissioned to insure proper operation.
- Extent of commissioning scope to be determined with the AOC.

Appendix

Electrical Load Summary

Approximate bldg. size: 193,343 sf
Main Service Size (amp): 4,000
Voltage/phase/wire: 277/480v, 3ph, 4w
No. of meters at service location: One
Single largest motor: 150 hp
Type of tenant: Court

Load Description	Area Sq.Ft.	Watts W/Sq.Ft.	Load KVA	Demand Factor	Demand Load	Weighted %
1. LIGHTING	193,343	2.00	386.69	1.25	483.36	19.4%
2. CONVENIENCE OUTLETS	193,343	3.00	580.03	0.50	290.01	11.6%
3. TELCOM & SECURITY	193,343	0.75	145.01	1.00	145.01	5.8%
4. TELCOM & SECURITY COOLING	193,343	0.25	48.34	1.00	48.34	1.9%
5. PLUMBING	193,343	0.33	63.80	0.75	47.85	1.9%
6. FIRE PROTECTION	193,343	0.75	145.01	1.00	145.01	5.8%
7. HVAC	193,343	5.50	1,063.39	1.00	1,063.39	42.7%
8. ELEVATORS	193,343	1.25	241.68	0.50	120.84	4.8%
9. EXTERIOR LIGHTING	193,343	0.20	38.67	1.25	48.34	1.9%
10. FIRE PUMP	-	-	100.00	1.00	100.00	3.9%
Subtotal (kva) =					2,492.14	100.0%
SPARE CAPACITY @ 25% =					623.03	
Total KVA =					3,115.17	
Total Amp =					3,749	@ 277/480v
Average watts per Sq.Ft. =					12.89	

Standby Power Load Summary

Approx. net bldg square footage 193,343
 Main Service Size (amp) 4000
 Voltage/phase/wire 27 7/480v, 3ph, 4w
Engine Generator 1,500kw/1,875kva, 3ph, 4w

	Area Sq.Ft.	Watts W/Sq.Ft.	Load KVA	Demand Factor	Demand Load	Weighted %
1. LIGHTING	193,343	0.30	58.00	1.25	72.50	7.0%
2. 50% LTG IN DETENTION, COURT, & EQUIP ROOMS	193,343	0.50	96.67	1.25	120.84	11.6%
3. TELCOM & SECURITY EQUIP	193,343	0.50	96.67	1.00	96.67	9.3%
4. TELCOM & SECURITY COOLING	193,343	0.25	48.34	1.00	48.34	4.6%
5. ELEVATORS	193,343	1.25	241.68	0.60	145.01	13.9%
5. HVAC	193,343	2.00	386.69	1.00	386.69	37.1%
6. FIREALARM, GATES, MISC	193,343	0.25	48.34	0.50	24.17	2.3%
7. RECEPPTS - MECH/ELEC, IDF, ELEV. MACH RM.	-	-	30.00	1.00	30.00	2.9%
8. EXTERIOR LIGHTING	-	-	15.00	1.25	18.75	1.8%
9. FIRE PUMP	-	-	100.00	1.00	100.00	9.6%
			Subtotal KVA =		1,042.96	90.4%
			Spare Capacity @ 25% =		260.74	
			Total KVA =		1,303.70	
			Total Amp =		1,569	
			@		277/480v	
			Average watts per Sq.Ft. =		5.39	

APPENDIX E: PLUMBING + FIRE PROTECTION DETAILED SYSTEMS ANALYSIS

INTRODUCTION

The purpose of this analysis is to evaluate and recommend building plumbing and fire protection systems consistent with the Program and with high quality, reliability, and energy efficiency. The plumbing and fire protection systems consist of domestic cold and hot water systems, waste and vent systems, rainwater drainage systems, natural gas system, diesel fuel system, and fire sprinkler system.

APPLICABLE CODES, GUIDELINES, AND STANDARDS

The latest edition of the approved year of the following codes or combination codes and guidelines govern the plumbing systems and associated support system designs:

Applicable Codes, Guidelines, and Standards

- California Trial Court Facilities Standards
- ADAAG - Americans with Disabilities Act Accessibility Guidelines.
- ANSI - American National Standards Institute, Inc.
- CAC - California Administrative Code
- CBC - California Building Code
- CMC - California Mechanical Code
- CPC - California Plumbing Code
- CEC - California Electrical Code
- CFC - California Fire Code
- California Building Energy Efficiency Standards (T24 Energy Efficiency Standards)
- CAL.OSHA - California Occupational Safety Hazard Authority
- CCR - California Code of Regulations (T24 Energy Efficiency Standards)
- FM - Factory Mutual
- NFPA - National Fire Prevention Association
- NFPA 37 - Stationary Combustion Engines and Gas Turbines
- NFPA 30 - Flammable and Combustible Liquids Code
- NFPA 110- Emergency and Standby Power Systems
- SFM - California State and Local Fire Marshal
- UL - Underwriter's laboratories, Inc

Appendix

PLUMBING DESIGN PARAMETERS

Domestic Cold Water Supply System

The Cold Water supply system should consist of a pressurized piping distribution system incorporating a dedicated supply line from the existing street water main to the mechanical room inside the building.

For coordination purposes, the Civil Engineer should determine the connection to street water main and meters furnished by the local department of public works to meter the service, outside the building and within the property line.

The irrigation systems are sub-metered for a deduct billing of the sewer system.

A central reduced-pressure principle (RP) type backflow prevention device is required on the Cold Water supply, located inside in a mechanical room, to protect the street water mains from backflow from the building. In order to minimize building water system downtime repair and/or service, dual parallel backflow preventer assemblies should be installed, each sized for 100% of estimated Cold Water demand to the building.

The irrigation systems should be provided with a separate RP backflow preventer.

Internal distribution should consist of a piping system that supplies domestic cold water to all necessary plumbing fixtures, water heaters and all mechanical make-up water needs. Fill and make-up water for HVAC equipment should be supplied through RP backflow prevention devices.

The Cold Water distribution system includes equipment that maintains adequate pressure and flow in all parts of the system.

A duplex booster pumping system shall be utilized if the water pressure is not adequate to provide sufficient pressure at highest, most remote fixture (TBD). The water pressure at the fixture shall be in accordance with the California Plumbing Code. Water hammer arrestors should be provided at every branch to multiple fixtures and on every floor for both hot and cold water.

Domestic Cold and Hot Water piping should be sized using the "Fixture Unit" method in accordance with 2001 California Plumbing Code, Table 6-4. Pressure within the piping system should be in the range of 35 PSI at the top floor to approximately 75 PSI on the ground floor. Pipes should be sized such that velocity shall be 6 feet per second (FPS) or less. Pressure drop should be no greater than 3 PSI per 100 Feet.

Domestic Cold Water piping should be Type L copper tubing with solder-joint wrought copper fittings. All solder at the joints should be lead-free.

Domestic Hot Water System

Heaters utilizing natural gas as an energy source should generate the Domestic Hot Water. A gas-fired system located in a penthouse Mechanical Room would eliminate the special heater flue requirements. Domestic Hot Water should be distributed at 120°F. A circulating pump set on a timer circulating hot water in looped mains, would maintain the temperature in the pipes.

The Domestic Hot Water supply temperature should be generated at 140°F (60°C), and tempered to 120°F (49°C) using a three-way mixing valve, before supplying to all plumbing fixtures.

Hot water supply temperature typically required for dishwashers is 180°F (82°C). To achieve this, the Domestic Hot Water temperature should be boosted locally to 180°F.

