



STATE CENTER COMMUNITY COLLEGE  
DISTRICT

# TECHNOLOGY MASTER PLAN PROJECT MEETING

# Information Gathering

## Initial Background Information Data Dump

- Current technology standards
- Existing cable infrastructure CAD drawings and construction documents
- Logical network design & as-built documentation

## Discovery

- Electronic Questionnaires
- Site Visits
- Focus Group Discussion

# Information Gathering (cont...)

## **Steering / Policy Committee (Provide oversight, leadership and direction on business objectives and priorities)**

- Departmental leadership
- Project oversight
- Departmental coordination
- Budget & policy guidance
- Final review / comment on standards and construction documents

## **Technology Working Groups (Provide direction, technical and financial details, and other operational input)**

- SCCCD & tk1sc subject matter experts (SME's)
- Discuss technology baselines
- Discuss technology issues, gaps, and priorities
- Review / comment on working drafts of standards and construction documents

# Analysis & Prioritization

Current State

Where Are We Now?

Desired State

Where Do We Want To Go?

What are the SCCCD priorities?

What Do We Need To Do Get There?

# Recommendations & Consensus

## Working Group Outputs

Recommendations for standards and technology updates  
 Summarize findings into priority (High, Medium, Low) with respect to district goals and objectives

**Department / Location:** District Wide

**Gap Analysis:**

Existing fiber backbone does not support 100gb networking and on demand provisioning.

**Recommendations:**

Upgrade to single mode fiber backbone  
 Specify air blown fiber for new OSP projects.

Gap Analysis Metric	Met	Partially Met	Not Met	Strengths	Weaknesses
Upgrade district-wide campus telecom backbones.	Yes	-	-	Enables campus wi-fi upgrades	Dependency on new funding

## CAMPUS DEMOGRAPHICS

# of Buildings

# of Users

## CAMPUS SYSTEMS

Computer / Server / Storage

LAN

WAN

W-LAN

Voice

Network Security & Management

Tools

Cellular (DAS)

Security

Mass Notification

Cable Infrastructure

Inside Plant

Outside Plant

Fire and Life Safety

Battery Back Up

 Fresno City College

 Clovis Community College

 **Madera  
Community  
College Center**  
Reedley College

 **Reedley  
College**

 **Dakhurst  
Community  
College Center**  
Reedley College

# Project Deliverables

- Telecom Design Standards
- Construction Documents
  - 270000 General Requirements
  - 270200 Communications General Requirements
  - 270526 Grounding and Bonding for Communications Systems
  - 270528 Pathways for Communications Systems
  - 270537 Firestopping for Communications Systems
  - 271000 Structured Cabling Testing
  - 271100 Communications Equipment Room Fittings
  - 271200 Communications Building RF Specifications
  - 271300 Communications Copper Backbone Cabling
  - 271323 Communications Fiber Backbone Cabling
  - 271500 Communications Horizontal Cabling
  - 271600 Communications Connection Cords
  - 271000 Data Communications Network Equipment
  - 272200 Data Communications Hardware
  - 273000 Voice Communications
  - 283100 Mass Notification
  - 281300 Access Control / Intrusion Detection
  - 282300 Video Surveillance

# SCCCD Technology Master Plan Timeline



April 4- May 21 - 33 days INFORMATION GATHERING / DISCOVERY

May 1 Begin On-Site Meetings

May 21- July 27 -45 days - ANALYSIS & RECOMMENDATIONS

July 27 Deliver Tech Gap Analysis & Recommendations

July 30 – Aug 17 - 14 days SCCCD PRIORITIZATION

Aug 20– Oct 1 30 days STANDARDS DOCUMENTATION DEVELOPMENT

Sep 1 Deliver 1st Drafts



# TELECOM DESIGN STANDARDS OUTLINE

# EXECUTIVE SUMMARY

- 1. Executive Summary**
- 2. Introduction**
  - 2.1 Responsibilities Of SCCCD District IS Department
  - 2.2 Architect Responsibilities
  - 2.3 Scope Of Work Matrix To Be Included In District Projects
  - 2.4 Telecommunication Consultant/Designer Role
  - 2.5 Telecommunication Design Approach
    - 2.5.1 Rooms, Routes & Risers
    - 2.5.2 Common Cabling Infrastructure
    - 2.5.3 Equipment & Systems – Logical Design

# ARCHITECTURAL

- 3. Architectural**
- 3.1 Campus Information Technology Rooms, Functions**
  - 3.1.1 Main Distribution Frame (MDF)
  - 3.1.2 Building Telecommunications Room (BDF)
  - 3.1.3 Telecommunications Rooms (TR)
  - 3.1.4 Non-Information Technology Systems
- 3.2 Campus Information Technology Room Locations**
  - 3.2.1 General
  - 3.2.2 Building Telecommunications Room (BDF)
  - 3.2.3 Telecommunications Rooms (TR)
- 3.3 Information Technology Room Sizing**
  - 3.3.1 General
  - 3.3.2 Building Telecommunications Room (BDF)
  - 3.3.3 Telecommunications Rooms (TR)
- 3.4 Lighting**
- 3.5 Water Infiltration**

