

TELECOMMUNICATIONS STANDARDS: THE BASICS

Deborah Ludford

A decorative graphic consisting of several parallel white lines of varying thicknesses, slanted diagonally from the bottom-left towards the top-right, located on the right side of the slide.

- ▶ History
- ▶ Responsibilities
- ▶ Key Deliverables
- ▶ Processes
- ▶ Modifications
- ▶ Relationship of Bond Projects to Network Refresh
- ▶ Key Contacts
- ▶ Questions?

AGENDA

- ▶ Based on Cal State Standards
- ▶ Originally developed in 1999
- ▶ Revised in 2015 and again in 2017
- ▶ Developed jointly – I.S. and ACT Managers
- ▶ Designed for Architect, EE, HVAC, Civil Engineers and Telecomm Engineers to use as a guide to telecomm at the District
- ▶ Objective to provide longevity and functionality for applications changing over time

HISTORY

Available at:

<https://www.nocccd.edu/cabling-infrastructure-guidelines>

Telecommunications Standards on the Website

RESPONSIBILITIES

- ▶ Copper: Systimax standard with Cat6A with Cat5E as an alternative
- ▶ Fiber: Sumitomi standard
- ▶ Wall and ceiling connections per the standard
- ▶ Matrix which defines key deliverables by each party
- ▶ 50%, 75% and 100% drawings reviewed and approved

KEY DELIVERABLES

PROCESSES

- ▶ Matrix development and agreement
- ▶ Bid process which cites standards and uses sample specifications in response-reviewed by Information Services
- ▶ Plan reviews to make sure standards met
- ▶ RFI's for telecommunications and technology with enough time for response-involves District Technology Roundtable
- ▶ Bid closeout documents for warranties

- ▶ Request in writing to I.S. and District Facilities
- ▶ Reviewed by District Technology Roundtable – recommendation formed
- ▶ Final signoff is Vice Chancellor, Finance and Facilities

MODIFICATIONS

- ▶ Includes cabling to the panel only, not to the endpoints.
- ▶ Only as systems relate to the IP network.
- ▶ Cellular was determined to be too costly and was not moved forward into the Network Refresh Design RFP.

RELATIONSHIP OF BOND PROJECTS TO NETWORK REFRESH



3.2 Table II summarizes the components of network infrastructure that are in or out of scope.

Table II Components of Network Infrastructure In or Out of Scope			
Ref. #	Component of Network Infrastructure	In Scope for System Design and Electronics Costs	In Scope for Data Network Infrastructure Evaluation and Cost, including Inside and Outside Cable Plant, and Construction
1	Wide Area Network (WAN)	Y	Y
2	Local Area Network (LAN)	Y	Y
3	Wireless (WiFi)	Y	Y
4	Voice Network	Y	Y
5	Cellular	Y	Y
6	Television (CATV)	N	Y
7	Fire Control ¹	N	Y
8	Door Access ¹	N	Y
9	Security Cameras	N	Y
10	Energy Management ¹	N	Y
11	Digital Signage ¹	N	Y
12	Public Safety Radio	N	Y ²
13	Emergency Alert	N	Y

- ▶ New buildings
 - ▶ Network Refresh funding will cover costs for network switches, telephones and telephone licenses in the year the project is projected to come online
 - ▶ Telecommunication rooms and wiring are not included

13 Planned Capital Projects

Table X lists the planned capital projects that will impact either the data or voice networks.

Table X Planned Capital Projects						
Ref #	Project	Year	Gross Sq. Footage	Assignable Sq. Footage	Data Ports	VoIP Devices
1	Anaheim - Build Out Inactive Space on 7 th Floor	2018	15,544	10,880	44	12
2	Cypress - New Science Math Engineering Bldg/Planetarium	2020	106,023	68,915	280	76
3	Cypress - Library-Learning Resource Center Expansion	2019	15,989	10,650	100	11
4	Fullerton - New Performing Arts Complex-Phase I	2022	73,000	51,100	207	56
5	Fullerton - New Welcome Center & (parking) Lot C West	2022	25,000	17,500	71	18
6	Fullerton - New Instructional Bldg (Humanities)	2020	72,400	50,680	206	56
7	Fullerton - Centennial Parking Structure ³	2021	183,700	56,000	0	0

RELATIONSHIP OF BOND PROJECTS TO NETWORK REFRESH

- ▶ Existing and Remodeled Buildings
 - ▶ Network Refresh funding will cover bringing building up to the standard and for new network equipment as identified by the new network design
 - ▶ All other costs such as new cabling out of other funds
 - ▶ Upgrades from CAT5 to CAT6A are included in Network Refresh; upgrades from CAT5E to CAT6A are not included

RELATIONSHIP OF BOND PROJECTS TO NETWORK REFRESH

4 Locations In and Out of Scope

4.1 The scope of work included the following: Cypress College, the District Office (Anaheim), Fullerton College, and the Adult Education Block Grant (AEBG) location. The School of Continuing Education (SCE) was in scope, however, SCE is a customer group that utilizes networking services at all four locations. Table I lists all buildings in scope. All other locations, including the Museum on the Fullerton Campus, were out of scope.