The hot water distribution system should consist of a piping system, which connects a water heater to all plumbing fixtures as required. Circulation systems or temperature maintenance systems should be included. Hot water should be available at the furthest fixture from the heating source within 15 seconds of the time of operation.

The Domestic Hot Water heating equipment should be sized based on GPH demand and as defined in ASHRAE's Service Water Heating Tables and the California Plumbing Code.

The Domestic Hot Water piping should be Type L copper tubing with solder-joint wrought copper fittings. All solder at the joints should be lead-free. Domestic Hot Water distribution systems should be insulated per ASHRAE 90.1 and exposed piping has PVC jacketing.

Sanitary Waste and Vent Systems

Sanitary waste and vent systems should be provided to drain by gravity all plumbing fixtures, floor drains, HVAC condensate drains, and kitchen equipment designed in compliance with applicable codes and standards. The waste should be piped to stacks, then to house sewer(s), then to a point of connection(s) to the street sewer, which should be determined by the Civil Engineer.

Automatic Sewage Ejectors: Sewage ejectors should be used where gravity drainage to the street sewer is not possible (TBD). If ejectors are required, only the lowest floors of the building should be connected to the sewage ejector; fixtures on upper floors should use gravity flow to the street sewer. Sewage ejectors should be non-clog, screen-less duplex pumps, with each discharge not less than 4" in diameter. They should be connected to the emergency power system.

Floor Drains

Floor drains should be provided in multi-toilet fixture restrooms, kitchen areas, mechanical equipment rooms, locations where condensate from equipment collects, and parking garages and ramps. Single fixture toilet rooms do not require floor drains. In general, floor drains should be cast iron body type with 6" diameter nickel-bronze strainers for public toilets, kitchen areas and other public areas. Equipment room areas will require large diameter cast iron strainers and parking garages will require large diameter tractor grates. Drainage for ramps will require either trench drains or roadway inlets when exposed to rainfall. Trap primers should be provided for all floor drains where drainage is not routinely expected from spillage, cleaning, or rainwater.

Floor drains, and floor sinks should be trapped and primed in accordance with Code. Floor drains in toilet rooms should be primed from flush valve connector type trap primers. Where floor drains are in remote locations, timer controlled trap primers should be used.

Equipment with hot water discharge should have an integral water-cooling systems to maintain hot water discharge to sewer at no greater than 140 degrees F.

Floor drains and/or trench drains in garage locations should discharge into sand/oil interceptors.

Sanitary Waste and Sanitary Vent piping systems should be sized using the Fixture Unit Method, in accordance with 2001 California Plumbing Code, Tables 7-3 and 7-5.

Appendix

Sanitary waste and vent piping and fitting material above floor levels should be service weight, hub-less, cast iron piping and fitting, with heavy-duty stainless steel couplings, and neoprene gaskets. Sanitary Waste piping under the building slab should be hub and spigot, cast iron piping and fittings, encased in 20 mil plastic sleeves where aggressive soil conditions occur.

Rainwater Drainage Systems

All roof drains should flow by gravity to rainwater leaders, and be routed down through the building to the house sewers to a point of connection(s) to the street storm drain, which would be determined by the Civil Engineer.

Overflow pipes should be extended to all overflow drains and routed down through the building to terminate above grade at the face of exterior walls.

The foundation drainage system, where required by the Structural Engineer, should be a perforated drain pipe collecting into a sump. The sump should be configured with a duplex sump pumps system designed in accordance with the California Plumbing Code.

Roof drains should be cast iron body type with high dome grates and membrane clamping rings, manufactured by any of the major foundries. Each roof drain should have a separate overflow drain located adjacent to it. Overflow drains should be the same drains as the roof drains, except that a damming weir extension is included.

Roof drains, overflow drains and associated piping should be sized per the current edition of the California Plumbing Code, Tables 11-1 and 11-2, and based on 2" rainfall per hour intensity.

Rainwater Leader and Overflow Drain piping and fitting material should be service weight hubless cast iron piping and fittings with heavy duty stainless steel couplings and neoprene gaskets. Rainwater Leader piping under the slab should be hub and spigot, cast iron piping and fittings, encased in 20 mil plastic sleeves where aggressive soil conditions occur.

Natural Gas System

Gas meters should be located in either outdoors or in a ventilated gas meter room (TBD) in accordance with PG&E installation requirements. Direct access for meter reading should be provided. The gas service from the street main to the meter, including the meter, is provided by the utility company.

Gas piping entering the building should be protected from accidental damage by vehicles, foundation settlement or vibration. Where practical, the gas piping should enter the building above grade and be provided with a self-tightening swing joint prior to entering the building.

The incoming gas service should have a house-side main shut off valve.

Gas piping can not be placed in unventilated spaces, such as trenches or unventilated shafts, where leaking gas could accumulate and explode.

Gas can not be piped through confined spaces, such as trenches or unventilated shafts. All spaces containing gas-fired equipment, such as boilers, chillers and generators, should be mechanically ventilated. Vertical shafts carrying gas piping should be ventilated. Gas piping inside ceiling spaces should have plenum-rated fittings.

Diaphragms and regulators in gas piping should be vented to the outside.

Natural Gas piping should be sized in accordance with California Plumbing Code

Natural Gas piping should be Schedule 40 black steel piping with malleable iron threaded fittings for pipes 1-1/2" and smaller. 2" and larger piping is Schedule 40 steel piping with welded joints.

Diesel Fuel Oil System

A Fuel Oil Supply System should be provided for the Emergency Generator that includes the following:

- A double-walled storage tank, fiberglass for below ground locations, or coated steel for above ground locations (TBD). The tank should be provided with all the necessary code-mandated monitoring devices, alarm, and relief vents. The capacity of the tank should be based on the Electrical division requirements for the number of hours the generator is required to operate, which includes testing hours and emergency power duration requirements (3,000 gallons).
- Duplex fuel pumps, located in the Mechanical Room, pump the fuel to the Generator day tank (double containment, fire rated and minimum 100 gallons capacity). The day-tank should be provided with an emergency over-flow pump discharging separately to the underground tank. The day tank should have generator return fuel coolers.
- All fuel oil piping above ground should be double-walled, Black steel; Schedule 40 with threaded MI fittings, all contained in schedule 10 steel pipes. Fuel piping below ground should be double-wall piping, UL Listed for diesel fuel. All containment voids should be automatically monitored for leaks continuously.

The installation should comply with local, State and Federal requirements, as well as EPA 40 CFR 280 and 281.

Plumbing Fixtures

All plumbing fixtures and faucets should be water efficient, commercial grade type fixtures.

Water closets and urinals should be water conservation type, listed with California Energy Commission. Water closets utilize Dual-Flush valves listed for 1.6 and 1.1 gallons per flush. Urinals should utilize 0.125 gallons per flush or are water-less urinals (TBD)

Permanently wired automatic flush valves with optional manual flush activation for water urinals, water closets, and automatic faucets should be provided in public toilet rooms.

Faucets and showerheads should be listed with California Energy Commission for complying with water conservation requirements. Maximum flow rates for faucets should be 0.5 GPM for lavatories and 1.5 GPM for sinks.

Showers should be provided with a floor drain in the stall, and a pressure balancing mixing valve. The maximum flow rate for showerheads should be 2 GPM.

Miscellaneous sinks such as break room sinks, conference sinks should be 18 gauge, Type 304 stainless steel with No. 4 finish, self-rimming and sound dampened underneath.

