DJUSD

DAVIS JOINT UNIFIED SCHOOL DISTRICT

TECHNOLOGY INFRASTRUCTURE MASTER PLAN

PREPARED: 2021

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Technology Infrastructure Master Plan – Document Intent

This Technology Infrastructure Master Plan (TIMP) is aimed at providing a guideline as the Davis Joint Unified School District (DJUSD) plans, budgets and implement upgrades to the Technology Infrastructure throughout the District's sites.

As part of developing this TIMP, technical specifications will be developed to aid in future project design to achieve a high level of consistency and standardization in the design and construction of new school facilities and the modernization of existing sites throughout the Davis Joint Unified School District. These standards are not intended to restrict the effective or efficient design of facilities within the District but provide uniform direction on desired technology systems design and deployment. Some flexibility to allow for minor deviations due to unique project circumstances and code requirements is to be expected. Such flexibility is essential to good design but should not be allowed to become a means of altering or disregarding standards. During the course of design, the design team, in conjunction with the District and project management, should discuss these variances, decide how to proceed and document accordingly.

When using the TIMP and the associated technical specifications, the Design Team shall be accountable for utilizing the most current version. The TIMP is Intended to be a guideline for infrastructure upgrades that is flexible enough to react to District changes in network requirements.

This plan, in coordination with District Facilities Master Plan and Architectural Design Guidelines, shall provide long range solutions and infrastructure upgrades as a basis for establishing a budget for the implementation. As projects develop and needs and budgets change, the Plan should be revisited and updated so it remains current to District Technology Infrastructure needs.

These standards are not projected to establish a defined scope of work for either new or modernization projects. Project scope will be established with each design team on a project specific basis by the District. Where essential details are provided, each design team shall be responsible for utilizing them without alteration when these conditions exist.

It is important to note that this plan is NOT intended to:

- Guide the District in educational technology
- Address network security polices
- Address each site's infrastructure when it comes to electrical, fire alarm, intrusion alarm, clock or intercom system

CSI Master Format

The Product and System Standards outlined in these Facility Design Standards are organized by The Construction Specification Institute's (CSI) 50-Division MasterFormat®. A preface regarding drawing standards is provided, followed by material and system requirements in CSI format.

CSI Master Format-cont.

Where items are not specifically identified, or included in the referenced Standard Modernization Specifications, the design team shall review all products and systems with the District and obtain acceptance prior to incorporation into the design documents.

EACH SITE GRADED [A] THROUGH [D]
(A=MINIMAL UPGRADES / D=CRITICAL UPGRADES REQUIRED)

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

EACH MAJOR NETWORKING COMPONENT RATED [0] THROUGH [5]
(0=NO WORK / 5=COMPLETE REPLACEMENT)

CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

NETWORK CONNECTIVITY MINIMUM REQUIREMENTS

The importance of a stable, robust network to support not only the educational side of the District, but the network infrastructure also supports the business, HR, facilities, and other departments within the district. This TIMP is intended to be a visionary document to implement a cable plant infrastructure that will last 15-20 year. It is not intended to be an infrastructure design document, rather a living document, reviewed and updated periodically, to be the basis for the Technology Services department to make current and future decisions.

As future projects embark upon design and engineering, consideration to connectivity requirements shall be made to allow for the minimum specified standards noted below. Pathway and raceway systems to device locations shall be determined on a site-by-site, room-by-room basis.

The standards outlined below for the various classroom spaces is what has been used as a basis in this TIMP for planning and budgeting. These standards should be reviewed periodically and changed as needed, with a subsequent update to the budgeting documents as well.

Standard Classroom *(*future)*

- Data/Voice: 6 ea. Cat6A wired locations in each classroom
- Wireless Access point: 2 ea. Cat6A drops, located in the center of classroom
- Audio-Visual: 2 ea. Cat6A data drops at Projector location and 1 ea. Cat6A data drop at AV wall controller
- **Clock: 1 ea. Cat6A data drop*
- **Intercom: 1 ea. Cat6A data drop*
- **Access Control: 1 ea. Cat6A data drop for door controller*

Science Classrooms *(*future)*

- Data/Voice: 6-8 ea. Cat6A wired locations in each classroom
- Wireless Access point: Two locations, each with 2 ea. Cat6A drops, located a minimum of 20‘apart in the classroom
- Audio-Visual: 2 ea. Cat6A data drops at Projector location and 1 ea. Cat6A data drop at AV wall controller
- **Clock: 1 ea. Cat6A data drop*
- **Intercom: 1 ea. Cat6A data drop*
- **Access Control: 1 ea. Cat6A data drop for door controller*

Computer Lab Classrooms *(*future)*

- Data/Voice: 32-36 ea. Cat6A wired locations in each classroom
- Wireless Access point: Two locations, each with 2 ea. Cat6A drops, located a minimum of 20‘apart in the classroom
- Audio-Visual: 2 ea. Cat6A data drops at Projector location and 1 ea. Cat6A data drop at AV wall controller
- **Clock: 1 ea. Cat6A data drop*
- **Intercom: 1 ea. Cat6A data drop*
- **Access Control: 1 ea. Cat6A data drop for door controller*

Band, Choir, Drama Classrooms *(*future)*

- Data/Voice: 6-8 ea. Cat6A wired locations in each classroom
- Wireless Access point: Two locations, each with 2 ea. Cat6A drops, located a minimum of 20‘apart in the classroom
- Audio-Visual: 2 ea. Cat6A data drops at Projector location and 1 ea. Cat6A data drop at AV wall controller
- **Clock: 1 ea. Cat6A data drop*
- **Intercom: 1 ea. Cat6A data drop*
- **Access Control: 1 ea. Cat6A data drop for door controller*

Gymnasiums, Multi-Purpose Rooms *(*future)*

- Data/Voice: 8-10 ea. wired locations at wall, groups of 2 ea. (Cat6A)
- Wireless Access point: 4 ea. wired locations wall or ceiling, 20’ min. separation (2 ea. Cat6A per location)
- **Clock: 2 ea. wired location at wall near door (Cat6A)*
- **Intercom: 2-4 ea. wired location at wall or ceiling location (Cat6A)*

- **Gymnasiums, Multi-Purpose Rooms-cont. *(*future)***
  - **Audio-Visual: 4-6 wired wall or ceiling locations: 2 ea. at each TV/Projector location, 4 ea. at AV control head end, 1 ea. at each AV wall controller locations (Cat6A)*
  - **Access Control: 2 ea. wired location at wall near each door. (Cat6A)*

Offices, Conference Rooms, Work Rooms *(*future)*

- Data/Voice: ea. Cat6A wired locations
- Wireless Access point: 1 ea. Cat6A drops, located a minimum of 20‘apart in the classroom
- Audio-Visual: 2 ea. Cat6A data drops at TV / Projector location and 1 ea. Cat6A data drop at AV wall controller
- **Clock: 1 ea. Cat6A data drop*
- **Intercom: 1 ea. Cat6A data drop*
- **Access Control: 1 ea. Cat6A data drop for door controller*

DAVIS SENIOR HIGH [C]

315 West 14th Street
Davis, CA 95616

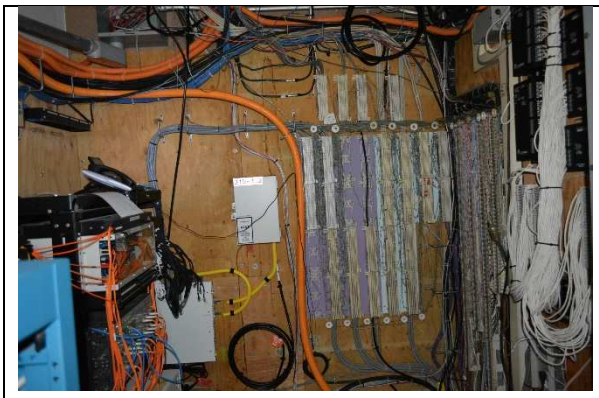
GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

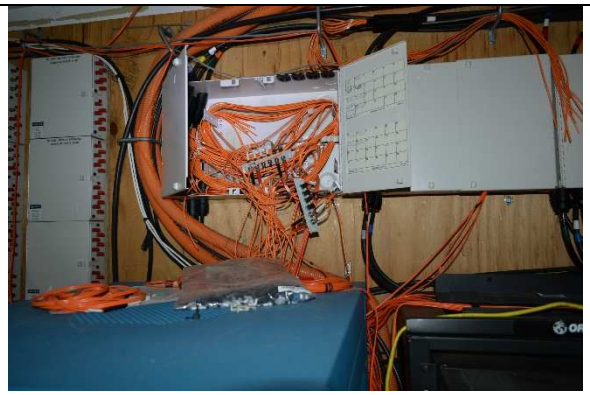


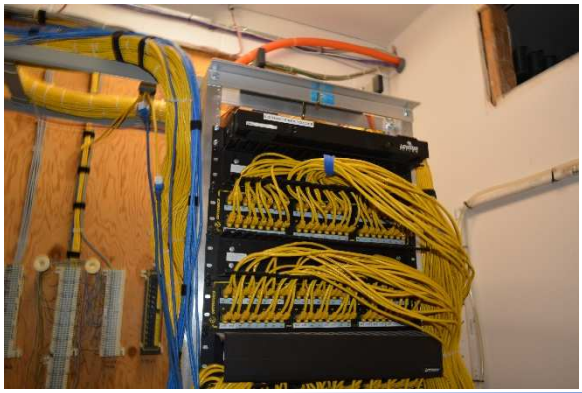
- MPOE: MDF located in dedicated room. No work required to services or entry pathway.
- Install fiber optic inside plant ring for proper fiber coil.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [2]

- Exterior above ground backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with a metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [4]



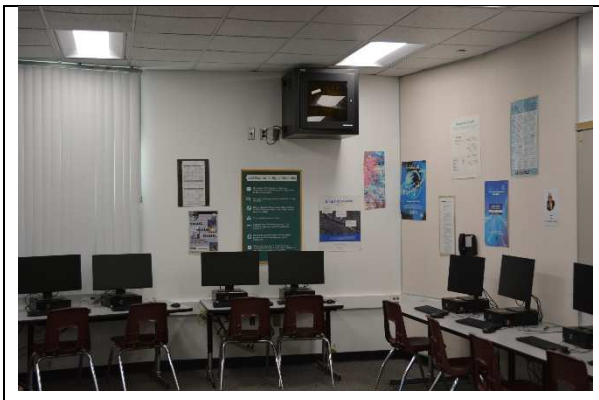


- Room Buildout: Requires major cleanup and rework for recommended modernizations.
- Size: Room is split across two spaces, aprox. 250 sqft., with small pass through opening for cooling. Recommend opening joining wall for proper cooling distribution and racking reconfiguration.
- Site Location: MDF to remain at existing location with modernizations to room layout and racking configuration.
- Racks: Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Backbone pathways at exterior of MDF to be covered with metal shroud and painted to match wall. Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Heat load study required to maintain proper cooling. Upon review/inventory MDF room was exceeding recommended ambient thermal temperature. New dedicated HVAC split unit required at new MDF location.

IDF LOCATIONS AND PHYSICAL INSTALLATION
CATEGORY [5]

- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms, storage rooms, offices.
- Size: Existing IDF rooms are in classroom open air shared spaces, approx. 25 sqft., or built into wall framing.
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 8RU-32RU wall mounted with 10” to 24” depth. Racks are located high on the wall many with lower edge below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

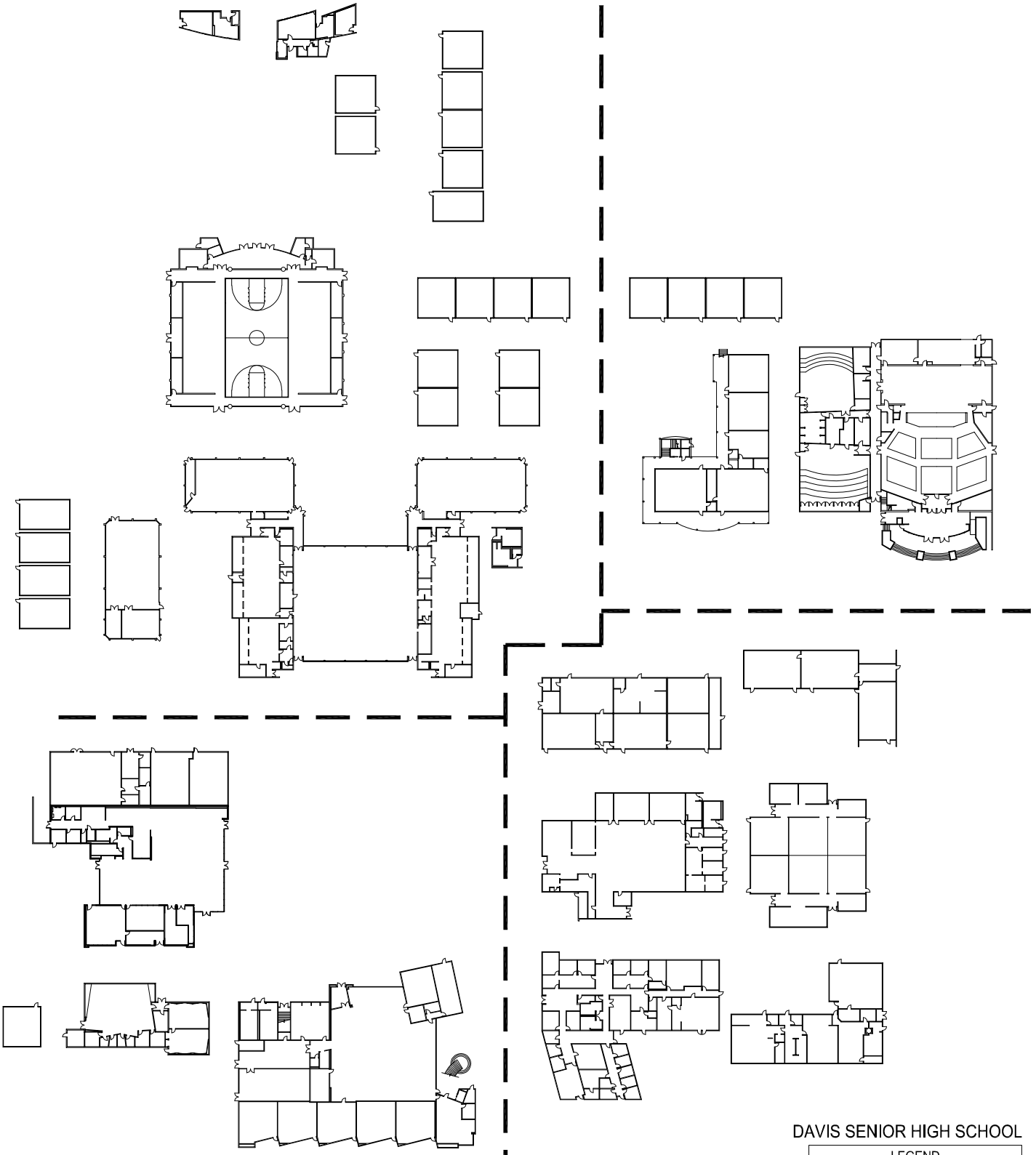
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]



- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

QUADRANT-C

QUADRANT-D



QUADRANT-B

QUADRANT-A

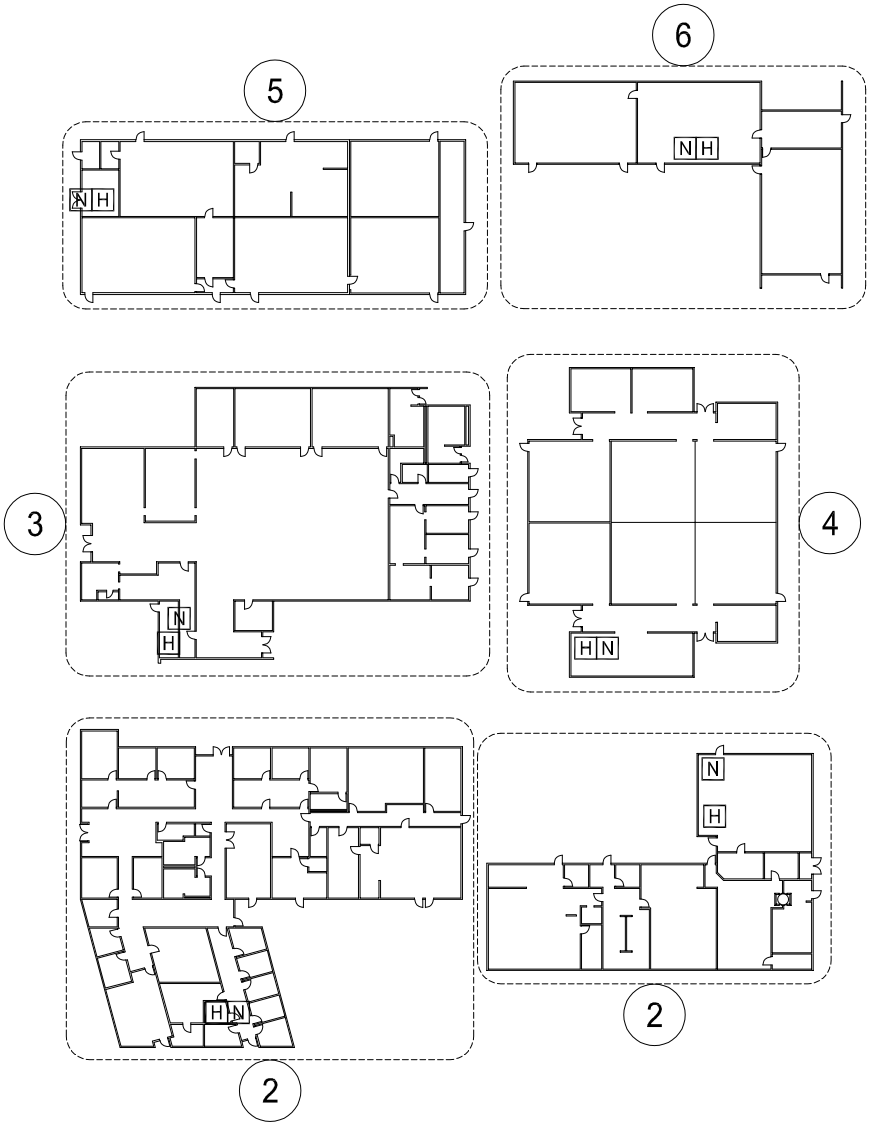
DAVIS SENIOR HIGH SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MDF / IDF MAP