# ARCHITECTURAL (continued)

- 3.6 Floor
- 3.6.1 General Floor Design Elements
- 3.6.2 Loading
- 3.7 Sprinklers/Fire Suppression**
- 3.7.1 Sprinklers
- 3.7.2 Fire Suppression Systems
- 3.8 Doors**
- 3.9 Interior Finishes**
- 3.9.1 Walls
- 3.9.2 Ceilings
- 3.9.3 Clearance
- 3.9.4 Security
- 3.10 Information Technology Rooms Construction Sequence**
- 3.11 Special Design Considerations**
- 3.11.1 Building Fire Rated Barriers
- 3.11.2 Cable Support (General)
- 3.11.3 Slab On Grade

# ARCHITECTURAL (continued)

- 3.12      **Work Area Telecommunication Outlet**
- 3.12.1    General
- 3.12.2    Single-Person Office
- 3.12.3    Conference Rooms
- 3.12.4    Instructional Classrooms
- 3.12.5    Cubicle/Partitioned Offices (Modular Furniture)
- 3.12.6    Floors
- 3.12.7    Wall Mounted Telephones/Payphones/Text Telephones
- 3.12.8    Work Rooms
- 3.12.9    Computer Labs
- 3.12.10   Specialty Locations
- 3.12.11   Maintenance Spaces
- 3.12.12   Building Rooftops
- 3.12.13   Storage Areas
- 3.12.14   Wireless And Projector Support
- 3.13      **Outside Plant (General)**
- 3.13.1    Campus Environments
- 3.13.2    Renovation Projects
- 3.14      **Construction Documents**

# ELECTRICAL

- 4.1 General Power Requirements**
- 4.2 Telecommunication Room Power Requirements**
  - 4.2.1 General
- 4.3 Electromagnetic Interference**
- 4.4 Generator/Ups**
- 4.5 Grounding**
- 4.6 Raised Floor Bonding And Grounding**
- 4.7 Terminal Board**
- 4.8 Communication Pathways**
- 4.9 Fire Stop Penetrations**
- 4.10 Communication Outlets**
  - 4.10.1 Communication Outlets
  - 4.10.2 Outlet Location Considerations
  - 4.10.3 Outlet Boxes
- 4.11 Floor Boxes**
- 4.12 Wireless Access Points (WAP) And Projector Support**
- 4.13 Communication/Power Raceways**
- 4.14 Floor Poke-Throughs**
- 4.15 Building Rooftops**

# ELECTRICAL (continued)

- 4.16**      **Inside Conduits (General)**
- 4.17**      **Communications Cable Tray**
- 4.18**      **Communications J-Hooks**
- 4.19**      **Pull Boxes**
- 4.20**      **Underground Conduits**
- 4.21**      **Equipment Specifications**

# MECHANICAL (Hvac)

- 5.1 General**
- 5.2 Thermal Dissipation**
- 5.3 Coordination With Maintenance And Operations**



# CIVIL (Outside Plant)

- 6.1 General**
- 6.2 Underground Conduits**
- 6.3 Conduits/Duct Banks**
- 6.4 Communication Maintenance Holes/ Hand-Holes Sizes**
- 6.5 Communication Maintenance Holes/ Hand-Holes Locations**

# TELECOMMUNICATION

- 7.1 Telecommunication Consultant**
- 7.2 SCCCD Product Standards**
- 7.3 Outside Plant**
  - 7.3.1 OSP Design Activities
  - 7.3.2 Outside Plant Fiber Optic Cables
  - 7.3.3 Tube Cabling
  - 7.3.4 OSP Fiber Optic Cable Sizing
  - 7.3.5 General Installation Guidelines For Optical Fiber Cables
  - 7.3.6 Copper Outside Plant Cables
  - 7.3.7 General Installation Guidelines For Copper Cables
  - 7.3.8 Copper Protection
- 7.4 Riser Segment**
  - 7.4.1 Fiber Optic Riser Cable
  - 7.4.2 Riser Tube Cable
  - 7.4.3 Copper Riser Cable
  - 7.4.4 Coaxial Riser Cable
- 7.5 Optical Fiber Terminations**
  - 7.5.1 Fiber Patch Panels
  - 7.5.2 Optical Fiber Connectors

# TELECOMMUNICATION (continued)

- 7.6 Copper Punch Down Blocks**
- 7.7 Horizontal Station Cable**
- 7.8 Voice/Data Jacks**
- 7.9 Work Area Outlets**
- 7.10 Outlet Distribution**
- 7.11 Faceplates**
- 7.12 Copper Patch Panels**
- 7.13 Grounding And Bonding**
- 7.14 Rack/Cabinet Layout (Elevation)**
- 7.15 Floor Mounted Racks**
- 7.16 Floor Mounted Cabinets**
- 7.17 Cable Wire Management**
- 7.18 Cable Runway**
- 7.19 Cable Pathways**
- 7.20 Cable Installation Methods**
- 7.21 Fiber Optic Cable Testing And Test Results**
- 7.22 Backbone Copper Cable Testing And Test Results**

# TELECOMMUNICATION (continued)

- 7.23 Utp Horizontal Cable Testing And Test Results**
- 7.24 Cable Testing Validation**
- 7.25 Identification And Labeling**
- 7.26 Role Of District IS**
- 7.27 Inspection**
- 8. Codes, Standards And References**
- 9. Sample Specifications**