Drinking fountains should be dual height, ADA type.

Service sinks should be terrazzo mop basins, with a back outlet wall mount faucet. The faucets should have a vacuum breaker spout and wall bracing bracket.

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In the detention holding rooms, penal type fixtures should be provided. Fixture should be fabricated from 14 gauge, type 304 stainless steel construction with a satin finish. The fixture should be designed to reduce the risk of the fixture being used as a suicide device. The fixture should have an oval-shaped lavatory bowl with overflow and a hemispherical penal type drinking bubbler/outlet, operated by a pneumatically controlled pushbutton valve. The flush valve should be concealed, 1.6 gallons per flush, operated by a pneumatically controlled pushbutton valve.

ADDITIONAL PLUMBING PARAMETERS

Building Energy Management System Coordination

Where available, equipment should be provided with EMS integration hardware and software. Where integration is not provided, the following minimum features should be provided.

- Water booster pump system control panel: dry contacts for annunciating alarm conditions, on, off and pump failure.
- Water heaters control panels: dry contacts for annunciating alarm conditions, on, off and temperature.
- Ejector pumps control panels: dry contacts for annunciating alarm conditions, on, off and pit level alarm
- Sump pumps control panels: dry contacts for annunciating alarm conditions, on, off and pit level alarm
- Fuel pumps control panels: dry contacts for annunciating alarm conditions, on, off.
- Fuel tank level and leak detection control panels: fuel level monitor and alarm, leak monitor.

Seismic Bracing

- Plumbing components should be installed and braced to conform to the California Building Code requirements for non-structural systems.
- Pipe systems may be braced using pre-engineered seismic bracing systems.
- Probable Importance Factor = 1.0.

Commissioning

- The Plumbing systems should be commissioned by the contractor using Functional Performance Test Procedures produced by a contractor-independent commissioning agent who would work directly for the AOC.
- All Plumbing systems should be formally commissioned to insure proper operation.
- Extent of commissioning scope to be determined with the AOC.

FIRE PROTECTION DESIGN PARAMETERS

Fire Main

The fire water main should extend to the building from a point of connection to the street main, which would be determined by the Civil Engineer.

A central double detector check valve backflow prevention assembly should be provided on the fire water supply to protect the street water mains from backflow from the building.

Fire Pump: If the street pressure is not adequate to meet NFPA sprinkler requirements, a fire pump will be necessary to supplement the water pressure (TBD). Pump sizing should comply with NFPA 13, 14, and 20.

- If a fire pump is required, it should be sized only for the sprinkler system requirements. If the local responding fire department cannot provide the necessary flow and pressure for manual fire fighting operations (i.e., hose stations) on the upper floors, then the fire pump should be sized to additionally include the standpipe demands.
- The fire pump should be electric motor driven, horizontal split case centrifugal type. The fire pump controller and the power transfer switches should be factory assembled and packaged as a single unit. The fire pump controller should be monitored by the fire alarm system.
- Jockey Pump. A jockey pump should be utilized to maintain a uniform pressure on the fire protection system.

Automatic sprinkler systems should be installed throughout the building in accordance with the requirements of NFPA 13, the State Fire Marshal and the California Building Code. Sprinkler systems should be designed using a minimum application design area of 1,500 sq. ft.

- In rooms containing movable/mobile shelving (high density storage), the sprinkler design should be Ordinary Hazard (Group 2) using quick response sprinklers.
- Sprinklers installed in electrical rooms and electrical closets should be equipped with sprinkler guards to provide protection against accidental damage.
- In detention holding areas, Quick Response institutional sidewall sprinklers should be installed in the corridor outside each of the detention cells. Sprinklers should be located such that the spray pattern of the sprinklers penetrates through the bars of the cell. Sprinklers should not be installed inside individual detention cells.
- A sprinkler system floor zone control valve assembly should be provided on each floor to serve the automatic fire sprinkler piping system of the respective floor. The floor zone control assembly should consist of main floor shut off valve, flow switch, inspector's test drain valve, and main drain valve.
- Sprinkler piping, fittings, control valves, check valves, and drain assemblies should meet the requirements of NFPA 13

Elevator machine rooms should be provided with separate manual isolation valves and separate water flow switch located outside the room in an accessible location. Tamper switches should be provided on all such valves.

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Electrical switchgear rooms and transformer vaults should be provided with separate manual isolation valves and a separate water flow switch located outside the room in an accessible location. Tamper switches should be provided on all such valves.

Essential electronic facilities should be provided with separate manual isolation valves and a separate water flow switch located outside the room in an accessible location. Tamper switches should be provided on all such valves.

Fire Department Hose Outlets: Each fire main riser should be provided with 2-1/2" fire department hose outlets. Each outlet should be located in the stair shaft and have a removable 1-1/2" adapter and cap. Threads and valves should be compatible with the local fire department requirements.

A 4-way fire department inlet connection should be located outside, near the backflow prevention assembly.

There should be 3-way roof manifold fire department hose valve outlet connection(s) on the roof to provide complete coverage of the entire roof per NFPA 14.

Non-Water Based Fire Extinguishing System for Data Center, Control Centers, and Server Room Protection: Server Rooms and Telecom Rooms in excess of 200 sq. ft., a pre-action fire sprinkler system or similar chemical fire suppression systems with standard fire sprinkler system should be provided (TBD)

- The clean agent fire suppression system should comply with the most current requirements of ANSI/NFPA-72 Standards, Factory Mutual Guide, and NFPA 2001.
- For server rooms and telecom rooms of less than 200 sq. ft., a fire sprinkler system should be provided.

APPENDIX F: DATA + COMMUNICATION DETAILED SYSTEMS ANALYSIS

INTRODUCTION

Communications services, such as telephone, data, video, and other services, should be distributed throughout the entire building. These services should be available, at a greater or lesser extent, to the building's occupants and visitors, and to other building systems.

The technology infrastructure / structured cabling system should be designed to support initial and future telephone, data, and video applications. The structured cabling system should be standards-based and the applications developed for buildings increasingly depend on that ubiquitous cabling infrastructure. Whether the communications application may be analog or digital, IP or proprietary, the structured cabling system should support communications applications at the building's initial opening and for years into the future.

SCOPE

This section covers Technology Infrastructure / Structured Cabling System, including spaces, pathways, and cabling.

This section does not cover telephone systems, network systems, and IT systems (such as servers, storage, desktop computers, etc).

CONCEPTUAL DESIGN OPTIONS

The technology infrastructure remains unaffected among the architectural concept development options, except the quantity of rooms (IDFs) may vary.

Technology Infrastructure / Structured Cabling Overview

Technology infrastructure / structured cabling should consist primarily of the following aspects, excluding aspects such as power, cooling, and other disciplines:

- Spaces
- Pathways
- Telecommunications Grounding Backbone
- Cabling
- Administration

Spaces: Technology spaces house equipment, such as network switches, telephones systems, IT equipment (e.g., servers, storage, etc.), security panels, paging system, equipment and termination apparatus support components (such as racks), cabling terminations, etc. These spaces should also feature a controlled environment, adequate power and cooling with spare capacity for growth, secured access into the space, bright illumination, and other space-specific construction requirements.

In general, the spaces should include (which will be discussed in greater detail following):

- Entrance Facility
- Building Distribution Facility (BDF)
- IT Equipment/Server Center

Appendix

- Intermediate Distribution Facility (IDF)
- Security Control Room (covered under the security section)

Pathways: Though a conduit may seem like just a metal tube, pathways become increasingly critical to the success of a project's technology infrastructure. The pathways should be designed and built to maximize flexibility, provide future capacity, eliminate accessibility problems, and be easily modified and/or expanded upon in the future.