1. OFFICE / ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. LIBRARY / CLASSROOMS
8. CLASSROOMS
9. CAFETERIA / STUDENT UNION
10. GYMNASIUM / LOCKERS
11. AUTO SHOP
12. CLASSROOMS
13. GYMNASIUM
14. CLASSROOMS
15. CLASSROOMS
16. CLASSROOMS
17. CLASSROOMS
18. CLASSROOMS
19. TICKET / CONCESSION
20. CLASSROOMS
21. CLASSROOMS
22. CLASSROOMS
23. MUSIC / CHIOR
24. PERFORMING ARTS



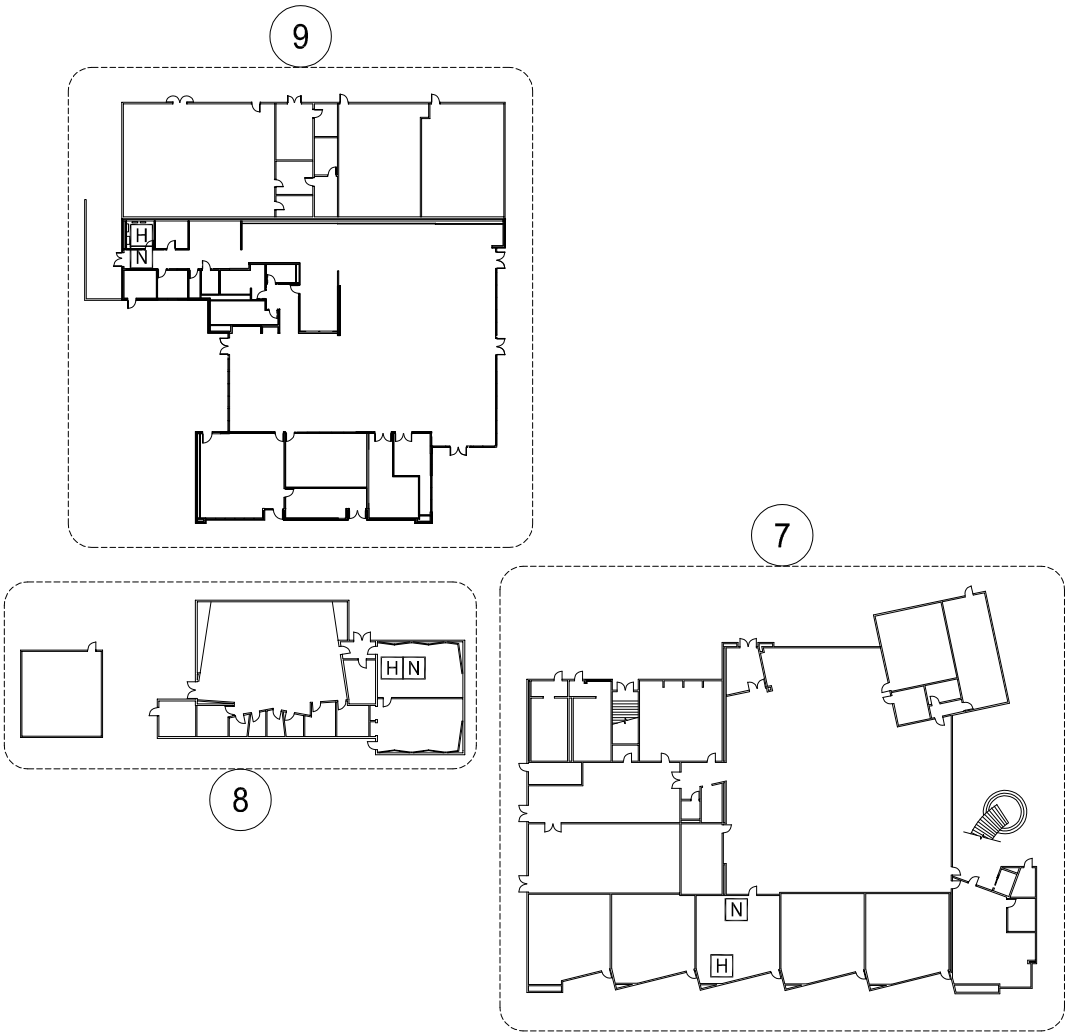
DAVIS SENIOR HIGH SCHOOL - QUADRANT-A

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MDF / IDF MAP

1. OFFICE / ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. LIBRARY / CLASSROOMS
8. CLASSROOMS
9. CAFETERIA / STUDENT UNION
10. GYMNASIUM / LOCKERS
11. AUTO SHOP
12. CLASSROOMS
13. GYMNASIUM
14. CLASSROOMS
15. CLASSROOMS
16. CLASSROOMS
17. CLASSROOMS
18. CLASSROOMS
19. TICKET / CONCESSION
20. CLASSROOMS
21. CLASSROOMS
22. CLASSROOMS
23. MUSIC / CHIOR
24. PERFORMING ARTS



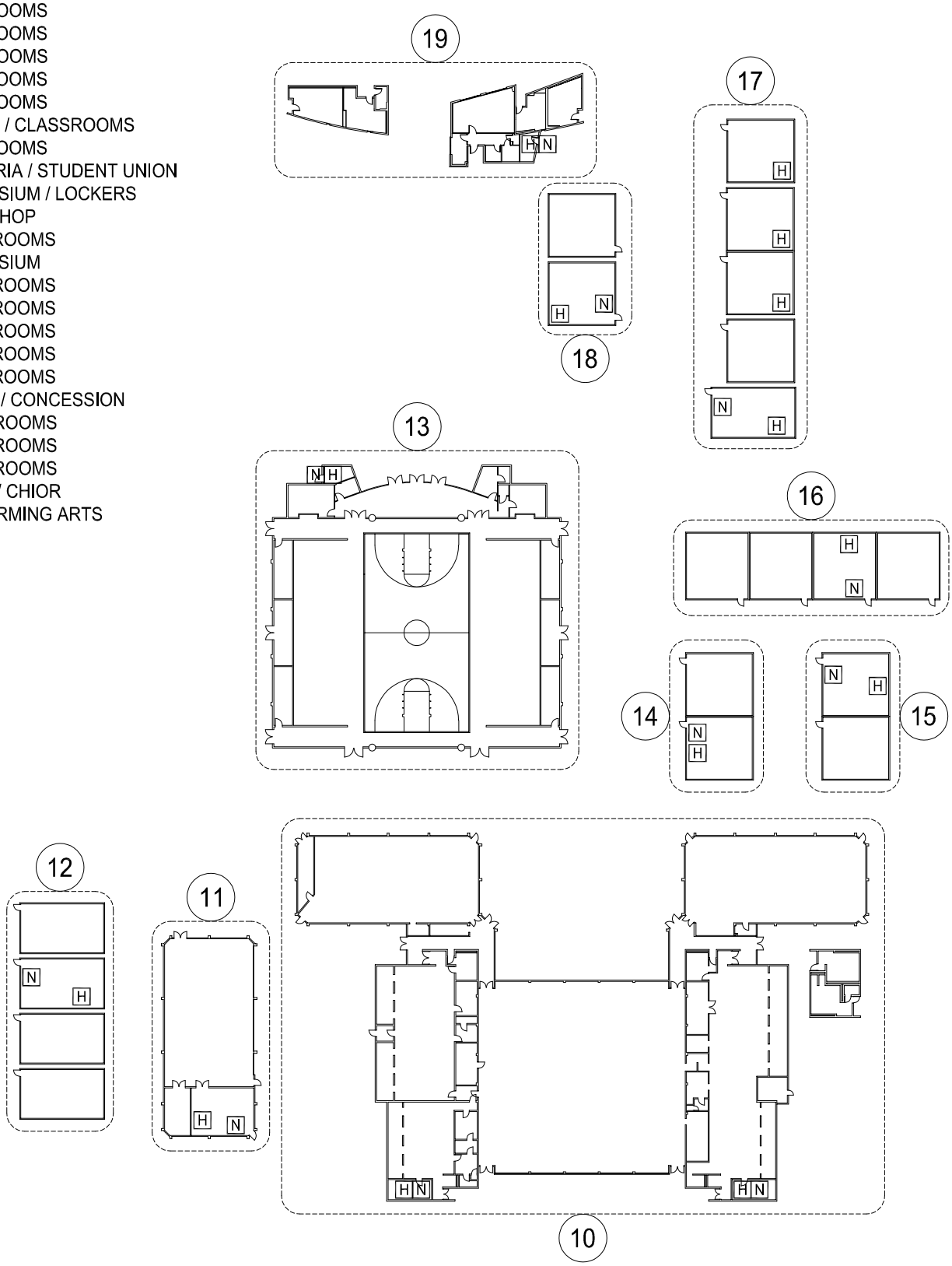
DAVIS SENIOR HIGH SCHOOL - QUADRANT-B

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MDF / IDF MAP

1. OFFICE / ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. LIBRARY / CLASSROOMS
8. CLASSROOMS
9. CAFETERIA / STUDENT UNION
10. GYMNASIUM / LOCKERS
11. AUTO SHOP
12. CLASSROOMS
13. GYMNASIUM
14. CLASSROOMS
15. CLASSROOMS
16. CLASSROOMS
17. CLASSROOMS
18. CLASSROOMS
19. TICKET / CONCESSION
20. CLASSROOMS
21. CLASSROOMS
22. CLASSROOMS
23. MUSIC / CHIOR
24. PERFORMING ARTS



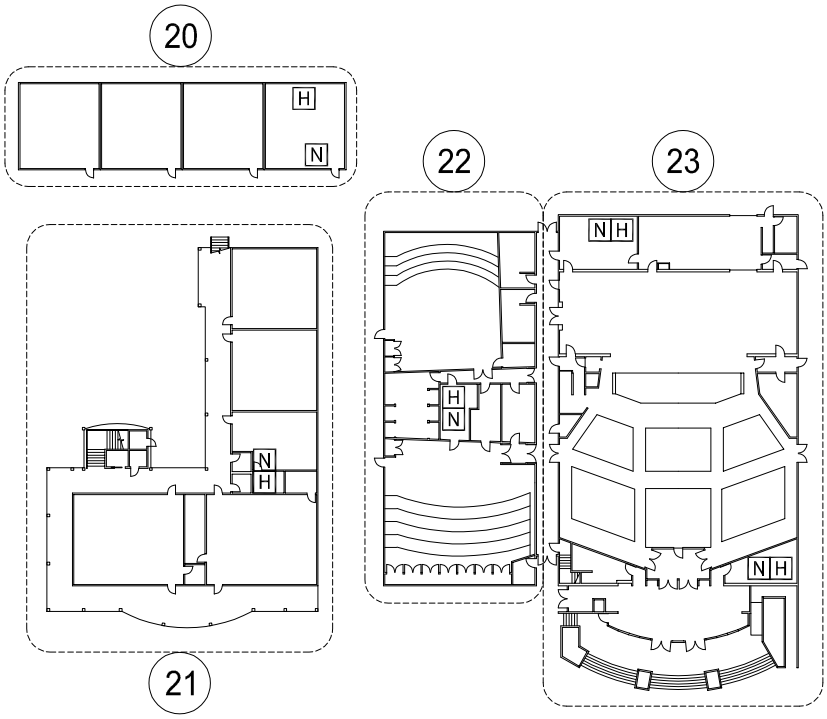
DAVIS SENIOR HIGH SCHOOL - QUADRANT-C

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MDF / IDF MAP

1. OFFICE / ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. LIBRARY / CLASSROOMS
8. CLASSROOMS
9. CAFETERIA / STUDENT UNION
10. GYMNASIUM / LOCKERS
11. AUTO SHOP
12. CLASSROOMS
13. GYMNASIUM
14. CLASSROOMS
15. CLASSROOMS
16. CLASSROOMS
17. CLASSROOMS
18. CLASSROOMS
19. TICKET / CONCESSION
20. CLASSROOMS
21. CLASSROOMS
22. CLASSROOMS
23. MUSIC / CHIOR
24. PERFORMING ARTS



DAVIS SENIOR HIGH SCHOOL - QUADRANT-D

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

DaVinci HIGH/ GOLDEN VALLEY CHARTER [C]

1400 East 8th Street
Davis, CA 95616

GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [2]

- MPOE: Located at MDF, no relocation of services is required.
- Rework existing aerial utility connection and pathways to underground.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [3]

- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [5]

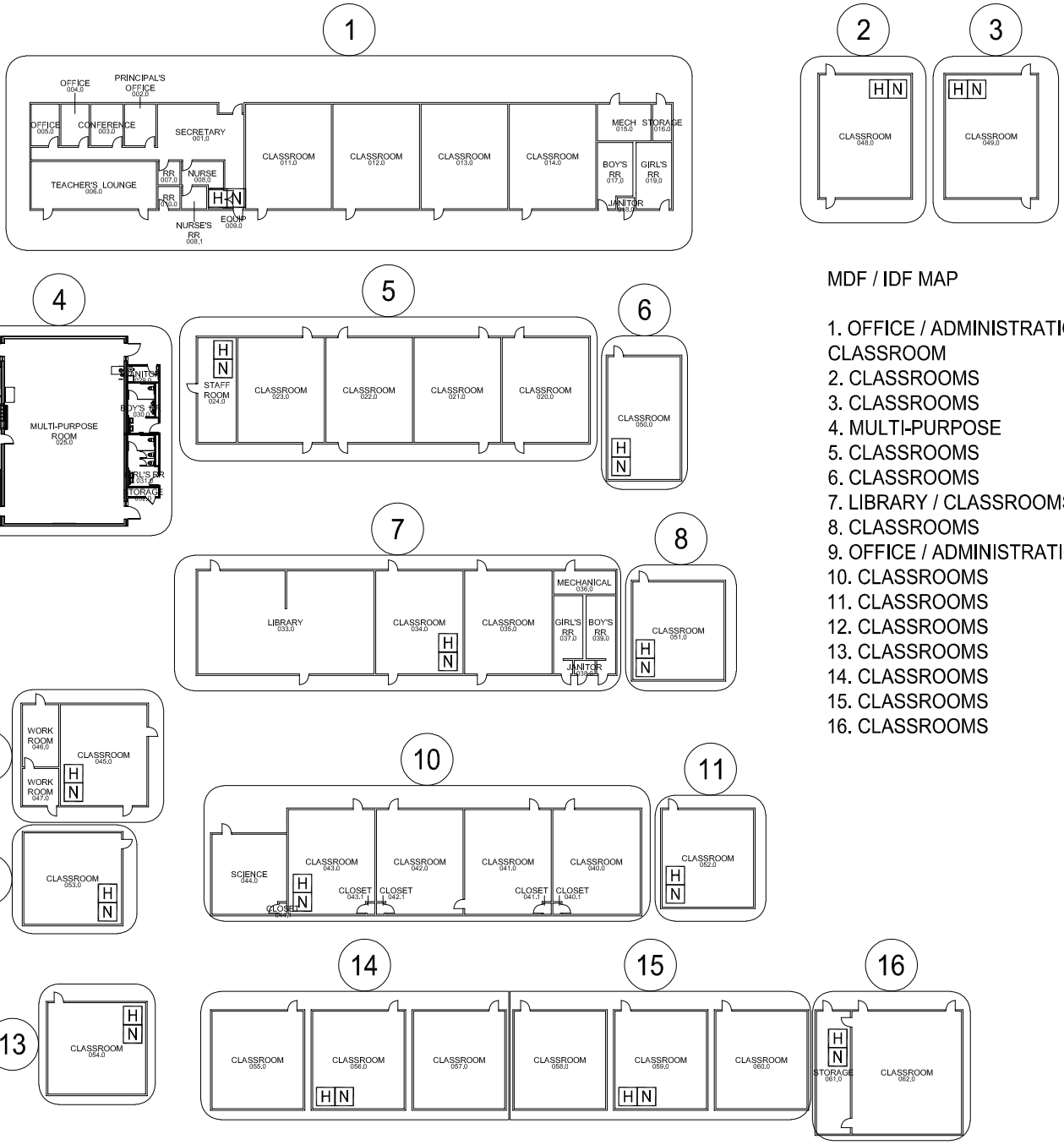
- Room Buildout: Requires major cleanup and rework for recommended modernizations. Suggest relocation to new room with proper working clearances and environmental conditioning.
- Size: Room is in shared space, approx. 50 sqft..
- Site Location: MDF to be relocated to new location with modernizations to racking configuration.
- Racks: Existing wall mounted rack to be removed and new floor mounted 4-post rack to be installed for new UPS battery backup at new MDF location. Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines to new MDF location.
- Cooling: New dedicated HVAC split unit required at new MDF location.