Table I NOCCCD In Scope Building List			
Ref.	Campus	Alpha or Number	Common Name
1	AEBG	AEBG	AEBG
2	Anaheim	Main	Tower
3	Anaheim	Building A	Building A
4	Anaheim	Building B	Building B
5	Anaheim	Power Plant	Power Plant
6	Cypress	1	Humanities
7	Cypress	1A	Humanities Lect Hall
8	Cypress	2	Fine Arts
9	Cypress	3	Math Science
10	Cypress	4	Theater Arts
11	Cypress	6	Cypress College Complex
12	Cypress	7	Gym 1
13	Cypress	8	Student Activities
14	Cypress	9	Business
15	Cypress	10	Tech Education 1
16	Cypress	11	Gym 2
17	Cypress	12	Tech Education 2
18	Cypress	13	Tech Education 3
19	Cypress	16	SoftBall Field House
20	Cypress	17	BaseBall Field House
21	Cypress	18	SCE Main Offices
22	Cypress	20	Bookstore
23	Cypress	22	HVAC Office
24	Cypress	32	LLRC
25	Cypress	33	Student Center
26	Cypress	34	Maintenance + Operations

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RELATIONSHIP OF BOND PROJECTS TO NETWORK REFRESH



Table I
NOCCCD In Scope Building List

Ref.	Campus	Alpha or Number	Common Name
27	Fullerton	100	Administration
28	Fullerton	200	College Center/Food Services
29	Fullerton	300	Business & Computer Info
30	Fullerton	400	South Science
31	Fullerton	500	Applied Arts/Humanities
32	Fullerton	600	North Science
33	Fullerton	700	Technology & Engineering
34	Fullerton	800	Library-Learning Resource Center
35	Fullerton	840	Disability Support Services/Mailroom
36	Fullerton	900	Auto/Machining/Printing
37	Fullerton	1000	Fine Arts/Art Gallery
38	Fullerton	1100	Music
39	Fullerton	1200	Physical Education
40	Fullerton	1300	Theatre Arts
41	Fullerton	1400	Classroom Office Building
42	Fullerton	1500	Campus Safety
43	Fullerton	Student Parking Structure	Student Parking Structure
44	Fullerton	1600	Horticulture Center
45	Fullerton	1700	Field House
46	Fullerton	1800	Child Development/Temporary Classrooms
47	Fullerton	1900 ¹	Classrooms
48	Fullerton	1955 ²	Classrooms & Food Bank
49	Fullerton	2000	Student Services/T.V.
50	Fullerton	2100	Sculpture/3D Arts
51	Fullerton	2200	Micro Computer Lab
52	Fullerton	2300	Media Services/Academic Computing/M&O Shops
53	Fullerton	3000	Berkley Center
54	Fullerton	3100	Academic Computing Technology
55	Fullerton	W100	Wilshire Continuing Ed.
56	Fullerton	W200	Wilshire Continuing Ed.
57	Fullerton	W300	Wilshire Continuing Ed.
58	Fullerton	BenFrank	Ben Franklin House

¹ This is a complex of trailers 1901-1904

² This is a complex of trailers 1956-1960



Table XI lists the buildings that are planned to be demolished. It is assumed that these buildings will be replaced by new buildings therefore, the existing ports for these buildings will be included in the financial models.

- ▶ Demolished buildings
 - ▶ Network Refresh funding will cover costs as if there would be replacements of similar size
 - ▶ See notes at top of Table XI

Table XI Buildings Planned for Demolition		
Ref #	Building	Year
1	Fullerton - Demolish Building 1100	Unknown
2	Fullerton - Demolish Building 1300	Unknown
3	Fullerton - Demolish Building 1900 - Per Co, to be demolished	Unknown
4	Fullerton - Demolish Buildings 1901-04	Unknown
5	Fullerton - Demolish Building 1955 - Per Co, to be demolished	Unknown
6	Fullerton - Demolish Buildings 1956-60	Unknown
7	Fullerton - Demolish Building 2000	Unknown
8	Fullerton - Renovate Building 2100 - Per Co, to be demolished	Unknown
9	Fullerton - Demolish Building 2200	Unknown
10	Fullerton - Demolish Building 2300	Unknown
11	Fullerton - Demolish Building 3000	Unknown
12	Fullerton - Demolish Building 3104	Unknown

RELATIONSHIP OF BOND PROJECTS TO NETWORK REFRESH

- ▶ Peter Teipe pteipe@nocccd.edu
 - ▶ Attends weekly meetings for all projects (Quamrul Shahid may substitute)
 - ▶ First line of response for RFI's and questions
 - ▶ Receives and reviews plans
 - ▶ Send closeout warranties to Peter
- ▶ Nick Wilkening nwilkening@nocccd.edu
 - ▶ Backup for Peter
- ▶ Fred Williams
 - ▶ Final signoff on any deviation from the standards

KEY CONTACTS

QUESTIONS?