In general, the pathways should include (which will be discussed in greater detail following):

- Service entrance pathways
- Backbone pathways
- Floor distribution primary and secondary pathways
- Work area pathways

Cabling: Cabling encompasses cables, termination apparatus, and patching/crossconnecting. Distinctly, the term 'cable' means only a cable, versus the term 'cabling' meaning cables, terminations, and connecting media.

In general, the cabling should include (which will be discussed in greater detail following):

- Backbone Cabling
- Horizontal Cabling

Service Entrance

The building should receive one service entrance (possibly two, for redundancy) connecting with a Telco utility and potentially with a connection to the existing County buildings across the street. This service entrance should consist of pathways and cabling media.

Generally, the service entrance's pathways should consist of four or more 4" conduits. These conduits should stub approximately 1 foot beyond the property line, either truncating for future connection to the utility or entering a 'meet-me' pullbox.

The service entrance's media should consist of twisted pair cabling and, possibly, fiber optic cabling. This cabling should support analog telephone circuits, digital multiplexed circuits, high-speed network circuits, and other public network services. The Telco utility should provide the service entrance media after the County places an order for service.

Entrance Facility (EF)

The building should have one entrance facility room. This room should be approximately 100 sq-ft (approximately 10 feet by 10 feet).

Function: The EF should house the Telco utility's demarcation (generally, a building entrance protection / BEP terminal for twisted pair media and a floor-standing fiber transport cabinet for fiber-based circuits). The service entrance pathways should route into and truncate within the EF.

Building Distribution Facility (BDF)

The building should have one BDF room. This room should be approximately 250 sq-ft to 500 sq-ft (the range depends on the quantity of systems the BDF will house).

Function: The BDF should house the building's main telecommunications equipment that serve the other telecommunications rooms and the building at large (such as the data network and the telephone system), and that interface with the external connections. Also, the BDF should house the backbone termination and crossconnect field.

IT Equipment/Server Center

The building should have one IT Equipment/Server Center. IT Equipment/Server Center should consist of one equipment/computer room, one electrical room (approximately 500 sq-ft), and one mechanical room (approximately 500 sq-ft). The equipment/computer room should be approximately 500 sq-ft and house IT systems (e.g., servers, storage, etc.); the electrical room should be approximately 500 sq-ft and house electrical equipment (e.g., transfer switch, UPS systems, etc.); the mechanical room should be approximately 500 sq-ft and house mechanical equipment (e.g., CRAC units, storage tanks for gaseous-based fire extinguishing system, etc.).

Function: The IT Equipment/Server Center should house IT systems that locally support the building, such as database servers, email servers, latency-sensitive applications, local applications, and storage supporting the resident systems and applications. The IT Equipment/Server Center should connect to the state-wide data center via the local and wide area networks (house in the BDF), to serve enterprise-wide applications and databases.

Intermediate Distribution Facility (IDF)

The building should have at least one IDF room per floor. This room should be approximately 100 sq-ft to 175 sq-ft (the range depends on the quantity of systems the IDF will house). The IDF's should be vertically adjacent floor-to-floor, effectively creating a vertical stack.

Function: The IDF should house the horizontal cabling terminations, the backbone termination (from the BDF), and telecommunications equipment that serve the floor area (such as a network switch).

Building Pathways

The building should contain pathways to support the building's telecommunications cabling and interconnections.

The building should contain "backbone pathways", which will connect the BDF to each of the IDFs. Generally, these pathways would consist of conduits, cable trays, and/or riser sleeves (up the IDF stack).

The building should contain "floor distribution primary and secondary pathways", which will support horizontal cables from the IDFs to their destination at work areas. Generally, this pathway subsystem would consist of exit sleeves at the IDFs, cable trays or basketways (as the primary pathways), and cable hangers (as the secondary pathways).

The building should contain "work area pathways", which will support horizontal cables at work areas. Generally, this pathway subsystem would consist of a 'box & stub' at wall outlets, surface raceway, and/or troughs at furniture systems.

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Backbone Cabling

The building should contain backbone cabling. This cabling would span from the BDF to each IDF and would consist of twisted pair and fiber optic cabling media to support telephone and network communications.

Horizontal Cabling

The building should contain horizontal cabling. This cabling would span from the IDF to the work areas/telecom outlets and would consist of "CATEGORY"-type unshielded twisted pair cabling media to support telephone and network communications.

APPENDIX G: SECURITY DETAILED SYSTEMS ANALYSIS

INTRODUCTION

This section represents the initial assessment of the security needs for the Santa Clara County Family Justice Center. Some of the recommendations within this section depend on other disciplines and may also impact their scope of work. The scope of work is based on the architectural development concepts and the written security guidelines from the AOC.

Access Control & Alarm Monitoring System (ACAMS)

The ACAMS should provide electronic card access to control visitors, vehicles, and employees from entering the Court building. Typical access controlled entrances would consist of card readers, recessed door contacts in the header or top mullion, request-to-exit (rex) sensors, electronic locking hardware, and low-voltage power supplies. These field devices should communicate with centralized, wall-mounted control panels in the telecommunications rooms. ACAMS control panels and equipment enclosures typically require four feet of wall space with two feet of clearance.

A dedicated, rack-mounted server for the ACAMS software should reside within the Security Equipment Room (or possibly the IT Equipment/Server Center) and connect to the control panels via the building's local area network. Client versions of the ACAMS software should run on workstations in the Security Operations Room, providing authorized users the capability of monitoring the security system in real time.

Intrusion Detection System (IDS)

The IDS should consist of duress buttons, keypads, alarm contacts, motion sensors, and glass break detectors. The field devices should communicate with centralized, wall-mounted control panels adjacent to the ACAMS in the telecommunications rooms and require a dedicated outside phone line for communication to a third-party central alarm monitoring station.

The IDS control panel should include sufficient input and output monitoring points to allow any alarm event to be reported and recorded on both the ACAMS and IDS. Keypads at designated locations should sound and display the location of duress button activations, allowing the Court Security Officer (CSO) or Sheriff's Office to respond.

Video Surveillance System (VSS)

The VSS should consist of IP-based color cameras with variable focus, auto iris lenses that provide real time viewing and historical recording of the main entry/exit points as well as other designated areas of the building. The IP-based surveillance system should have the ability to transmit video images without the need for a dedicated physical infrastructure. The system should use the building's local area network for transporting video streams, rather than dedicated point-to-point cabling used in traditional analog video systems.

IP-based network cameras or encoded analog cameras should communicate with local area network Video Recorder (NVR) through the building's local area network. An NVR consists of a dedicated, rack-mounted server, redundant storage drives, and powerful video management software. Client versions of

Appendix

the VSS management software should run on workstations in conjunction with the A-CAMS in the Security Operations Room.

SITE ANALYSIS

Secure Parking

A motorized gate, located in the perimeter fencing surrounding the secure parking area should be controlled by a card reader and an entry telephone. Authorized staff with an access card would be granted access through this gate. Visitors and delivery personnel would request access with the entry telephone unit, which will call the Security Operations Room. Exterior cameras installed near the entrance to the parking area would provide the Security Operations Room with views of vehicles and personnel entering the parking facility.