IDF LOCATIONS AND PHYSICAL INSTALLATION
CATEGORY [3]

- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms.
- Size: Existing IDF rooms are in classroom casework or open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance or reuse existing classroom casework. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 18RU-32RU wall mounted with 24” depth. Racks are located high on the wall with lower edge below 80” or within classroom casework. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.
- Recommend fan kit at casework locations for equipment heat dissipation.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [3]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.



MDF / IDF MAP

1. OFFICE / ADMINISTRATION / CLASSROOM
2. CLASSROOMS
3. CLASSROOMS
4. MULTI-PURPOSE
5. CLASSROOMS
6. CLASSROOMS
7. LIBRARY / CLASSROOMS
8. CLASSROOMS
9. OFFICE / ADMINISTRATION
10. CLASSROOMS
11. CLASSROOMS
12. CLASSROOMS
13. CLASSROOMS
14. CLASSROOMS
15. CLASSROOMS
16. CLASSROOMS

DA VINCI HIGH SCHOOL / GOLDEN VALLEY

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

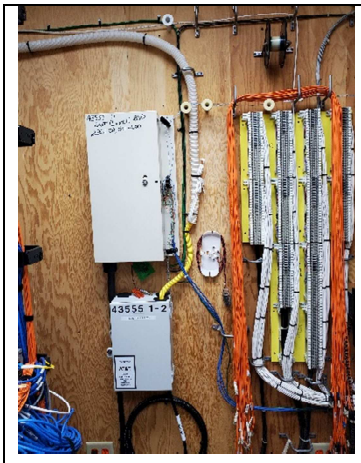
FRANCES ELLEN WATKINS HARPER JUNIOR HIGH [B]

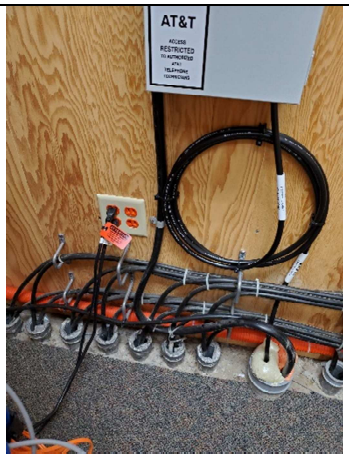
4000 E. Covell Blvd.
Davis, CA 95618

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [0]



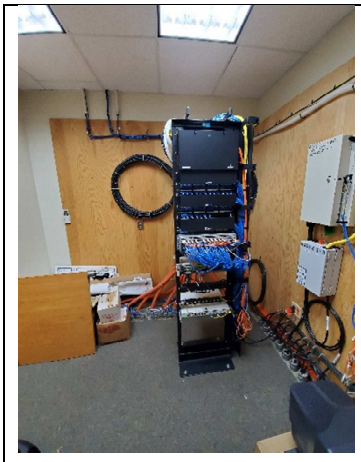


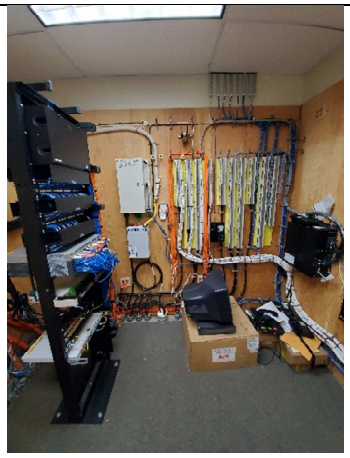
- MPOE: Located at MDF, no rework is required to services or pathway.

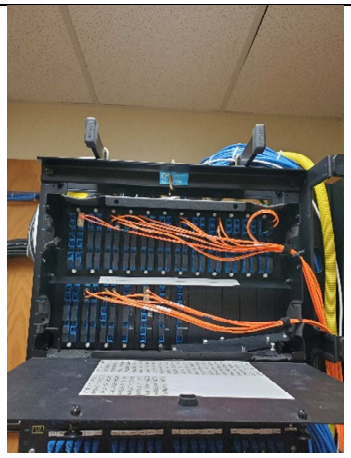
EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]

- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [1]



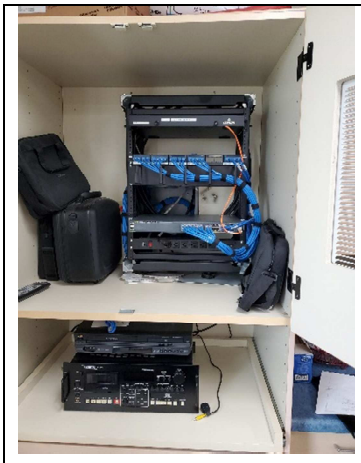
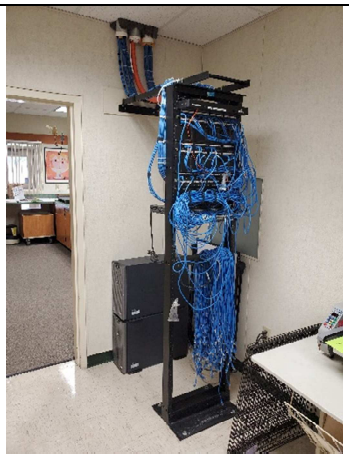
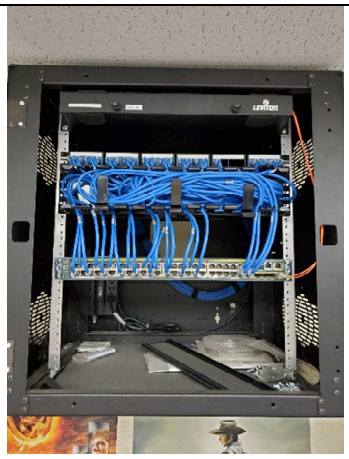




- Room Buildout: Requires minimal cleanup and rework for recommended modernizations.
- Size: Room is in dedicated space, approx. 90 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.

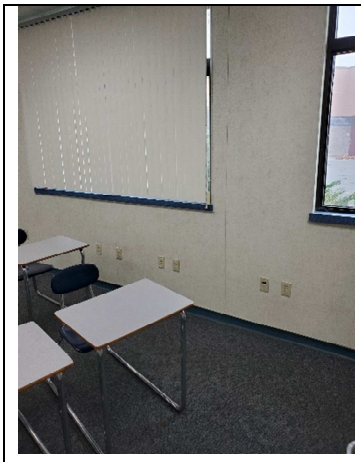
- Racks: Existing floor mount 2-post rack to be remain and new floor mounted 4-post rack to be installed for new UPS battery backup. Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC split unit operating efficiently.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]

- Room Buildout: No space defined for dedicated IDF rooms. Shared with work rooms, storage, custodial, and electrical rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain within existing rooms and/or teaching casework on site. Remove and replace the existing racks with new 24RU rack near room entrance or inside existing casework. Rework existing horizontal pathways into new rack as required for cabling distribution.
- Racks: Existing racks are 12RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edges below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at IDF location.

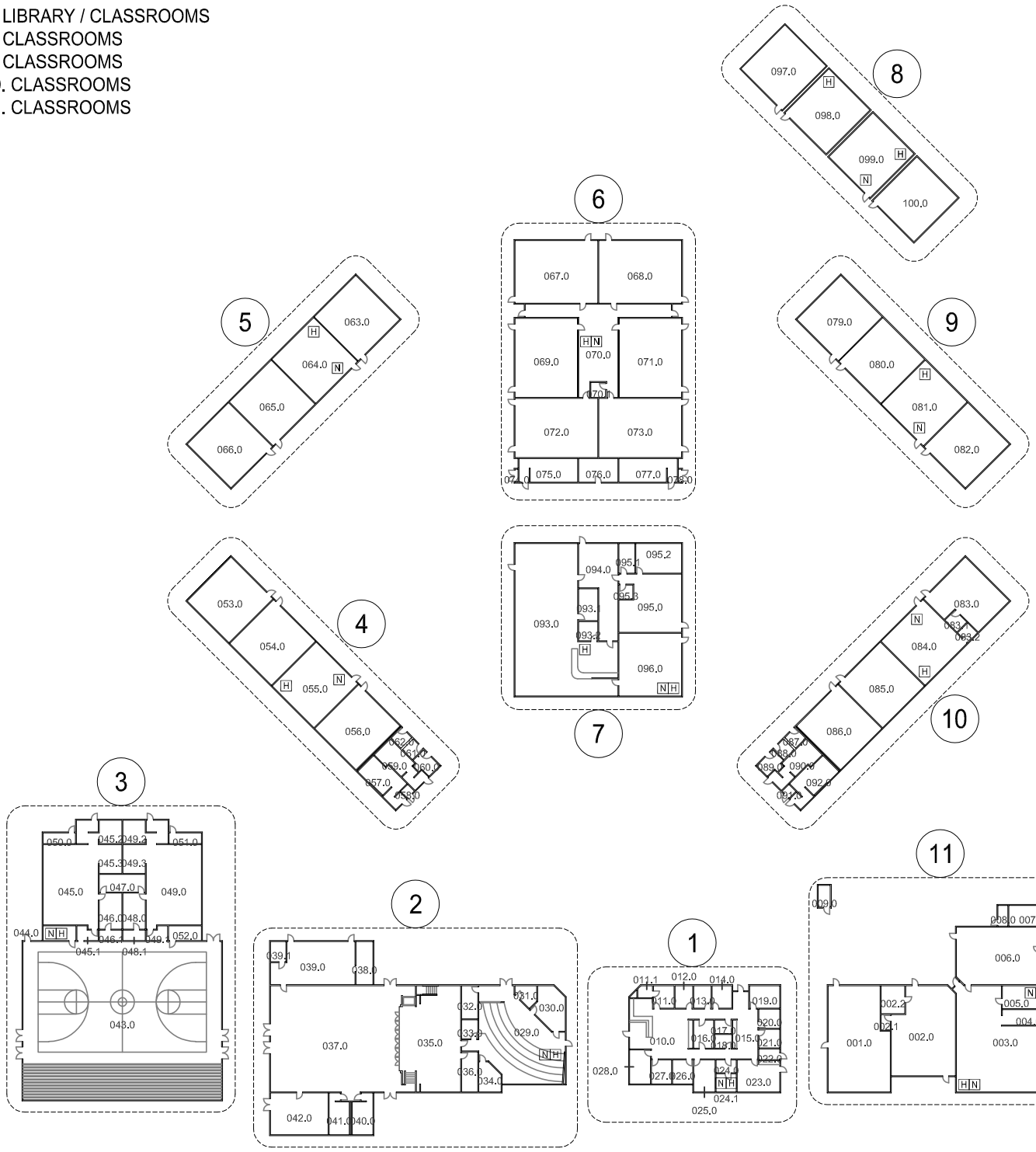
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [1]



- In wall existing pathways to be reused for new cabling.
- Interior surface mounted raceways to remain.
- All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. ADMINISTRATION
2. MULTI-PURPOSE / MUSIC / ART
3. GYMNASIUM
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. LIBRARY / CLASSROOMS
8. CLASSROOMS
9. CLASSROOMS
10. CLASSROOMS
11. CLASSROOMS



HARPER JUNIOR HIGH SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

OLIVER WENDELL HOLMES JUNIOR HIGH [C]

1220 Drexel Drive
Davis, CA 95616

GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

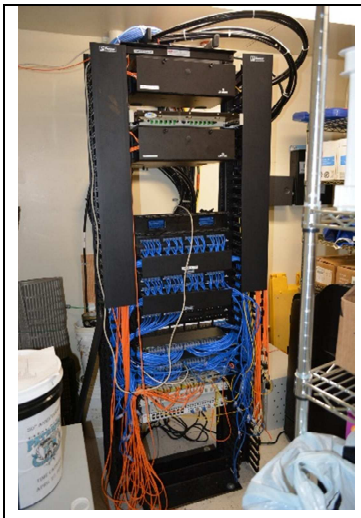
MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

- MPOE: Located at MDF, no rework is required to services or pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [2]

- Exterior above ground, under canopy backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

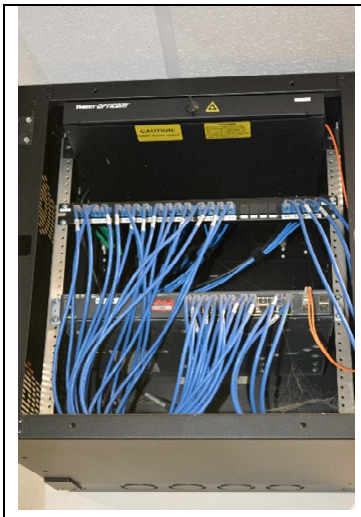
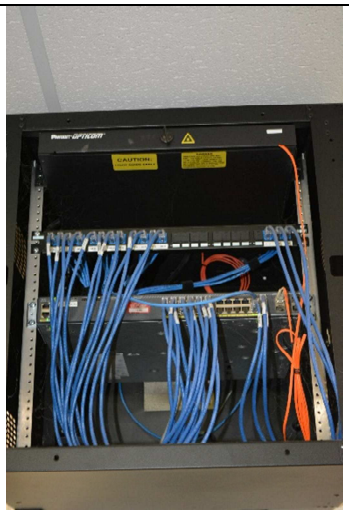
MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [2]



- Room Buildout: Requires minimal cleanup and rework for recommended modernizations.
- Size: Room is in dedicated space, approx. 132 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.

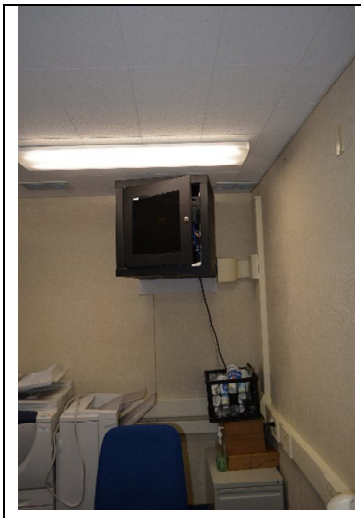
- Racks: Existing floor mount 2-post rack to be remain and new floor mounted 4-post rack to be installed for new UPS battery backup. Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC split unit operating efficiently.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]

- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms, and work rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 18RU wall mounted with 24” depth. Racks are located high on the wall inside rooms. Racks are located high on the wall with lower edges below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in classrooms and shared spaces.

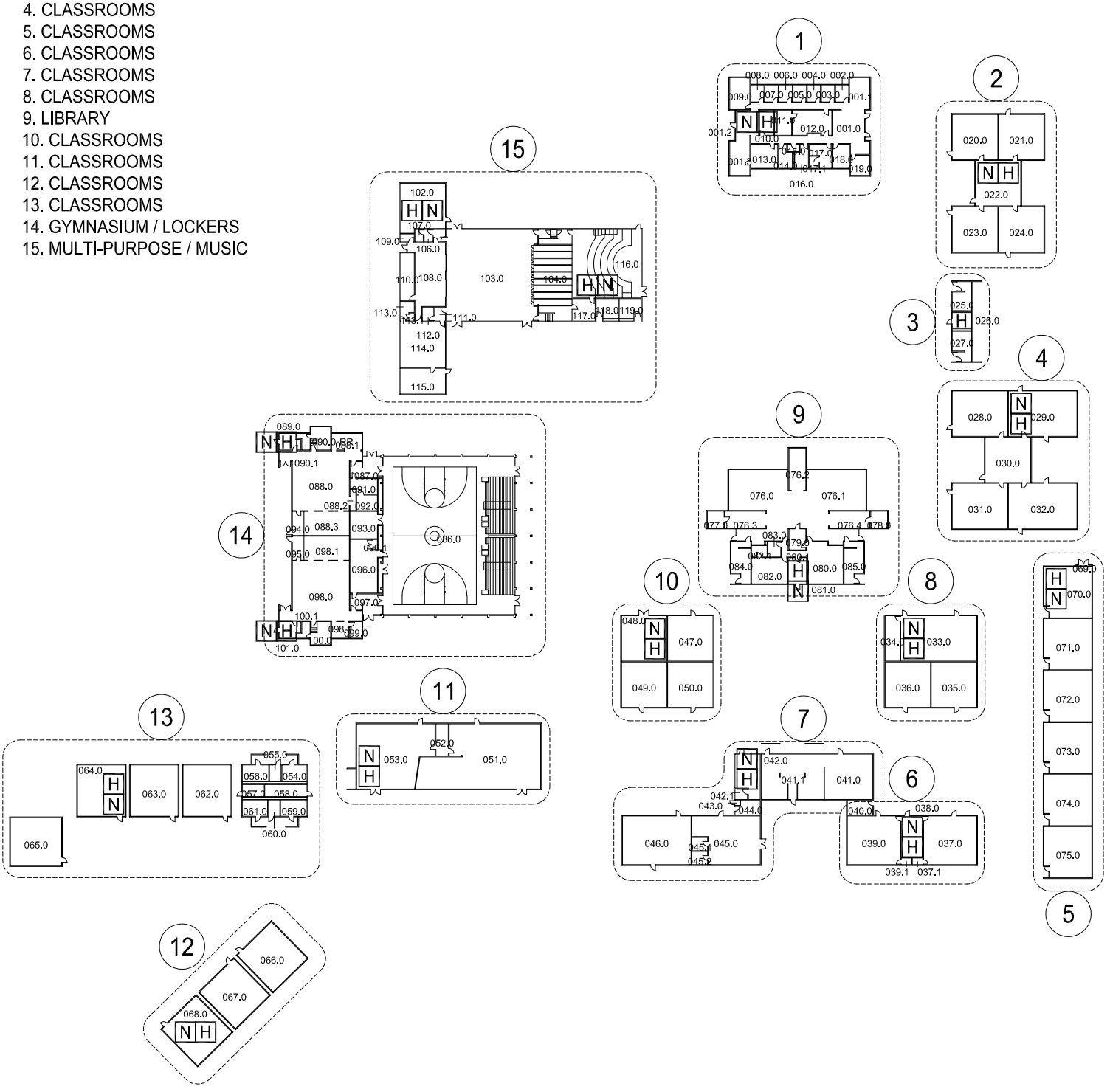
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]



- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. OFFICE
2. CLASSROOMS
3. RESTROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. LIBRARY
10. CLASSROOMS
11. CLASSROOMS
12. CLASSROOMS
13. CLASSROOMS
14. GYMNASIUM / LOCKERS
15. MULTI-PURPOSE / MUSIC



HOLMES JUNIOR HIGH SCHOOL

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

RALPH WALDO EMERSON JUNIOR HIGH
DA VINCI HIGH SCHOOL CHARTER [B]

2121 Calaveras Ave.
Davis, CA 95616

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

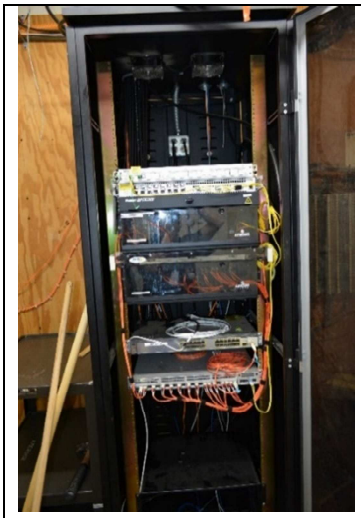
MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

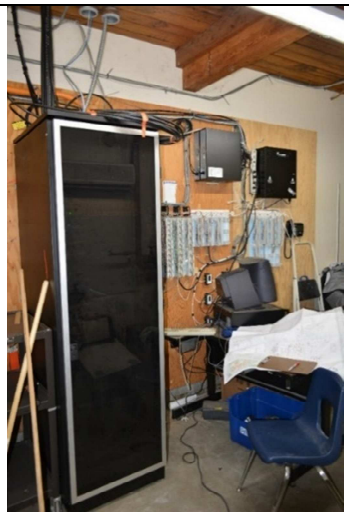
- MPOE: Located at office area inside dedicated closet, no rework required for services of pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT) CATEGORY [1]

- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION CATEGORY [3]





- Room Buildout: Requires general cleanup and rework for recommended modernizations.
- Size: Room is in shared space with custodial closet, approx. 148 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.

- Racks: Existing floor mounted rack to remain for new UPS battery backup. Rack shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at new MDF location.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]

- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms, work areas, multi-purpose room, and located inside casework.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 12RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edge below 80” in many locations. Portable classrooms are installed with wall mount Hubbell Rebox style cabinets that require rework for access compliance. Recommendation is for removal and replacement of existing IDF rack at current room to

utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.

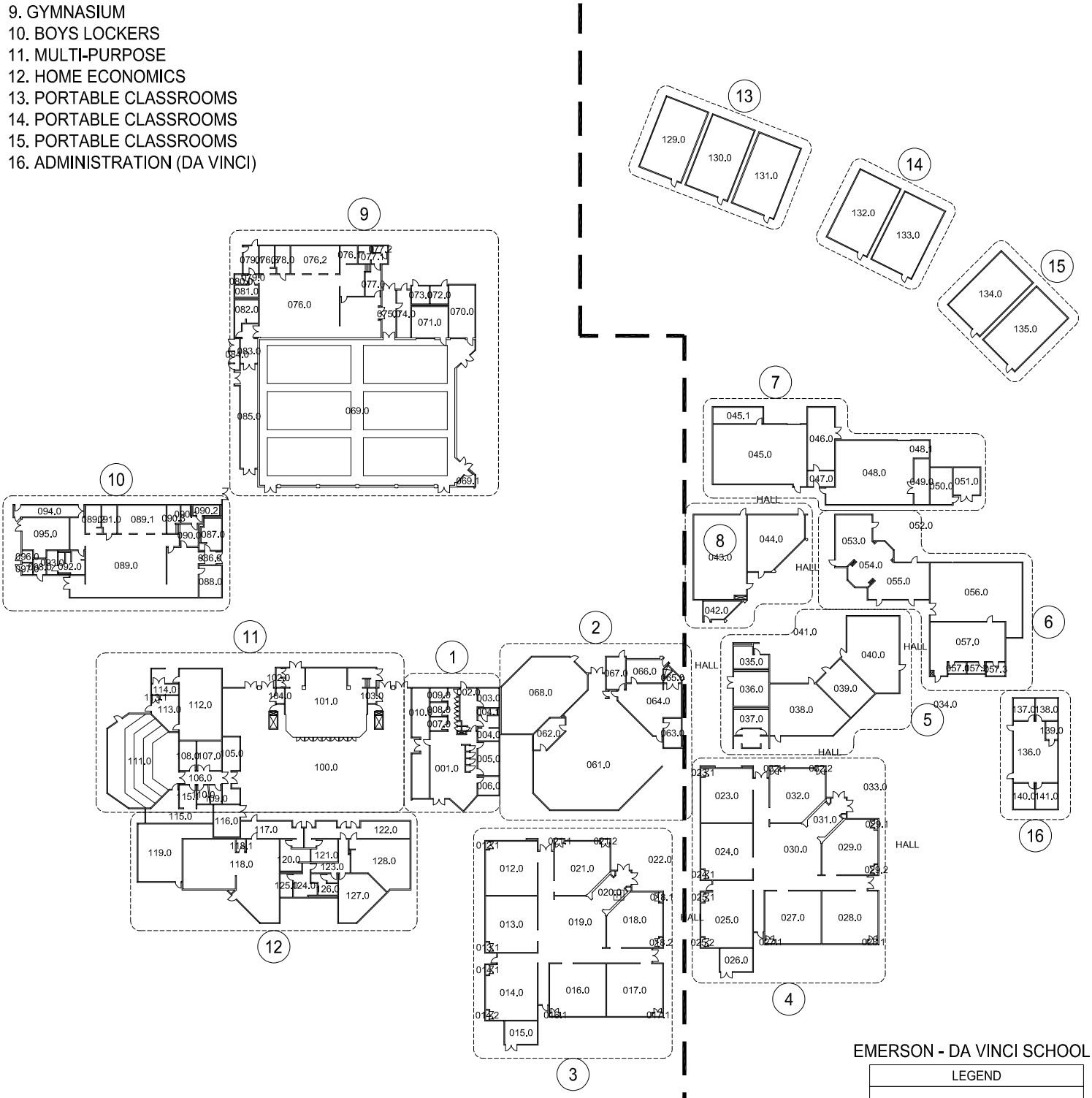
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. GYMNASIUM
10. BOYS LOCKERS
11. MULTI-PURPOSE
12. HOME ECONOMICS
13. PORTABLE CLASSROOMS
14. PORTABLE CLASSROOMS
15. PORTABLE CLASSROOMS
16. ADMINISTRATION (DA VINCI)



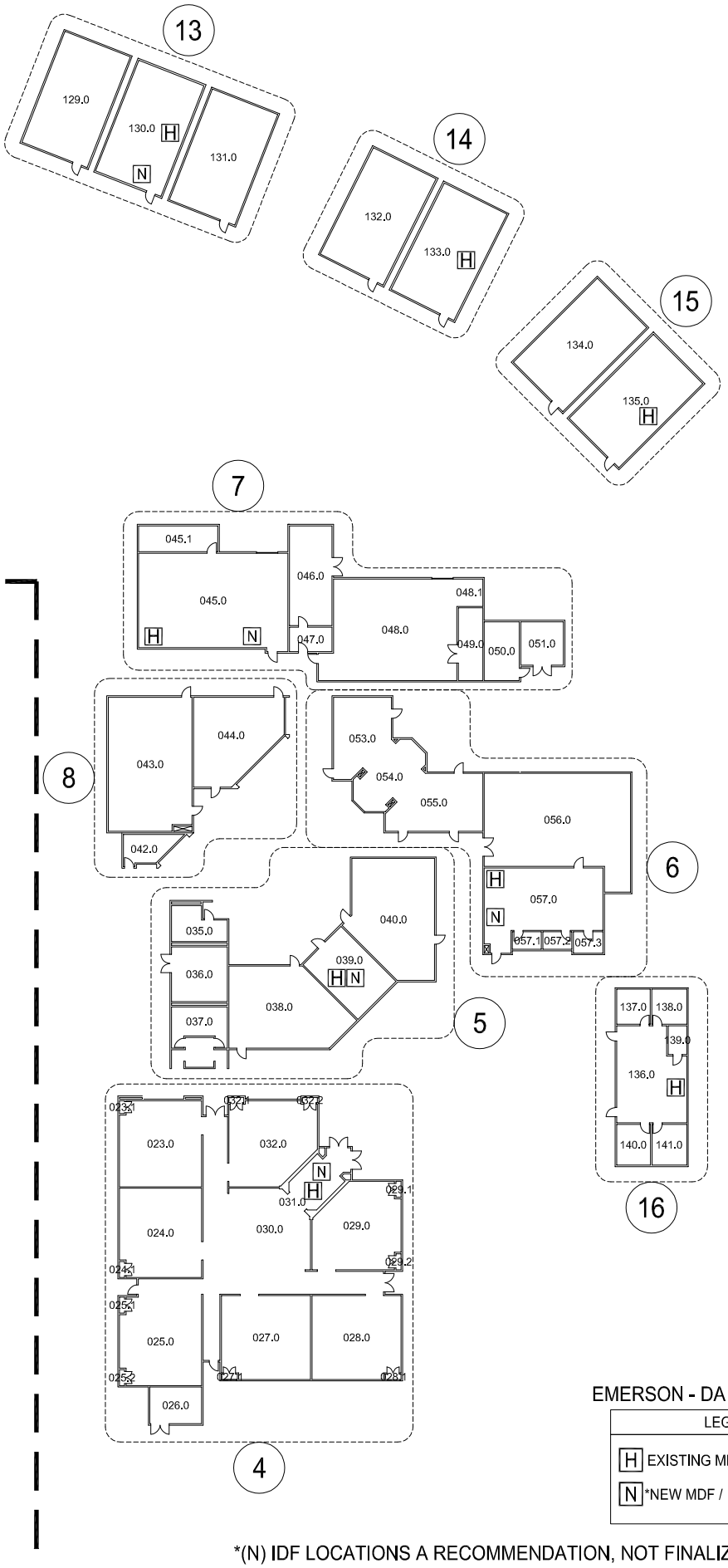
EMERSON - DA VINCI SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MDF / IDF MAP

1. ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. GYMNASIUM
10. BOYS LOCKERS
11. MULTI-PURPOSE
12. HOME ECONOMICS
13. PORTABLE CLASSROOMS
14. PORTABLE CLASSROOMS
15. PORTABLE CLASSROOMS
16. ADMINISTRATION (DA VINCI)



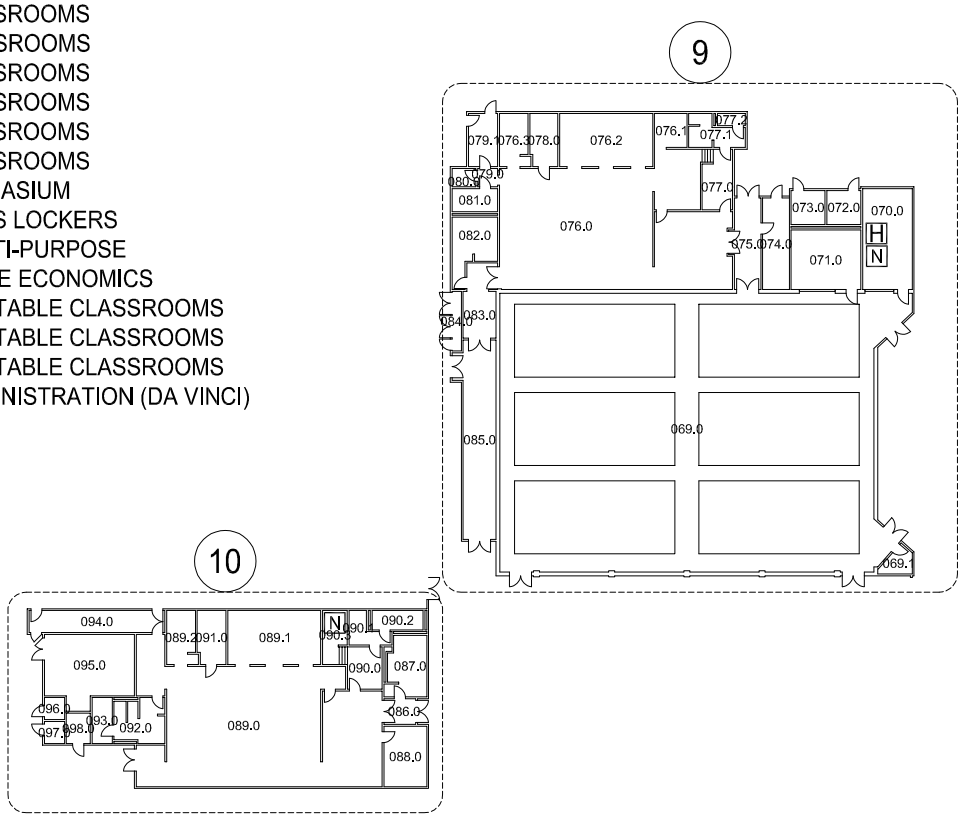
EMERSON - DA VINCI SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MDF / IDF MAP

1. ADMINISTRATION
2. CLASSROOMS
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. GYMNASIUM
10. BOYS LOCKERS
11. MULTI-PURPOSE
12. HOME ECONOMICS
13. PORTABLE CLASSROOMS
14. PORTABLE CLASSROOMS
15. PORTABLE CLASSROOMS
16. ADMINISTRATION (DA VINCI)



EMERSON - DA VINCI SCHOOL

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

ASSUMPTIONS AND DESIGN BUDGETING NOTES

A. MPOE Rework

Existing copper and/or fiber entering from the utility carrier is recommended to be reworked and bring it in underground to minimize chance of future danger. Each one is assumed to involved, underground conduit work, approx. 200' fiber infrastructure for new MPOE, Utility Fiber, $12K

B. Exterior Backbone, Raceways

Sites that have limited existing exterior pathway (i.e. main pathway for fiber and / or copper feeder upgrades) has been budgeted for an upgrade. In addition, for interior pathways, larger raceway or pathway within each building will need to be considered during the design of the upgrades.

C. MDF Rework: Cabinets, power, UPS

Existing MDF location might need to be upgraded as the project upgrade is planned. The site will either need a rework of existing space or possible relocated to a space with more room for equipment racks and / or wall mounted equipment. Upgrade project shall consider installing a dedicated cooling unit for the MDF / MPOE space. In addition, dedicated 110V and 220V shall be provided for each MDF along with an Uninterrupted Power Supply (UPS) to carry the equipment load for a pre-determined time when / if the utility power goes down.

D. IDF Rework: Cabinets, power, UPS

Many of the existing IDF cabinets are mounted in locations that will not allow the installation of upgraded data equipment. Newer data switches tend to be deeper due to additional power requirements of Power over Ethernet (POE) devices connecting to them. In addition, dedicated 110V shall be provided for each of the IDFs along with a Uninterrupted Power Supply (UPS) to carry the equipment load for a pre-determined time when / if the utility power goes down. In addition, each IDF will receive a new 12 strand fiber connection as well as a small copper feeder for analog phones and other devices.