Architectural concept Options B and E are unique from the others, since they provide secured surface parking rather than basement parking. If this is the desired direction, additional VSS cameras and other security devices may be required and the perimeter fencing will require screening to obscure the view of the secure parking lot from the public.

Inmate Vehicle Sally Port

The motorized gates controlling the entry and exit to the vehicle sally port should be controlled by a card reader and interlocked with the building's Central Holding area entrance door. Exterior VSS cameras near the perimeter entrance should provide the Security Operations Room with views of each vehicle from entering the sally port.

Because the secure parking lot is adjacent to the sally port in architectural concept Options B and E, the fencing that separates the two areas will also require screening to obscure the view of the secure parking lot from the inmates.

Site

Physical barriers, such as bollards or large planters, should be placed around the perimeter to block vehicles from entering the minimum 20' stand-off distance. Incoming services for building utilities (gas, power, telecommunications, etc.) should be protected and located within secure areas.

The site should utilize landscaping as an effective tool to deter crime. Based on the current architectural concept options and site layouts, the trees adjacent to the building in Options C and D along West Saint James Street and North Market Street may need to be relocated. The placement of trees and bushes around the building perimeter should not allow unauthorized access to the roof.

If trees must be located next to the building, the trees should be trimmed or maintained at a minimum of 4' below the roof line. Hedges or shrubs along the site perimeter should not exceed 30" in height so that they do not allow an intruder to hide. It is imperative that the landscape design not impact the exterior lighting requirements necessary for video surveillance.

Lighting Requirements

The success of the VSS critically depends on the presence and amount of exterior lighting. During nighttime operation, exterior lighting should provide the following benefits:

- Illumination to allow for the proper operation of exterior video surveillance cameras
- Deterrence to crime around the building and parking area
- A sense of security for staff and personnel visiting the facility

The Illumination Engineering Society of North America recommends the following minimum lighting levels for VSS cameras:

- Building perimeter – 1 foot-candle (10 lux)
- Main entrances and vehicle gates – 5 foot-candles (50 lux)
- Secure parking area – 1.5 foot-candles (15 lux)
- Roof – 1 foot-candle (10 lux)

Exterior lighting should operate continuously during hours of darkness in the previously stated areas.

BUILDING ANALYSIS

Building Perimeter

Exterior pan-tilt-zoom (PTZ) cameras should be located at each corner of the building to provide the Security Operations Room with 360 degree coverage of the perimeter of the building and general overviews of the Inmate Vehicle Sally Port area.

Exterior fixed cameras should be located at each entrance to provide a photographic record of each person entering the building. For architectural concept options that include overhangs or larger promenade areas near the main building entrance (i.e. Option A), additional PTZ cameras may be required to provide the Security Operations Room with complete camera coverage.

Building Lobby

The main entry lobby should have screening or security checkpoint stations for individuals entering the building. The security checkpoint stations should include the following:

- Walk-through metal detector for visitor screening
- X-ray station for package screening check
- Security workstation to view ACAMS and VSS alarms
- Duress button to trigger an alarm on the IDS and notify the Security Operations Room for assistance
- IDS keypads to identify the location of the activated duress buttons
- Two VSS cameras for each checkpoint lane

For architectural concept options that include the exit area adjacent to the Pre-Security Queuing area, a physical barrier or wall will be required to separate the secured from non-secured space.

Appendix

Service Counters

Bullet resistant glass and level 3A bullet resistant materials should be utilized for service counters that separate private from public space. Each service counter station should have a duress button which, upon activation, will display on all IDS keypads throughout the building. Each service counter station should also have a dedicated VSS camera to provide a photographic record of duress button alarm events. Entrances to each department space (i.e. Administration, Self-Help Center, HR, etc.) should utilize card readers to grant access to authorized staff members.

Waiting Areas

The architectural concept options currently indicate two stairwells that service the public corridor and another stairwell that serves the restricted corridor behind the Courtroom space. This element is crucial to have separate paths of egress between public and judicial spaces in the event of an emergency.

Doors in the public corridor leading to Core, Court Support, and Witness Waiting Area areas will require card readers. VSS cameras, located at each end of the waiting area and public corridors, should provide a general overview of the area.

Judge's Chambers

Duress buttons in the Judge's Chambers and each Clerk's Desk should trigger alarms on the IDS and notify the Security Operations Room for assistance. Windows with direct line of sight should be minimized and will require bullet-resistant glass.

Jury Deliberation Rooms

Security for the deliberation rooms is very similar to the requirements for the Judge's Chambers requirements. Each room will require a duress button and windows with direct line of sight should be minimized.

Courtrooms

The Judge's bench, CSO (Courtroom Security Officer) station, and clerk's desk will require duress buttons. These duress buttons should trigger alarms on the IDS and notify the Security Operations Room for assistance. Bullet-resistant glass should be utilized as well as level 3A bullet-resistant materials in the paneling for the podium surrounding the Judge's bench, CSO station, and clerk's desk.

Each courtroom will require VSS cameras to provide a general overview of court proceedings. Microphones, located in the ceiling, should provide audio surveillance and recording of courtroom disturbances. Entry and exit card readers should control delayed egress locking hardware on all doors behind the Judge's bench leading to the restricted corridor. Courtroom exit doors may require lock-down capability depending on the threat level assessment.

The CSO desk should have a master intercom station to communicate with the Holding Area and a security workstation.

In-Custody Elevators and Holding Areas

Each elevator should contain a duress button, a VSS camera to provide a general view of activity within the elevator cab, and a card reader within the operating panel to restrict access by floor.

Card readers will be required within the Holding Area of each Courtroom to call the elevator. Entry and exit card readers should control the doors within the Holding Areas leading to the Courtrooms. VSS cameras will also be required on each end of the Holding Area to provide a dedicated camera viewing angle for each card reader door.

The holding cell's detention grade locking hardware should be electronically controlled by the security system and have manual key override. Each holding cell should have an intercom station, which calls the master intercom station at the CSO desk, and a VSS camera that can be viewed on the CSO security workstation.

Central Holding

The Central Holding area should have a CSO desk with a security workstation, a duress button, an IDS keypad, and a master intercom station.

The holding cell's detention grade locking hardware should be electronically controlled by the security system and have manual key override. Each holding cell should have an intercom station, which calls the master intercom station at the CSO desk, and a VSS camera that can be viewed on the CSO security workstation.

Security Operations Room

The Security Operations Room is a 2 4/7 control center that will operate and monitor the electronic security systems within the building and assist the CSO staff by providing redundant functions of the In-Custody Holding Areas. Based on the architectural concept options and the scale of this project, the minimum room size should be 160 square feet (16' x 10') and will require the following:

- Security furniture console with adequate workspace for at least two operators
- Workstations with multiple monitors that control/monitor the security and building management systems
- IDS alarm keypads
- Fire/life-safety system remote annunciator or control panel (due to the current architectural development concepts, a separate room may be needed to house the fire/life safety system control panel to meet NFPA and other high-rise code requirements)
- Master intercom stations
- Radio consoles to communicate with the Santa Clara County Sheriff and emergency services
- Stand-by power (generator) for circuits serving this space
- Uninterruptable power supply (UPS) backing the equipment within this space
- The cooling system should also be circuited from the stand-by power source (generator)

Appendix

Security Equipment Room

While the majority of the devices will be served from security equipment panels within the telecommunications rooms, a separate Security Equipment Room will be needed to house the head-end servers and other rack-mounted security components. The minimum room size should be 100 square feet (10' x 10') and will require the following:

- Equipment racks to serve ACAMS servers, network video recorders, VSS storage devices, and PLC automation system controllers
- Dedicated electrical panel that provides emergency power for circuits serving this space
- Dedicated HVAC system for a conditioned space

The room should be separate from the building's IT or Server Room and be located adjacent to the Security Operations Room.