E. Hardware/Equipment:

E1. Routers

An assumption has been made that most of the existing routers / main MDF switches will not be needed to be upgraded over the next 5-7 years.

E2. Switches

Assumption has been made that all reworked or upgraded IDFs will receive new data switches.

E3. Wireless Access Points (WAP)

All existing WAPs will be replaced and new WAPs will be added to increase coverage and bandwidth requirements

E4. Voice over IP wiring and phones

Actual install date will depend on the phase the campus VoIP upgrade happens. See below for VoIP data drop explanation.

F. Tier-1 network drops:

F1. Network drops-6A

Each classroom will receive between 3 and 5 hard wired network drops. Other admin spaces will also be upgraded to the new data wiring standards.

F2. VoIP drops-6A

As part of the network wiring upgrade of each campus, a new Voice over IP Cat6A is included in the total network drop count in order for proper patch panel, switch ports, and PoE requirements to be calculated. Actual install date will depend on the phase the campus VoIP upgrade happens.

F3. WAP drops-6A

Consisted wireless coverage is becoming more and more a requirement as more and more of the teaching and working environment also requires coverage for wireless equipment as well as students and staff's desire to bring-your-own devices (BYOD) such as cellphones and tables.

G. Tier-2 network drops:

G1. Clock drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

G2. Intercom drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

G3. CCTV drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

G4. AV drops-6A

Each anticipated space requiring AV has been planned with 3 ea. data drops built into the budget.

G5. Fire Alarm drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

G6. Intrusion Alarm drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

G7. Electric Access drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops. Exterior entry doors only.

G8. Bldg. Automation System drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

G9. Lighting drops-6A

MDF/IDF port count only included for switch requirement. No budget figured for equipment or data drops.

Demolition:

Demolition of existing cable infrastructure is estimated and included at approximately 15% of construction cost.

E-rate:

Shown budget figures are calculated at pre-Erate funding. District anticipates to apply for Erate funding annually for equipment replacement and upgrades.

Work Hours:

For cabling upgrades, work might need to be scheduled after school hours (swing-shift). It is anticipated that it will bring an extra 12-15% cost to the construction.

BIRCH LANE ELEMENTARY [C]

1600 Birch Lane
Davis, CA 95618

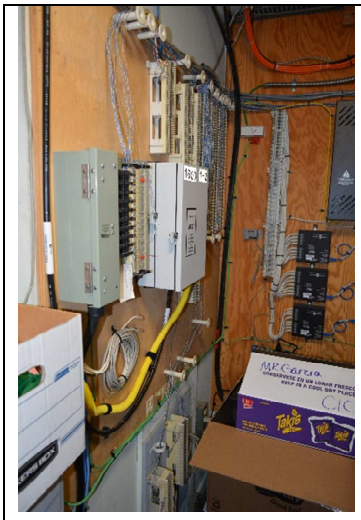
GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

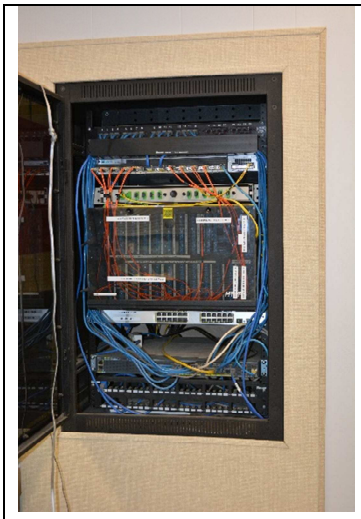


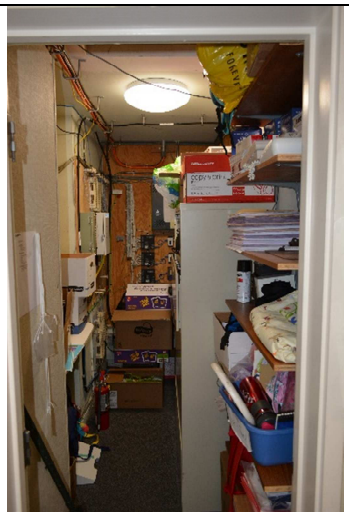
- MPOE: Located at MDF, no rework of services or pathway is required.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]

- Exterior above ground, under canopy backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [5]





- Room Buildout: Requires minimal cleanup and rework for recommended modernizations.
- Size: Room is in dedicated space, approx. 115 sqft..

- Site Location: MDF to remain at existing location with modernizations to racking configuration.
- Racks: Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC split unit operating efficiently.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]

- Room Buildout: No space defined for dedicated IDF rooms. Shared with work rooms, storage, and electrical rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 12RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edges below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and

horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.

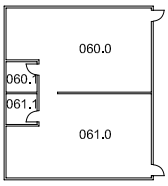
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

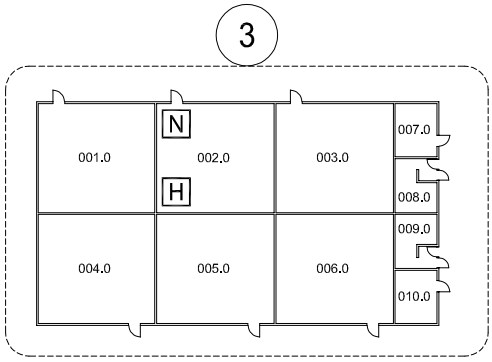
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

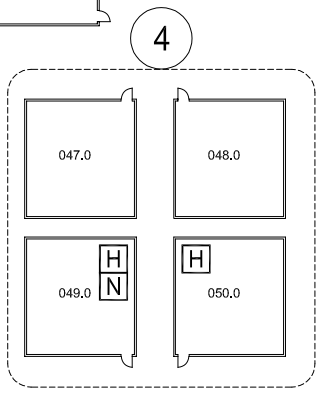
- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

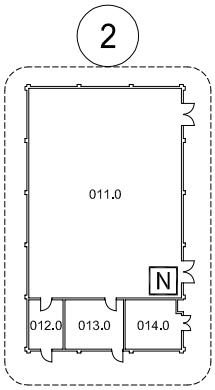
MDF / IDF MAP

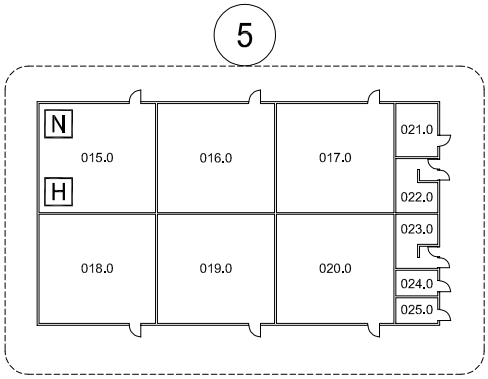
1. ADMINISTRATION
2. MULTI-PURPOSE / GYMNASIUM
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. CLASSROOMS
10. CLASSROOMS
11. CLASSROOMS

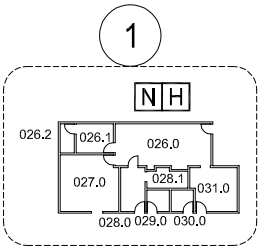


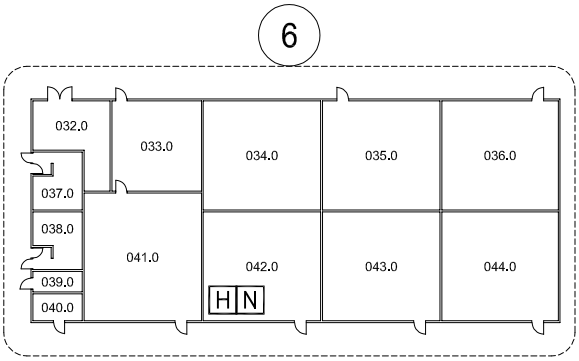


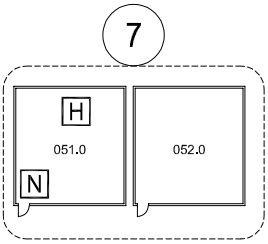


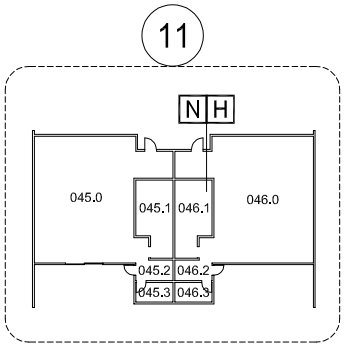


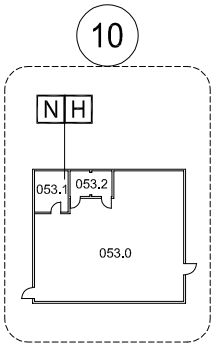


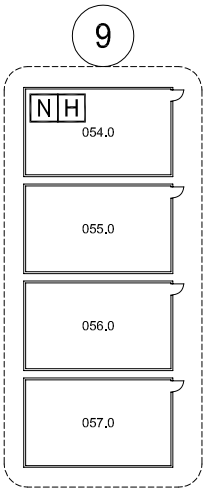


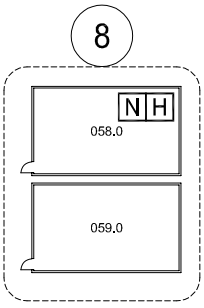












BIRCH LANE ELEMENTARY

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

CESAR CHAVEZ ELEMENTARY

[C]

1221 Anderson Road
Davis, CA. 95616

GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

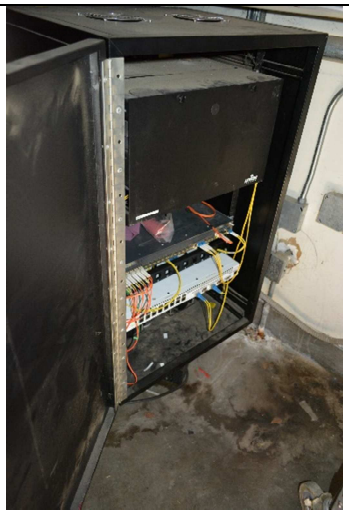
MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

- MPOE: Located at MDF, rework is required to new MDF location.
- Reroute service conduit to new MDF location.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]

- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

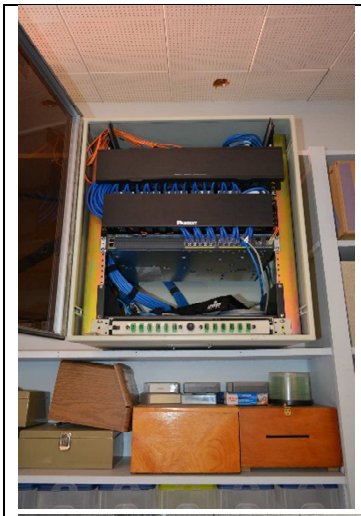
MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [5]



- Room Buildout: Requires major cleanup and rework for recommended modernizations. Suggest relocation to new room with proper working clearances and environmental conditioning.
- Size: Room is in shared space, approx. 50 sqft..

- Site Location: MDF to be relocated to new location with modernizations to racking configuration.
- Racks: Existing wall mounted rack to be removed and new floor mounted 4-post rack to be installed for new UPS battery backup at new MDF location. Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines to new MDF location.
- Cooling: New dedicated HVAC split unit required at new MDF location.

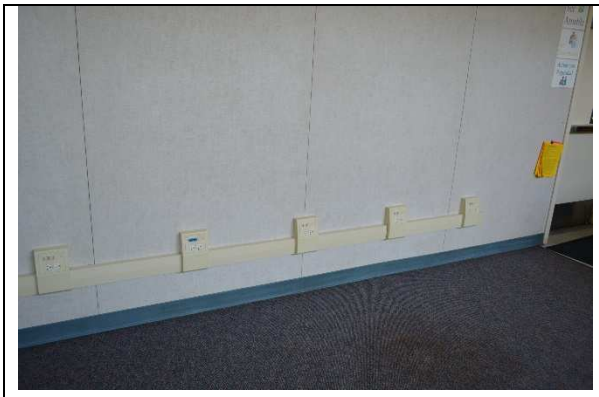
IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]



- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms, storage, and electrical rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.

- Racks: Existing racks are 18RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall inside classrooms near window clearstory. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in classrooms and shared spaces.

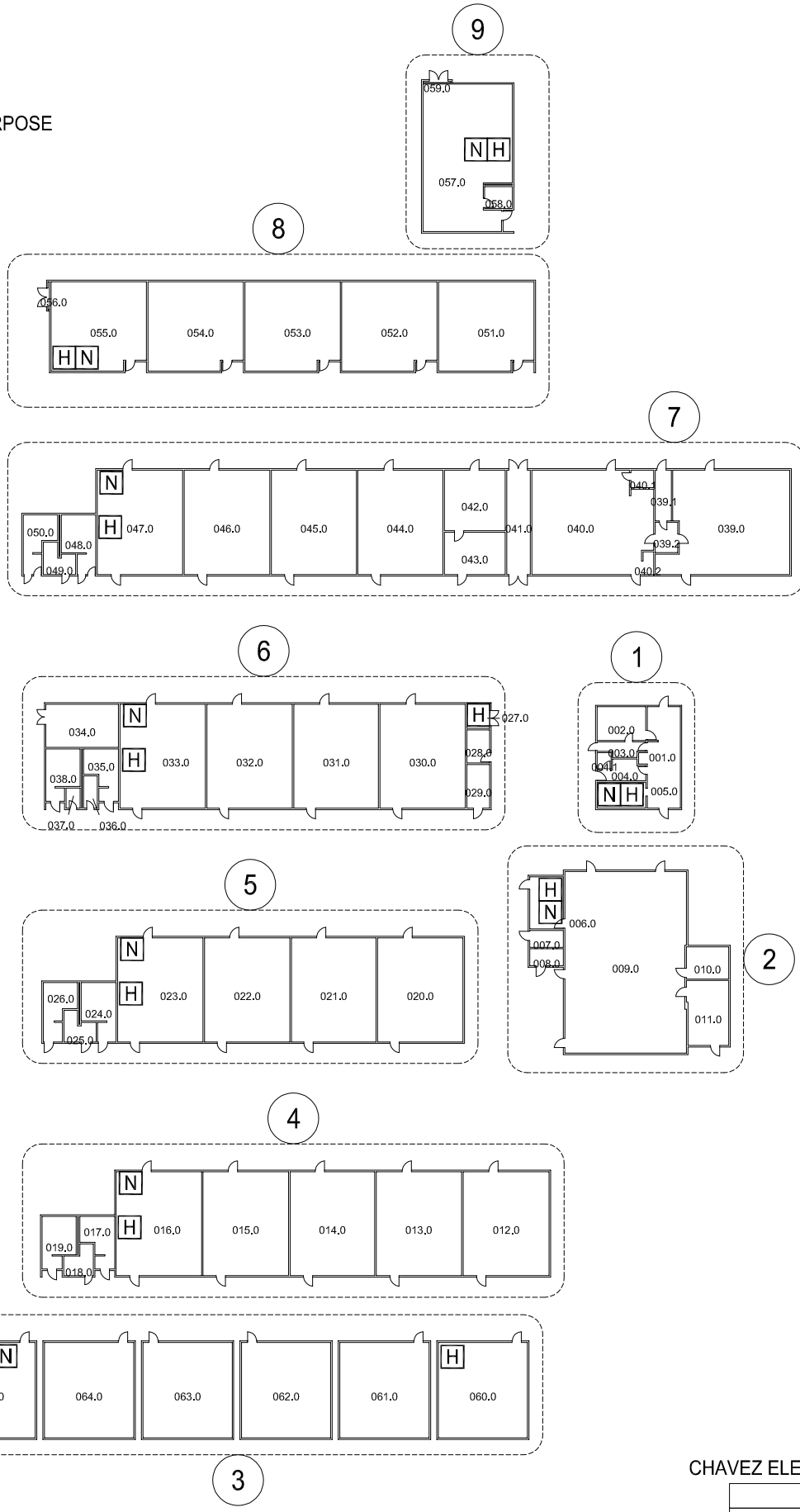
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [1]



- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. OFFICE
2. GYMNASIUM / MULTI-PURPOSE
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. CLASSROOMS



CHAVEZ ELEMENTARY SCHOOL

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

FAIRFIELD ELEMENTARY

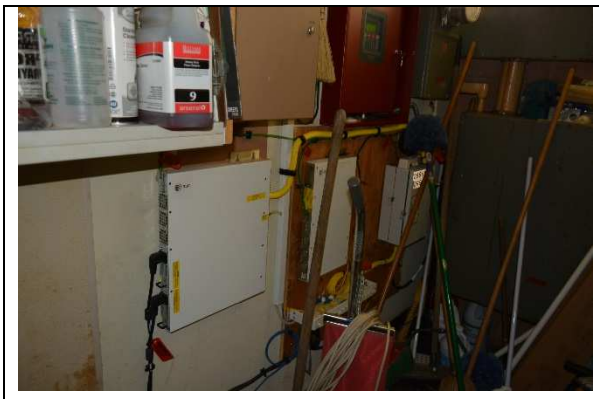
[B]

26960 Co. Road 96
Davis, CA 95616

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

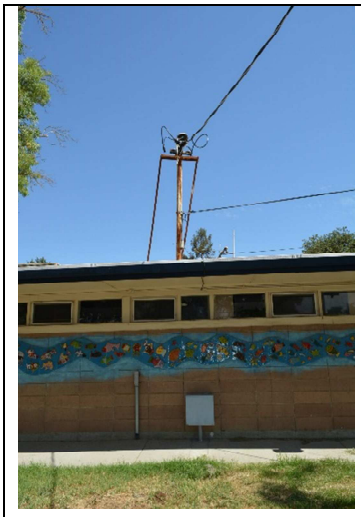
CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [2]



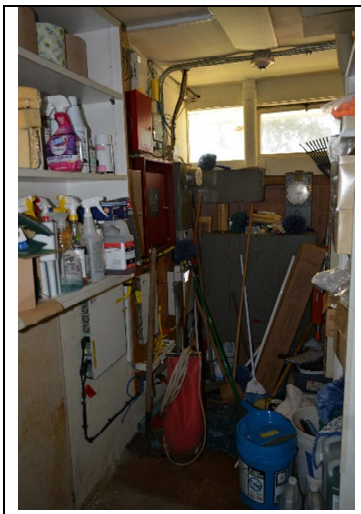
- MPOE: Located at Janitors closet, relocation is recommended no new MDF.
- Rework interior conduit to new MDF/MPOE backboard.

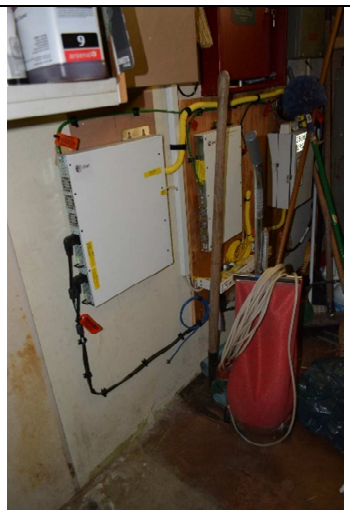
EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]



- Exterior underground backbone conduit system to remain. Conduit quantity and size is acceptable for single building cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [2]

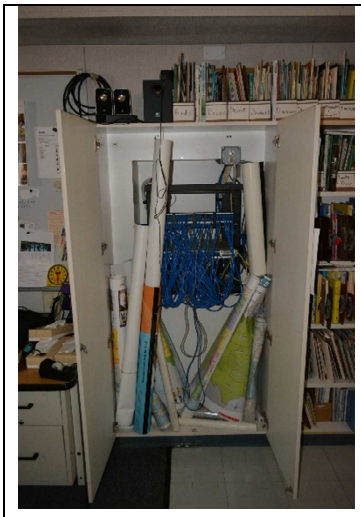




- Room Buildout: No room defined for dedicated MDF. Suggest new room with proper working clearances and environmental conditioning.
- Size: Room is in shared dedicated space, approx. 25 sqft..

- Site Location: MDF to be relocated to new location with modernizations to racking configuration.
- Racks: Existing wall mounted rack to be removed and new floor mounted 4-post rack to be installed for new UPS battery backup. Rack shall be configured for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at new MDF location.

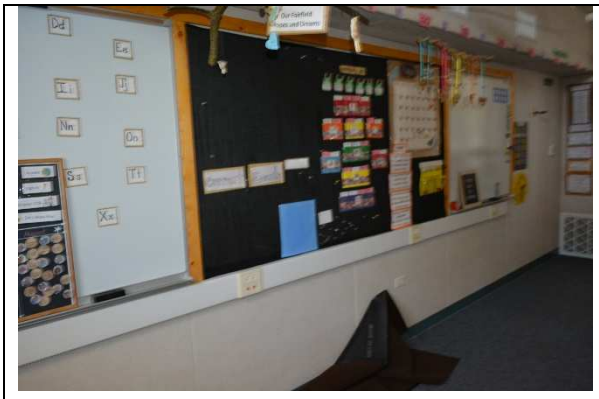
IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]



- Room Buildout: No space defined for dedicated IDF room. The site sole IDF is located inside the classroom within casework.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF location to remain within existing teaching casework on site. Remove and replace the existing rack with new 24RU rack near room entrance or inside existing casework. Rework existing horizontal pathways into new rack as required for cabling distribution.
- Racks: Existing rack is 18RU wall mounted with 18” depth. Rack is located inside the classroom within casework. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.

- Cooling: Existing HVAC unit operating efficiently in classrooms and shared spaces.

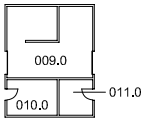
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [1]

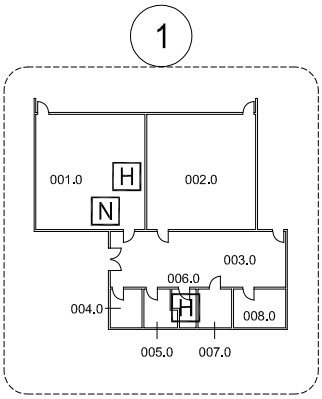


- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. MULTI-PURPOSE / CLASSROOMS





FAIRFIELD ELEMENTARY SCHOOL

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

FRED T. KOREMATSU ELEMENTARY [B]

3100 Loyola Drive
Davis, CA 95618

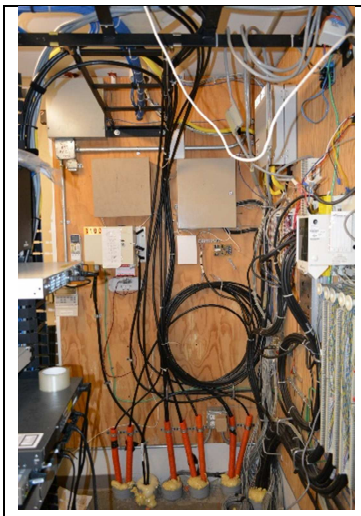
GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [0]

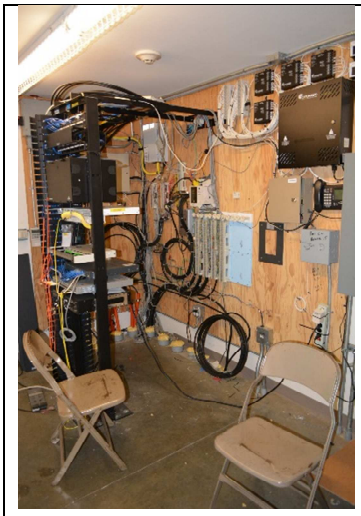


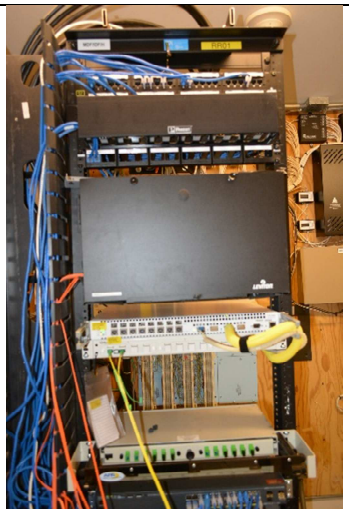
- MPOE: Located at MDF, no rework is required to services or pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [0]

- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [2]





- Room Buildout: Requires minimal cleanup and rework for recommended modernizations.
- Size: Room is in dedicated space, approx. 115 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.

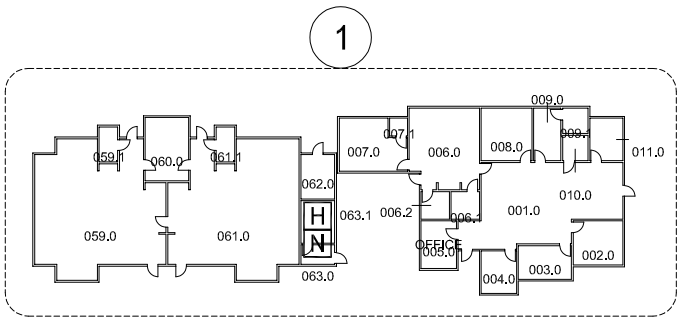
- Racks: Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC split unit operating efficiently.

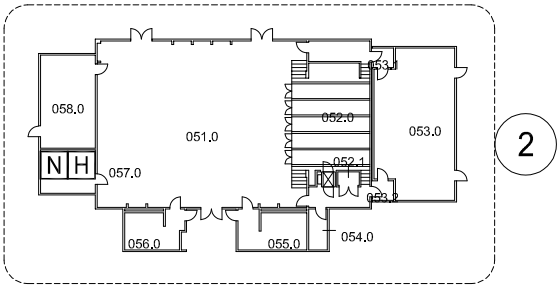
IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]

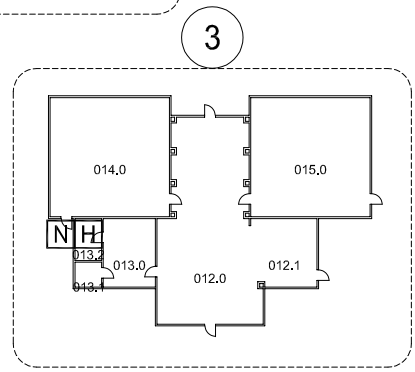
- Room Buildout: No space defined for dedicated IDF rooms. Shared with work rooms, storage, and electrical rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 12RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edges below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

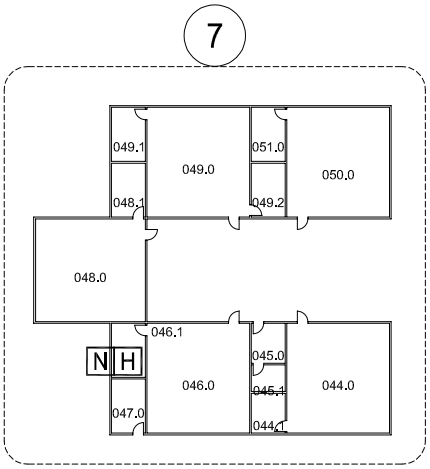
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

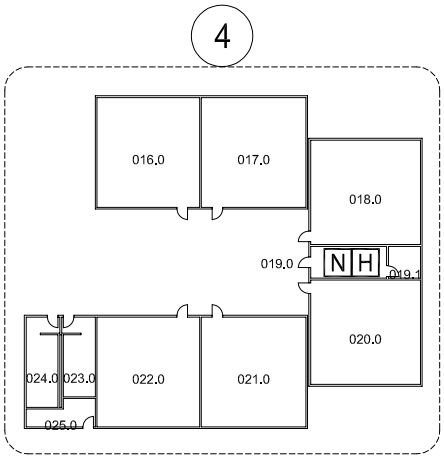
• Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system. • Remove any unused raceways. Patch and prepare surfaces for repainting by District. • Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

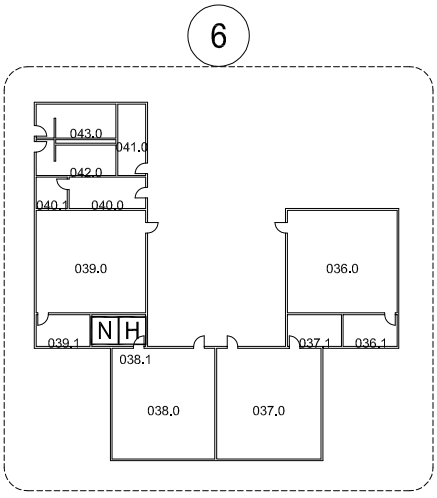


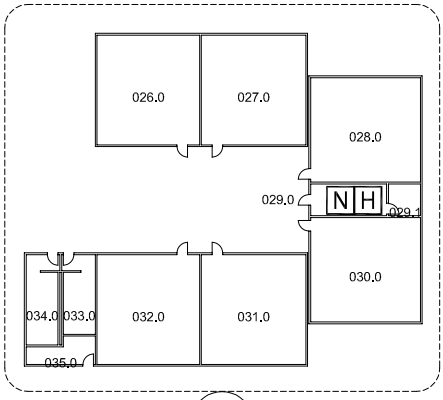












MDF / IDF MAP

1. OFFICE
2. MULTI-PURPOSE / GYMNASIUM
3. LIBRARY / CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS

KOREMATSU ELEMENTARY SCHOOL

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MARGUERITE MONTGOMERY ELEMENTARY [B]

1441 Danbury Street
Davis, CA 95618

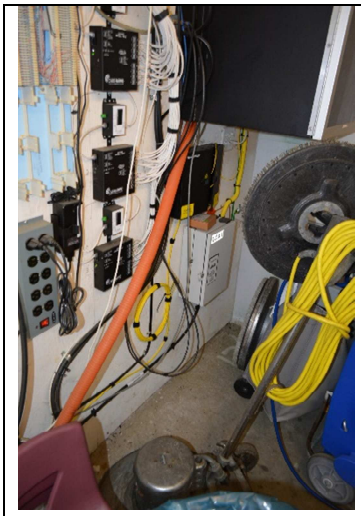
GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]



- MPOE: Located at MDF, no rework is required to services or pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [0]

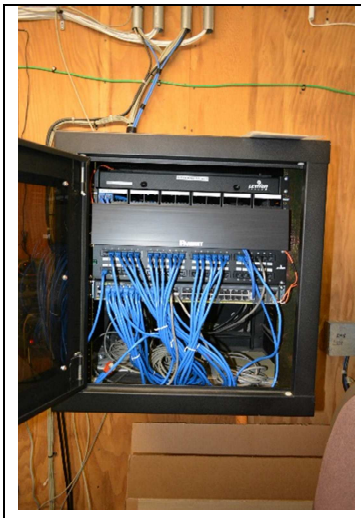
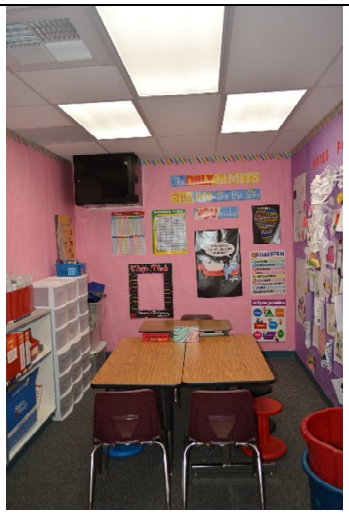
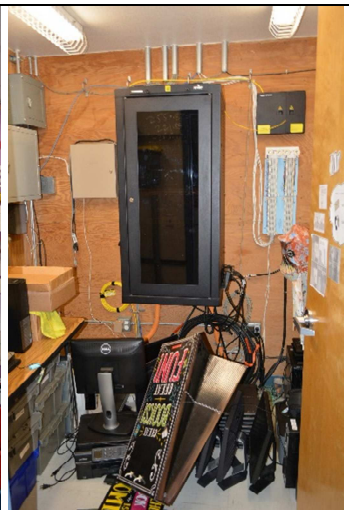
- Exterior underground backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- Any exposed vertical conduit risers to be covered with a metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest below ground junction pull box to servicing building as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [2]

- Room Buildout: Requires minimal cleanup and rework for recommended modernizations.
- Size: Room is in dedicated space, approx. 120 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.
- Racks: Existing wall mounted rack to be removed and new floor mounted 4-post rack to be installed for new UPS battery backup. Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.

- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC split unit operating efficiently.