Building Infrastructure Rooms

Telecommunications rooms or spaces that serve critical building infrastructure (i.e. Mechanical areas) will be required to have a card reader to restrict access to authorized staff.

APPENDIX H: AUDIO-VISUAL DETAILED SYSTEMS ANALYSIS

INTRODUCTION

Audiovisual systems are ubiquitous throughout modern court facilities in California, from presentation systems that include large projected images and voice amplification to video arraignment and distributed television systems. Audiovisual systems are required and shall be provided throughout each courthouse.

Audiovisual (AV) systems require appropriate spaces, pathways, cabling, and grounding to support audiovisual equipment throughout the courthouse. The audiovisual pathways should be designed to support initial and future AV applications. The audiovisual pathways should share the standards-based implementation of cabling infrastructure and will support audiovisual systems implemented at the building's initial opening and for years into the future. Telecommunications and audiovisual system designs shall be coordinated to avoid duplications and conflicts.

This section covers pathways for audiovisual systems and community antenna television (CATV) distribution.

AUDIOVISUAL PATHWAYS OVERVIEW

Audiovisual pathways will consist primarily of the following aspects, excluding aspects such as power, cooling, and other disciplines:

- Spaces
- Pathways

Spaces: As audiovisual technology moves towards network-centric topology, AV systems will share spaces with network systems and connect to common IT equipment such as network switches, telephones systems, and IT equipment (e.g., servers, storage, etc.). Building-wide systems, such as CATV head-end and paging system will have equipment components (such as racks) that require space in Building Distribution Frame (BDF) and Intermediate Distribution Frame (IDF) rooms.

The courtroom and support facilities require audiovisual pathways between devices in systems. These spaces and their pathway requirements are described in detail elsewhere in this document.

Pathways: Audiovisual systems have become increasingly complex and require special attention to the implementation of the pathways and supporting infrastructure. It is no longer acceptable to rely on "portable" equipment or an "AV cart." With permanently installed equipment it is of utmost importance to provide adequate pathways to support future equipment and its cabling requirements. The pathways should be designed and built to maximize flexibility, provide future capacity, eliminate accessibility problems, and can be easily modified and/or expanded upon in the future.

In general, the pathways will include (which will be discussed in greater detail following):

- Floor, wall and ceiling boxes
- Conduit pathways
- Millwork/furniture pathways

Appendix

CATV Pathways

The CATV system should provide a single cable broadband distribution of signal throughout the building on coaxial or fiber cable. The head end electronics should be located in the BDF, with distribution throughout the building from splitters in the IDFs. Satellite dish antennas should be placed on the roof with unobstructed southern exposure and provided with a 4" conduit pathway to the CATV distribution rack in the BDF. In general, the CATV system will follow the structured cabling pathways. The BDF and IDFs should follow the space requirements called for in the Data+Communications section (Appendix F).

Power Criteria: For the CATV distribution equipment located within the BDF, the electrical and mechanical engineer should presume a power load of 1,000 to 5,000 W in addition to the other loads within that space.

Paging System Pathways

The paging system requires a head-end equipment rack enclosure located in the BDF and cable pathways to IDFs and ceiling spaces. The paging system cabling should be kept discrete from the structured cables and in conduit except when distributing signal to loudspeakers in a ceiling space. 1" conduit is an adequate pathways size between floors and within walls. A microphone interface plate should be located in jury assembly and other areas designated by the court. Microphone interfaces require a junction box with 1" conduit pathway to the BDF.

Power Criteria: For the paging system equipment located within the BDF, the electrical and mechanical engineer can presume a power load of 1,000 to 5,000 W in addition to the other loads within that space.

Courtroom Audiovisual System Pathways

Audiovisual systems have active components in the courtroom proper as well as in a dedicated AV room or IDF. All rack-mountable equipment should be located in the IDF/AV Room outside the court room to maintain adequate cooling and centralized power management and protection (such as an uninterruptible power supply / UPS). Pathways between the courtroom and IDF/AV room should have separate conduits for each signal type: Microphone, Line Audio, Video and VGA, loudspeaker. Pull boxes should be used to aggregate cables within the room to minimize conduit paths to the IDF/AV Room.

Floor boxes and poke-thru devices used at locations with portable furniture, (i.e.: Counsel tables) would require 2" conduit for AV and telecommunications cabling. Power connections in floor boxes and poke-thru devices would require 120VAC 15A.

Millwork and permanently attached furniture will use conduit and back boxes for mounted equipment. All locations with computer or video connections should have power provided within 12-inches. Microphones will require receptacle plates and back boxes. Low voltage wiring within millwork will require wire management.

Ceiling-mounted projectors will require a 2" conduit to the active electronics located in the IDF/AV Room. The projectors would require 120VAC 20A power. Electrically operated projection screens would require 120VAC 15A power and a 3/4-inch pathway to the active electronics located in the IDF/AV Room.

LEED Implications

The audiovisual system pathways generally do not impact LEED credits. In subsequent design phases, the audio-visual consultant should work with the Design Team to ensure all aspects of technology implementation are examined to be as sustainable as possible.

APPENDIX J: SUSTAINABLE DESIGN

INTRODUCTION

Non-renewable energy consumption and its resultant greenhouse gas emissions is one of the today's most pressing global and national issues. According to the US Green Building Council, buildings annually consume more than 30% of the total energy produced and more than 60% of the electricity used in the United States.

Green building practices can substantially reduce or eliminate these negative environmental impacts and improve our current unsustainable practices. While the sustainability goal for the San Jose New Family Justice Center is equivalency to LEED (Leadership in Energy and Environmental Design) Silver Rating, the project should strive to exceed that minimal value wherever possible. The Courthouse should achieve to exemplify sustainable, healthy, and environmentally responsible design and construction. Its environmental impact can be minimized through attention to sensitive site development, water and energy conservation, indoor air quality, environmentally responsible building materials, and waste reduction among other principles. Green building design features should be considered for each building discipline to maximize the sustainability of the project.

ARCHITECTURAL SUSTAINABILITY PRINCIPLES

Environmentally Sensitive Siting and Orientation

Building orientation, sunshades, recessed windows, and landscaping screens can be maximized to aid in controlling southern solar loads. Additionally, minimizing the building footprint can help to increase permeable surfaces and reduce storm water run-off.

Office Environment

Maximum flexibility can be obtained by use of open office areas where possible. Highly reflective ceiling light shelves and indirect lighting can be used to reduce glare.

Indoor Air Quality

The building should provide for adequate ventilation, and use no- or low-emitting building materials and finishes (paint, sealants, carpet, cabinetry). Operable windows may be considered where appropriate. Interior landscaping can serve as a low-tech means of removing pollutants from the air.

Building Materials

Environmentally responsible building materials and finishes should be selected for their low environmental impact throughout their life cycles (raw materials, manufacturing, shipping, installation and use, and next use). Exterior siding should be maintenance-free, factory-finished metal. Interior finishes, including gypsum board, acoustical tiles, ceramic tiles, and carpet, can utilize recycled materials. Wood products should be certified, and not include any wood products from old-growth forests. Paints and coatings should contain low-volatility or non-volatile organic compounds (VOCs). Structural and reinforcing steel can have 100-percent recycled content, with a minimum of 75-percent post consumer steel. Fly ash can replace up to 20-percent of portland cement. Concrete formwork should be reusable—constructed of steel, fiberglass-reinforced plastic, or wood.