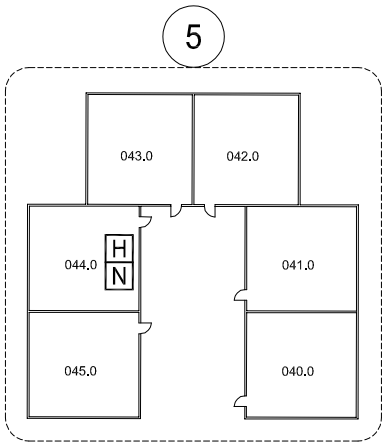
IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]

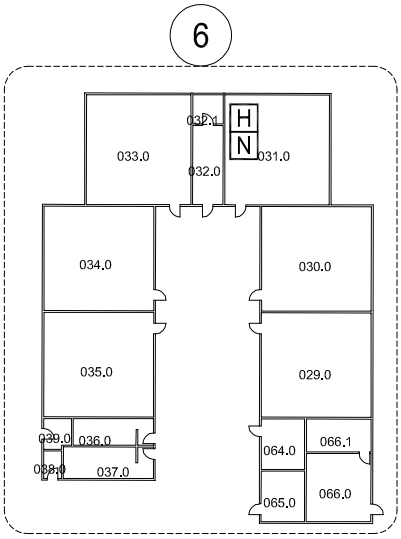




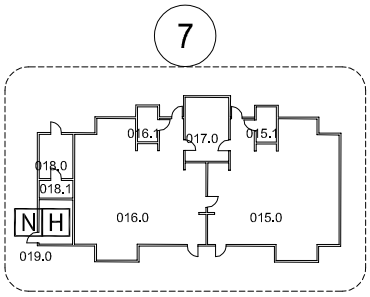
- Room Buildout: No space defined for dedicated IDF rooms. Shared with work rooms, storage, and electrical rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 12RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edges below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

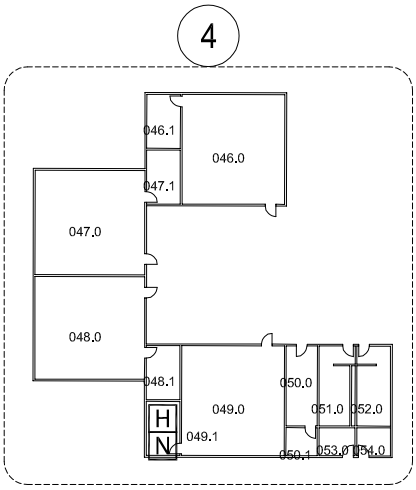
INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

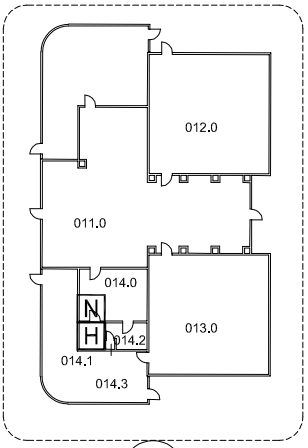
- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

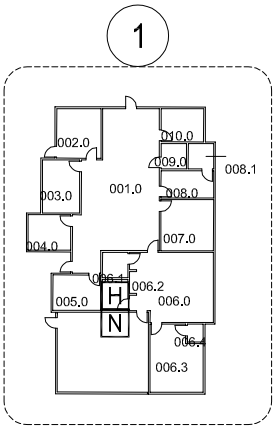


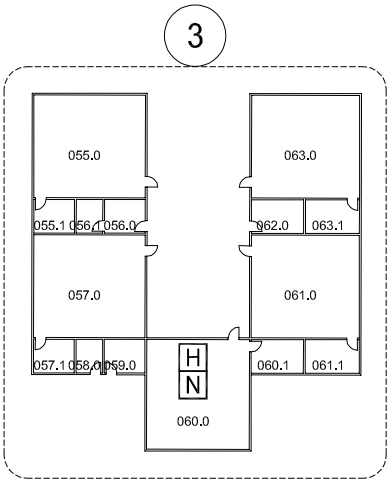


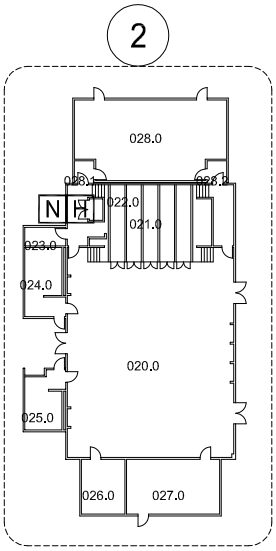












MDF / IDF MAP

1. EDIT
2. MULTI-PURPOSE / GYMASIUM
3. CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. LIBRARY / CLASSROOMS

MONTGOMERY ELEMENTARY SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

NORTH DAVIS ELEMENTARY

555 E. 14th Street
Davis, CA 95616

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

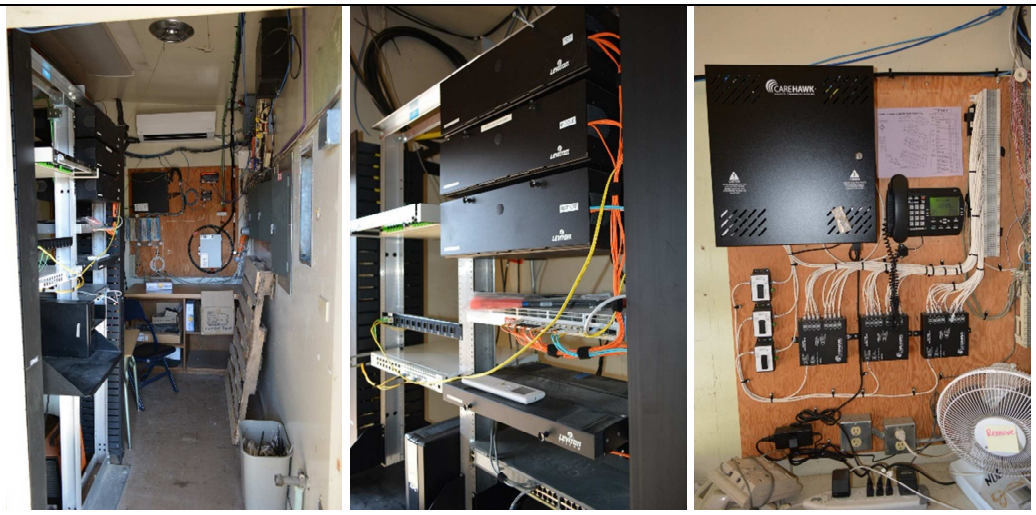
MINIMUM POINT OF ENTRY (MPOE)
CATEGORY [1]

- MPOE: Located at MDF in Teacher's Lounge. No work required to services or entry pathway.
- Install fiber optic inside plant ring for proper fiber coil.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]

- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

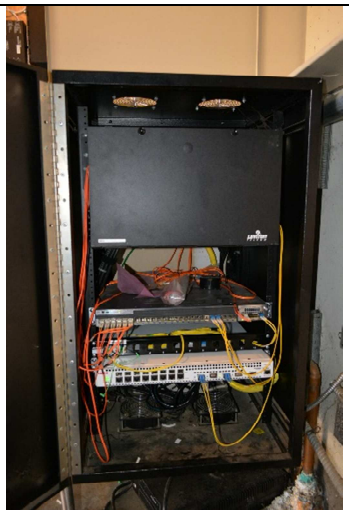
MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [5]



- Room Buildout: Requires minor cleanup and rework for recommended modernizations.
- Size: Room is in shared space, approx. 115 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.

- Racks: Racks shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]



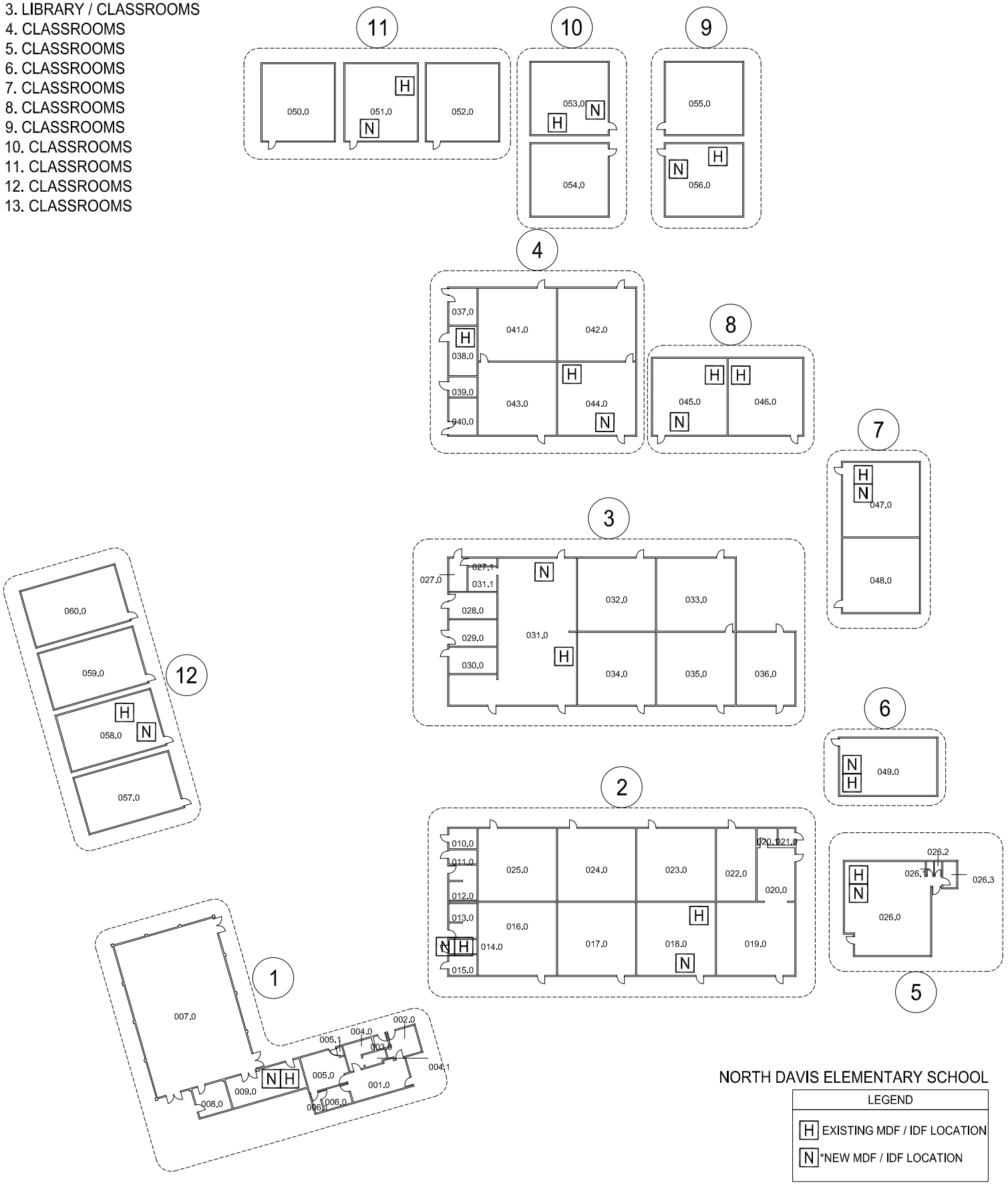
- Room Buildout: No space defined for dedicated IDF rooms. Shared with classrooms, storage, and electrical rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Hubbell Rebox IDF rack locations to remain.
- Racks: Existing racks are 8RU-32RU wall mounted with 10” to 24” depth. Racks are located high on the wall many with lower edge below 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in classrooms and shared spaces.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [1]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. OFFICE / MULTI-PURPOSE / GYMNASIUM
2. CLASSROOMS
3. LIBRARY / CLASSROOMS
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. CLASSROOMS
10. CLASSROOMS
11. CLASSROOMS
12. CLASSROOMS
13. CLASSROOMS



NORTH DAVIS ELEMENTARY SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

PATWIN ELEMENTARY [B]

2222 Shasta Drive
Davis, CA 95616

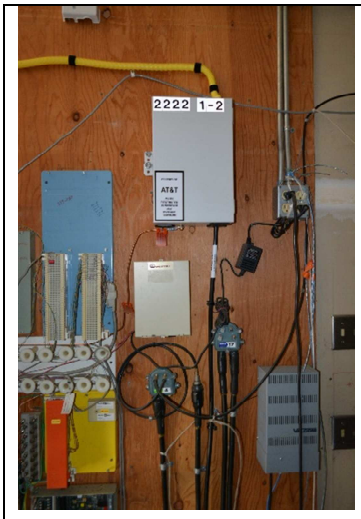
GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

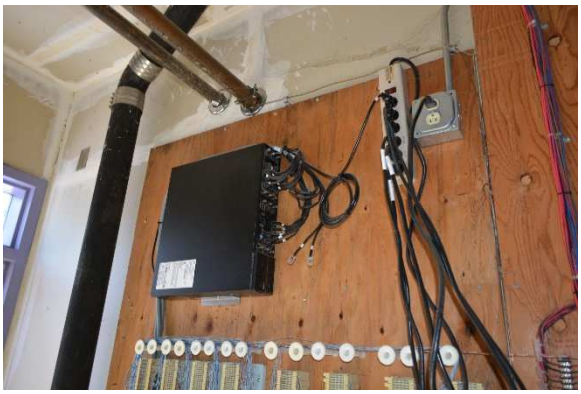


- MPOE: Located at MDF, no rework is required to services or pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]

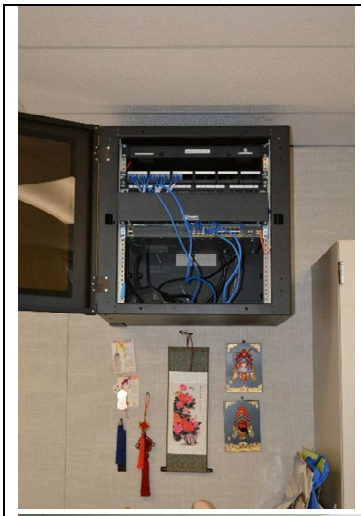
- Exterior backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All exposed vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Enclosed vertical conduit risers at buildings to be cleaned of debris. Install cable supports for transition to building ceiling horizontal pathways.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box, riser closet to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

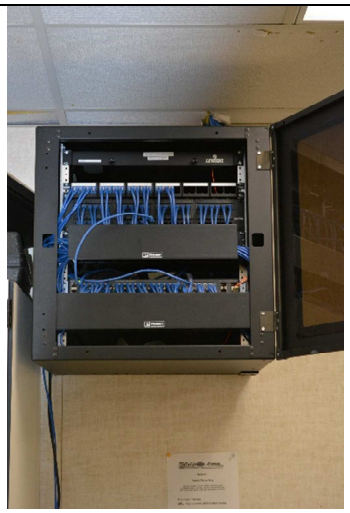
MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [2]



- Room Buildout: Requires minimal cleanup and rework for recommended modernizations.
- Size: Room is in dedicated space, approx. 180 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.
- Racks: Existing floor mounted 4-post rack to remain for new UPS battery backup. Rack shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at new MDF location.

IDF LOCATIONS AND PHYSICAL INSTALLATION
CATEGORY [5]





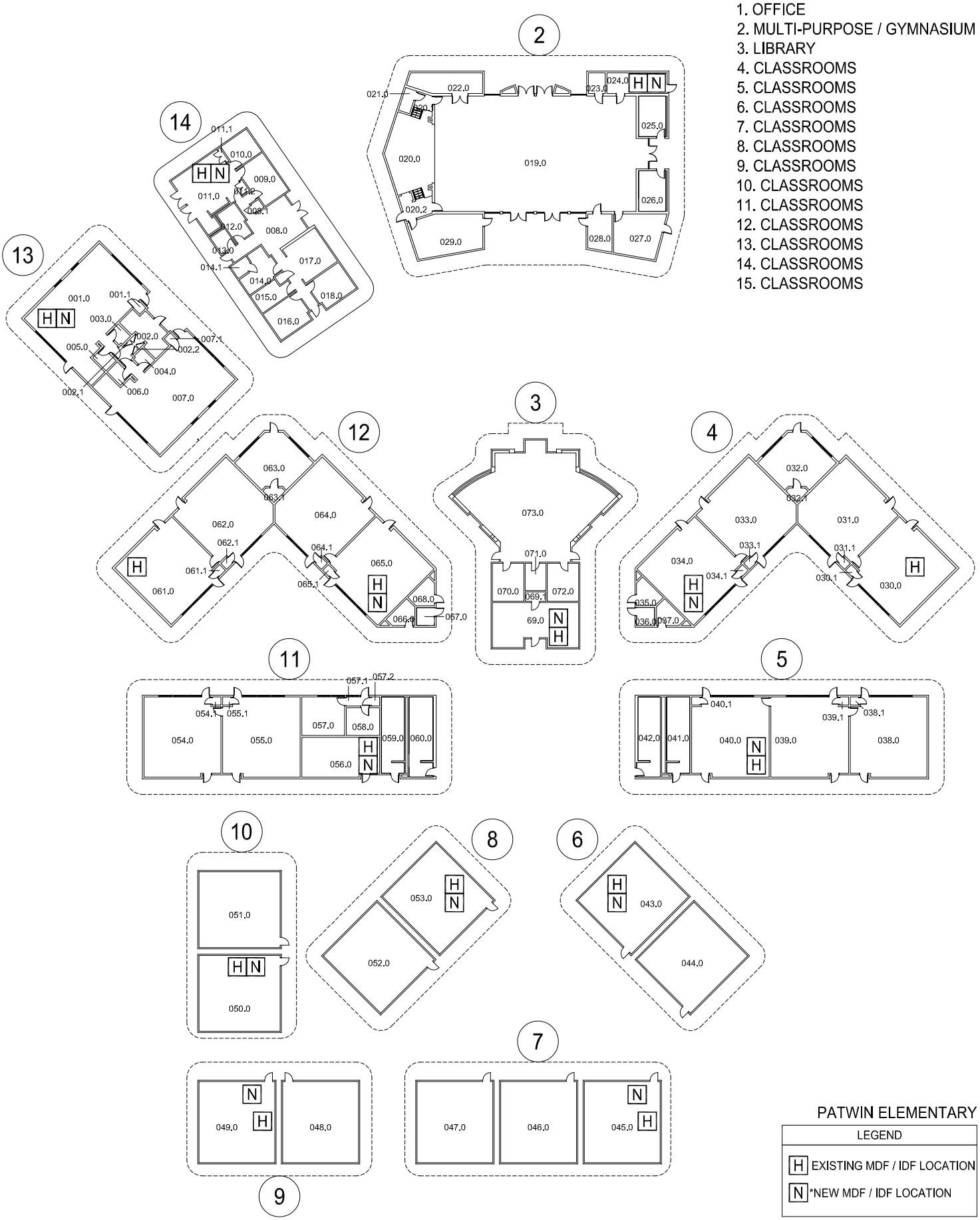
- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance or below existing rack. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 18RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edge above 80”. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. OFFICE
2. MULTI-PURPOSE / GYMNASIUM
3. LIBRARY
4. CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. CLASSROOMS
10. CLASSROOMS
11. CLASSROOMS
12. CLASSROOMS
13. CLASSROOMS
14. CLASSROOMS
15. CLASSROOMS