Appendix

To reduce heating and cooling loads, high R-value insulation should be installed external to the building's thermal mass. The building should utilize double-glazed windows with a spectrally selective low-emissivity coating, which has a U-value and solar heat gain factor optimized for each exposure direction.

The building design should strive to minimize construction waste through standard dimensioning of materials, use of full-size panels, etc. Construction and operational waste should be recycled as part of the project.

STRUCTURAL SUSTAINABILITY PRINCIPLES

Sustainable design practices will be specified for all elements of the building structural systems. For reinforced concrete, the specified formwork will meet the requirements of the Forest Stewardship Council (FSC) certification and will be used with low Volatile Organic Compound (VOC) form release agents. Concrete reinforcing bars will contain approximately 90% recycled steel content. Plastic reinforcing bar supports will be specified to contain approximately 90% recycled content. Water employed in the production of reinforced concrete is allowed to be combined water consisting of potable water and a maximum of 50% reclaimed water from concrete production operations. Mix designs for all structural concrete will replace at least 25% of the Portland cement with fly ash and/or ground granulated blast-furnace slag. The curing compounds applied to concrete will be specified to be of low VOC levels. Additionally, all concrete is expected to be locally produced, within a 500 mile radius of the building site.

All structural steel shapes, plates, and hollow structural sections will contain approximately 95% recycled content, and sheet steel used for decking and edge forms will contain at least 55% recycled content. Primer paints applied to steel surfaces exposed to view in the interior of the building will contain low VOC levels. Structural steel is expected to be locally fabricated, within a 500 mile radius of the building site.

All of the structural materials used in the project are easily included in a construction waste management program, and almost all structural waste will be recycled. Specifications will instruct the General Contractor to separate clean solid wood waste and place it in designated areas for reuse or composting, to separate contaminated wood and form work and place them in designated areas for hazardous materials disposal, and separate steel ties, reinforcing bars, and structural steel waste and place them in designated areas for recycling.

MECHANICAL SUSTAINABILITY PRINCIPLES

The following mechanical measures are possible to help achieve the equivalency target:

- 14% minimum target energy reduction based on California Building Energy Efficiency Standards (Title 24) and/or ASHRAE 90.1 – 2004.
- Permanent or portable measurement provisions for monitoring individual laboratory equipment electric power consumption.
- Measurement and optimization systems for building energy and water consumption.
- Additional system commissioning

- No CFCs.
- Indoor ventilation rates per ASHRAE 62.
- Indoor and outdoor CO2 monitoring.
- Construction and Pre-occupancy Indoor Air Quality Management Plan.
- Low VOC content materials.
- Thermal comfort compliance with ASHRAE 55.
- Controllability of systems.
- Innovation potential: Electronic filtration, electronic air purification, chemical-free water treatment.

Energy Efficiency Measures:

A 14% minimum target energy reduction based on California Building Energy Efficiency Standards (Title 24) and/or ASHRAE 90.1 – 2004.

The following energy efficiency measures could be included in the project:

- Building Skin:
 - Utilize best available insulation and glazing, and optimize shading of windows
- Chilled Water System:
 - High efficiency chillers
 - Low approach cooling towers
 - Reset chilled water temperature higher, when practical
 - Constant volume primary / variable volume secondary or variable volume primary only chilled water pumping.
 - Optimize chilled water pumping circuit static pressure setpoint.
 - Reverse-return piping where practical.
 - Low water velocities with 3-4 feet per second velocity.
- Heating Hot water System:
 - High efficiency boilers.
 - Reset boiler supply water temperature to lower temperatures, when practical.
 - Variable volume pumping.
 - Optimize heating hot water pumping circuit static pressure setpoint.
 - Reverse-return piping where practical.
 - Low water velocities with 3-4 feet per second velocity.

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- Air Handling Systems
 - Economizer-based and single duct variable volume terminal reheat operation.
 - Low velocity filter banks – 450 feet per minute or less. (Less than 450-500 fpm conventional face velocity.) Consider using low-loss electronic air cleaners and filters to reduce friction losses and lower power consumption.
 - Low cooling coil face velocities - 450 feet per minute or less. (Less than 450- 500 fpm conventional face velocity.)
 - Low pressure supply air handling systems – operating at about 4.0-4.5” w.c. with mid-range dirty filters.
 - Low duct air velocities – 1,500 feet per minute maximum with a target of 0.06” to 0.1” range pressure drop per 100 feet of duct.
 - Seal all new and existing duct systems and leak-test ducts. (Leak-test all ducts upstream of VAV terminals. Potentially allow spot leak-testing of ducts downstream of VAV terminals.)
 - Un-occupied hours setback space air change rates.
 - Un-occupied hours setback temperatures.
 - Supply and exhaust duct static pressure optimization based on critical zone.
 - Duct static pressure reset.
 - Reset supply air temperature based on the zone requiring the most cooling.
 - CO2 demand ventilation control for outside air at high variable occupancy rooms such as courtrooms.
 - Manual temperature setpoint capability at courtrooms and multipurpose room.
 - Local thermostats for each temperature control zone with local manually adjustable setpoint (selective lockout) and manual bypass to accommodate unscheduled off-hours night and weekend uses.
- Premium efficiency motors.
- Domestic hot water circulator scheduling for occupied hours of operation.
- See Electrical for additional energy conservation measures.

ELECTRICAL SUSTAINABILITY PRINCIPLES

The following electrical measures are possible to help achieve the equivalency target:

- In daylight areas larger than 250 square feet, lighting is controlled by means of photo sensor activated multi-level controls.
- Provide dimming of lighting in video room or audiovisual presentation room.

- Exterior lighting fixtures having cut-off distribution to minimize light pollution beyond the property line.

Energy Efficiency Measures

- 14% minimum target energy reduction based on California Building Energy Efficiency Standards (Title 24) and/or ASHRAE 90.1 – 2004.
- The following energy efficiency measures are included in the project:
 - High efficiency T8, T5 and compact fluorescent lamps with high power factor & low THD (total harmonic distortion) ballasts.
 - Occupancy sensor controls in toilet and storage rooms.
 - Photosensor controlled lighting in daylight areas greater than 250 square feet.
 - Occupancy sensor controls combined with multi-level switching in areas other than storage closets and toilet rooms, such as private offices, conference rooms, etc.
 - Programmable lighting controls (where applicable)

PLUMBING SUSTAINABILITY PRINCIPLES

The following Plumbing measures may help achieve the equivalency target:

- Reduce potable water usage inside the building by using Low-flow fixtures and low-flow urinals.
- Sensor operated faucets and flush valves.
- Provide faucets with flow controls.

LEED PROJECT CHECKLIST

The following pages include a sample LEED for New Construction Version 2.2 Registered Project Checklist, which has been interpreted for the San Jose New Family Justice Center. The attached spreadsheet shows an initial potential for 34 points, which falls within the goal of a Silver rating of 33-38 points.

Basic assumptions have been made regarding points that are achievable, possible and those that are unattainable. This interpretation is just a starting point and should be carefully studied at the onset of the design phases. It is critical to align the sustainable goals of the project early on with cost, design and construction realities.

Appendix



LEED for New Construction v 2.2 Registered Project Checklist

Project Name: San Jose Family Courthouse

Project Address: St. James / First / Devine / Market Streets in Downtown San Jose

Yes	?	No				
34	14	19	Project Totals (Pre-Certification Estimates) 69 Points			
SILVER			Certified: 26-32 points	Silver: 33-38 points	Gold: 39-51 points	Platinum: 52-69 points

Yes	?	No				
7	4	3	Sustainable Sites 14 Points			

Yes	?	No				
1	0	0	Prereq 1	Construction Activity Pollution Prevention	Required	
1	0	0	Credit 1	Site Selection		1
1	0	0	Credit 2	Development Density & Community Connectivity		1
0	0	1	Credit 3	Brownfield Redevelopment		1
1	0	0	Credit 4.1	Alternative Transportation , Public Transportation		1
1	0	0	Credit 4.2	Alternative Transportation , Bicycle Storage & Changing Rooms		1
0	1	0	Credit 4.3	Alternative Transportation , Low-Emitting & Fuel Efficient Vehicles		1
1	0	0	Credit 4.4	Alternative Transportation , Parking Capacity		1
0	0	1	Credit 5.1	Site Development , Protect or Restore Habitat		1
0	1	0	Credit 5.2	Site Development , Maximize Open Space		1
0	0	1	Credit 6.1	Stormwater Design , Quantity Control		1
0	1	0	Credit 6.2	Stormwater Design , Quality Control		1
0	1	0	Credit 7.1	Heat Island Effect , Non-Roof		1
1	0	0	Credit 7.2	Heat Island Effect , Roof		1
1	0	0	Credit 8	Light Pollution Reduction		1

Yes	?	No				
2	3	0	Water Efficiency 5 Points			

1	0	0	Credit 1.1	Water Efficient Landscaping , Reduce by 50%		1
0	1	0	Credit 1.2	Water Efficient Landscaping , No Potable Use or No Irrigation		1
0	1	0	Credit 2	Innovative Wastewater Technologies		1
1	0	0	Credit 3.1	Water Use Reduction , 20% Reduction		1
0	1	0	Credit 3.2	Water Use Reduction , 30% Reduction		1



LEED for New Construction v 2.2 Registered Project Checklist

Yes	?	No		
7	2	6	Energy & Atmosphere	17 Points

Yes			Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required
Yes			Prereq 1	Minimum Energy Performance	Required
Yes			Prereq 1	Fundamental Refrigerant Management	Required

***Note for EA1:** All LEED for New Construction projects registered after June 26, 2007 are required to achieve at least two (2) points.

4	2	4	Credit 1	Optimize Energy Performance	1 to 10
			Credit 1.1	10.5% New Buildings / 3.5% Existing Building Renovations	1
			Credit 1.2	14% New Buildings / 7% Existing Building Renovations	2
			Credit 1.3	17.5% New Buildings / 10.5% Existing Building Renovations	3
			--> Credit 1.4	21% New Buildings / 14% Existing Building Renovations	4
			Credit 1.5	24.5% New Buildings / 17.5% Existing Building Renovations	5
			Credit 1.6	28% New Buildings / 21% Existing Building Renovations	6
			Credit 1.7	31.5% New Buildings / 24.5% Existing Building Renovations	7
			Credit 1.8	35% New Buildings / 28% Existing Building Renovations	8
			Credit 1.9	38.5% New Buildings / 31.5% Existing Building Renovations	9
			Credit 1.10	42% New Buildings / 35% Existing Building Renovations	10
0	0	1	Credit 2	On-Site Renewable Energy	1 to 3
			Credit 2.1	2.5% Renewable Energy	1
			Credit 2.2	7.5% Renewable Energy	2
			Credit 2.3	12.5% Renewable Energy	3
1	0	0	Credit 3	Enhanced Commissioning	1
1	0	0	Credit 4	Enhanced Refrigerant Management	1
1	0	0	Credit 5	Measurement & Verification	1
0	0	1	Credit 6	Green Power	1

Appendix



LEED for New Construction v 2.2 Registered Project Checklist

Yes	?	No		
5	2	6	Materials & Resources	13 Points

Yes	?	No		
0	0	1	Prereq 1 Storage & Collection of Recyclables	Required
0	0	1	Credit 1.1 Building Reuse , Maintain 75% of Existing Walls, Floors & Roof	1
0	0	1	Credit 1.2 Building Reuse , Maintain 95% of Existing Walls, Floors & Roof	1
0	0	1	Credit 1.3 Building Reuse , Maintain 50% of Interior Non-Structural Elements	1
1	0	0	Credit 2.1 Construction Waste Management , Divert 50% from Disposal	1
1	0	0	Credit 2.2 Construction Waste Management , Divert 75% from Disposal	1
0	0	1	Credit 3.1 Materials Reuse , 5%	1
0	0	1	Credit 3.2 Materials Reuse , 10%	1
1	0	0	Credit 4.1 Recycled Content , 10% (post-consumer + 1/2 pre-consumer)	1
0	1	0	Credit 4.2 Recycled Content , 20% (post-consumer + 1/2 pre-consumer)	1
1	0	0	Credit 5.1 Regional Materials , 10% Extracted, Processed & Manufactured	1
0	1	0	Credit 5.2 Regional Materials , 20% Extracted, Processed & Manufactured	1
0	0	1	Credit 6 Rapidly Renewable Materials	1
1	0	0	Credit 7 Certified Wood	1

Yes	?	No		
10	1	4	Indoor Environmental Quality	15 Points

Yes	?	No		
1	0	0	Prereq 1 Minimum IAQ Performance	Required
1	0	0	Prereq 2 Environmental Tobacco Smoke (ETS) Control	Required
0	1	0	Credit 1 Outdoor Air Delivery Monitoring	1
1	0	0	Credit 2 Increased Ventilation	1
1	0	0	Credit 3.1 Construction IAQ Management Plan , During Construction	1
1	0	0	Credit 3.2 Construction IAQ Management Plan , Before Occupancy	1
1	0	0	Credit 4.1 Low-Emitting Materials , Adhesives & Sealants	1
1	0	0	Credit 4.2 Low-Emitting Materials , Paints & Coatings	1
1	0	0	Credit 4.3 Low-Emitting Materials , Carpet Systems	1
1	0	0	Credit 4.4 Low-Emitting Materials , Composite Wood & Agrifiber Products	1
1	0	0	Credit 5 Indoor Chemical & Pollutant Source Control	1
0	0	1	Credit 6.1 Controllability of Systems , Lighting	1
0	0	1	Credit 6.2 Controllability of Systems , Thermal Comfort	1
1	0	0	Credit 7.1 Thermal Comfort , Design	1
1	0	0	Credit 7.2 Thermal Comfort , Verification	1
0	0	1	Credit 8.1 Daylight & Views , Daylight 75% of Spaces	1
0	0	1	Credit 8.2 Daylight & Views , Views for 90% of Spaces	1

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Office of Court Construction and Management
Superior Court of California, County of Santa Clara
Santa Clara Family Justice Center

March 2009

Appendix J: 9.8



LEED for New Construction v 2.2
Registered Project Checklist

Yes	?	No		
3	2	0	Innovation & Design Process 5 Points	
1	0	0	Credit 1.1	Innovation in Design: Provide Specific Title 1
1	0	0	Credit 1.2	Innovation in Design: Provide Specific Title 1
0	1	0	Credit 1.3	Innovation in Design: Provide Specific Title 1
0	1	0	Credit 1.4	Innovation in Design: Provide Specific Title 1
1	0	0	Credit 2	LEED® Accredited Professional 1