PATWIN ELEMENTARY

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

PIONEER ELEMENTARY [B]

5215 Hamel Street
Davis, CA 95618

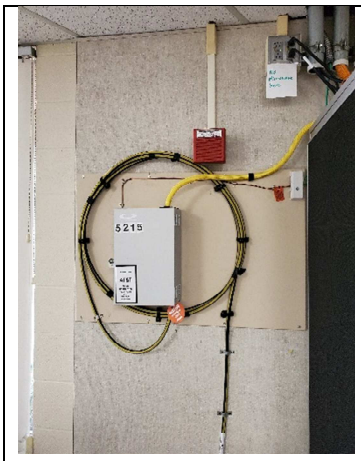
GRADE:

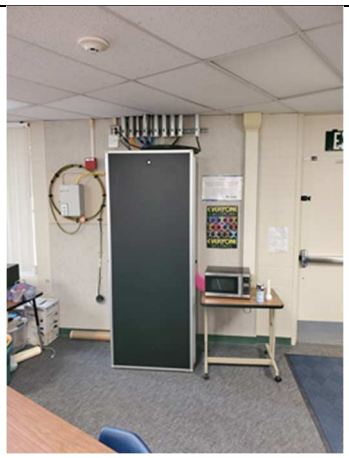
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

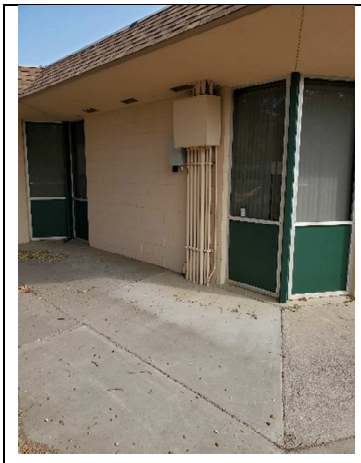
MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]





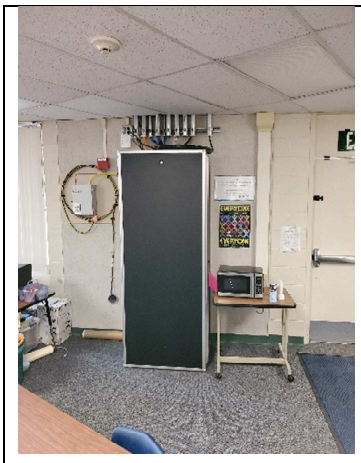
- MPOE: Located at MDF in Teacher's Lounge. No work required to services or entry pathway.
- Install fiber optic inside plant ring for proper fiber coil.

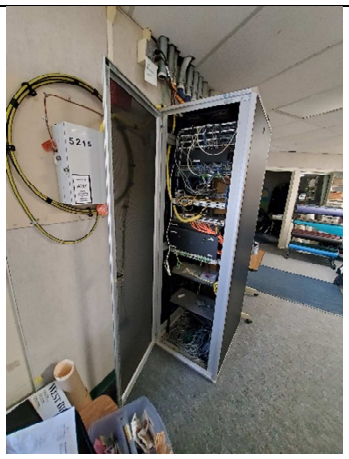
EXTERIOR BACKBONE, INTERIOR (CONDUIT) CATEGORY [2]



- Exterior above ground backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with a metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION CATEGORY [4]

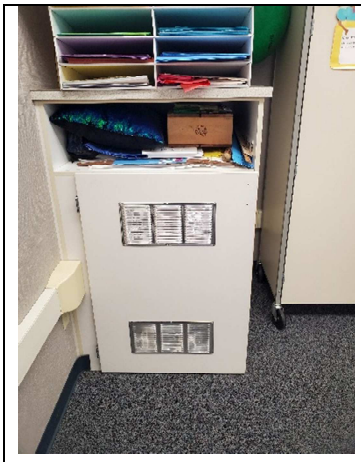
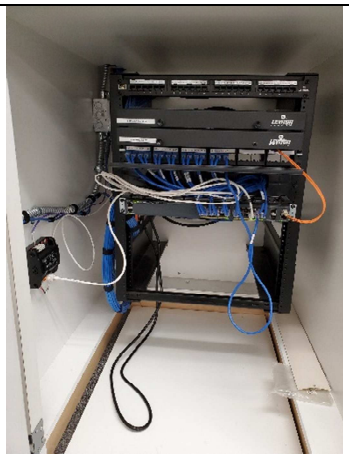
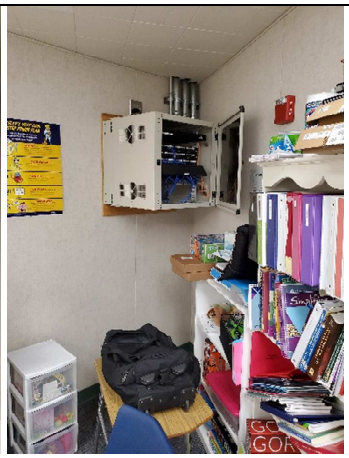




- Room Buildout: No room defined for dedicated MDF. Suggest new room with proper working clearances and environmental conditioning. Currently in shared space with Teachers' Lounge.
- Size: Undefined, approximate 40 sqft.
- Site Location: MDF location to be reviewed for potential building relocation or remain at existing location with new walls for dedicated room space.

- Racks: Existing floor mounted rack to remain for new UPS battery backup. Rack shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at new MDF location.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [4]

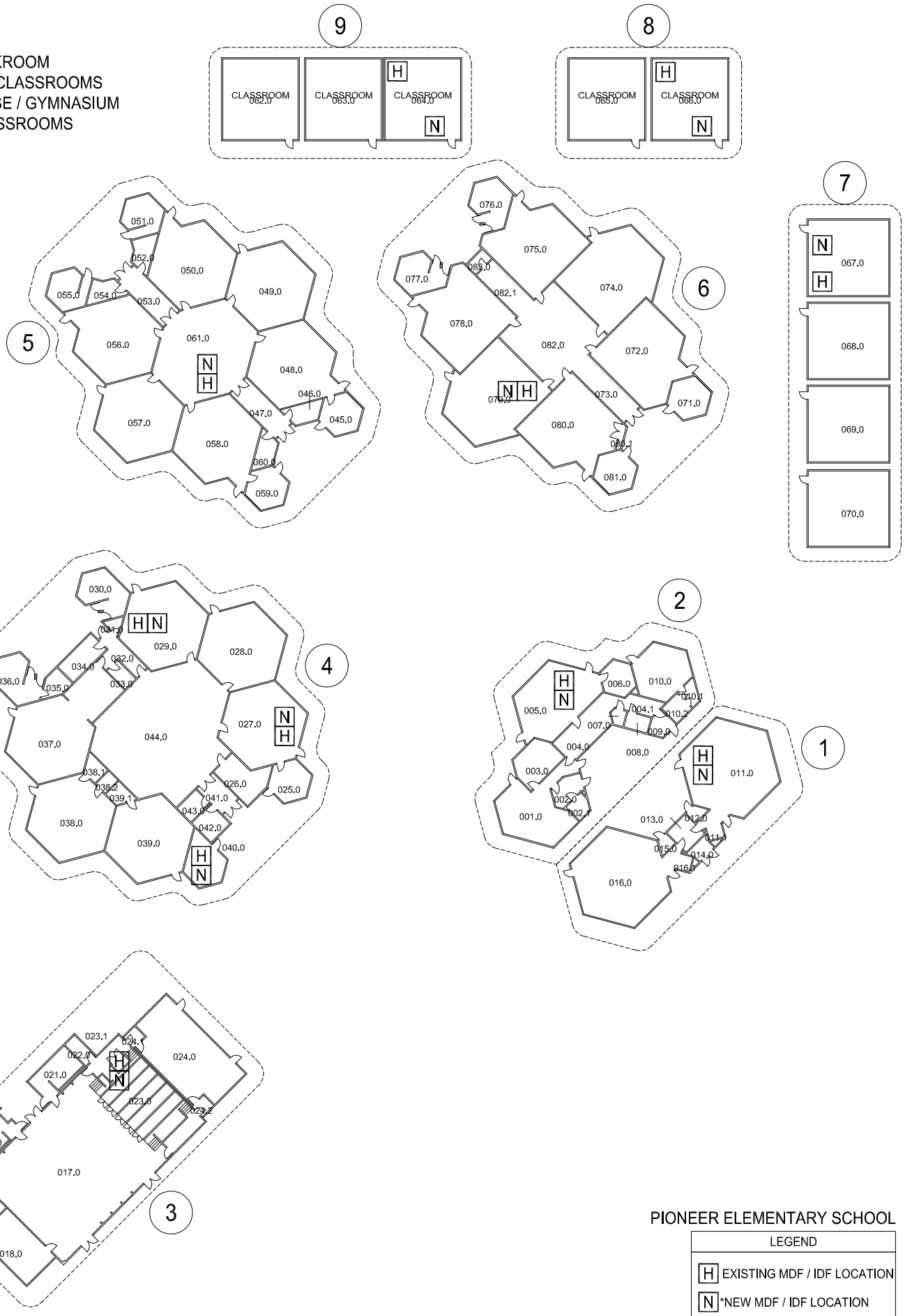
- Room Buildout: No space defined for dedicated IDF room. Shared with classrooms.
- Size: Existing IDF rooms are in classroom casework or open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance or reuse existing classroom casework. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 18RU-32RU wall mounted with 24” depth. Racks are located high on the wall with lower edge below 80” or within classroom casework. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.
- Recommend fan kit at casework locations for equipment heat dissipation.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [1]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. OFFICE / WORKROOM
2. WORKROOM / CLASSROOMS
3. MULTI-PURPOSE / GYMNASIUM
4. LIBRARY / CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS
8. CLASSROOMS
9. CLASSROOMS



PIONEER ELEMENTARY SCHOOL

LEGEND	
H	EXISTING MDF / IDF LOCATION
N	*NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

ROBERT E. WILLETT ELEMENTARY [B]

1600 Birch Lane
Davis, CA 95618

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]

- MPOE: Located at MDF at Gymnasium, storage room. No work required to services or entry pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT) CATEGORY [2]

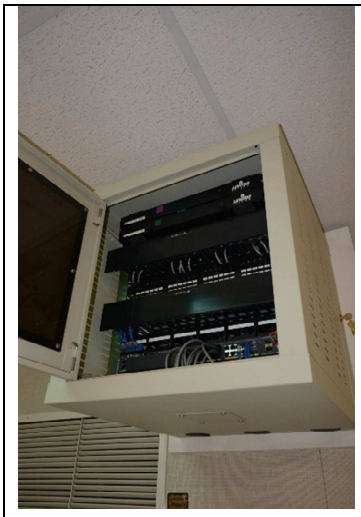
- Exterior above ground, under canopy backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

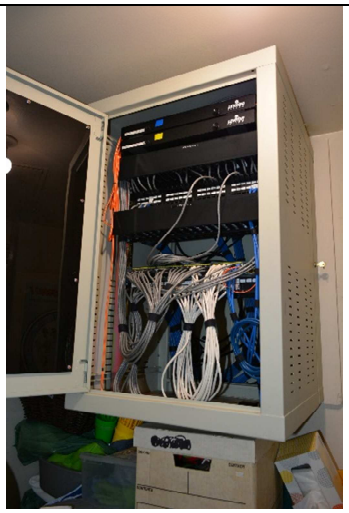
MDF LOCATION AND PHYSICAL INSTALLATION CATEGORY [3]

- Room Buildout: No room defined for dedicated MDF. Suggest new room with proper working clearances and environmental conditioning. Currently in shared space with Teachers' Lounge.
- Size: MDF is in shared space, approximate 70 sqft.
- Site Location: MDF location to be reviewed for potential building relocation or remain at existing location with new walls for dedicated space with HVAC.

- Racks: Existing floor mounted 4-post rack to remain for new UPS battery backup. Rack shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit recommended at MDF.

IDF LOCATIONS AND PHYSICAL INSTALLATION CATEGORY [5]





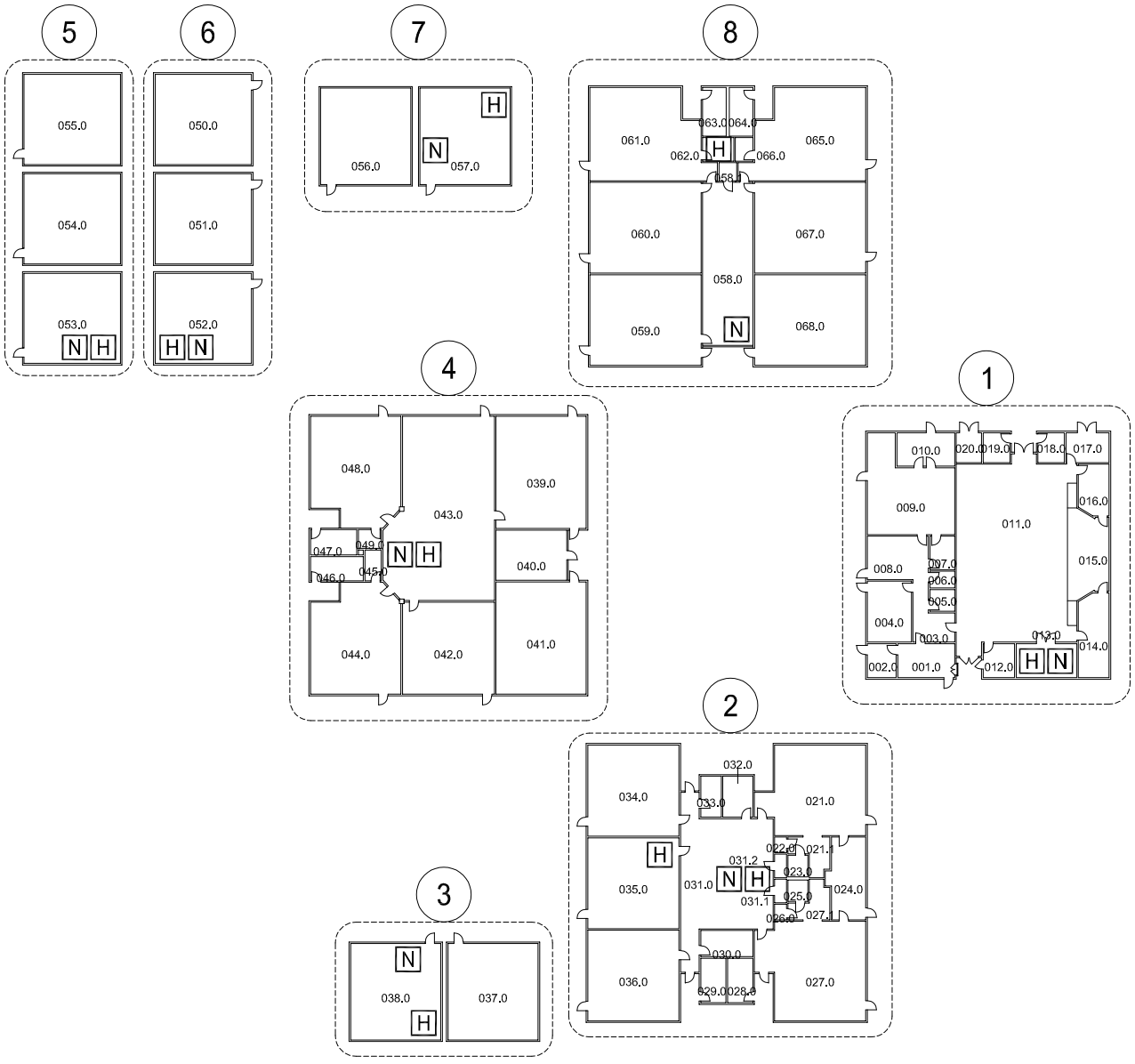
- Room Buildout: No space defined for dedicated IDF rooms. Shared with classrooms, multi-purpose room.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 12RU-32RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edge below 80” in many locations. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. ADMINISTRATION / GYMNASIUM
2. MULTI PURPOSE / CLASSROOMS
3. CLASSROOMS
4. LIBRARY / CLASSROOMS
5. CLASSROOMS
6. CLASSROOMS
7. CLASSROOMS



WILLETT ELEMENTARY

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

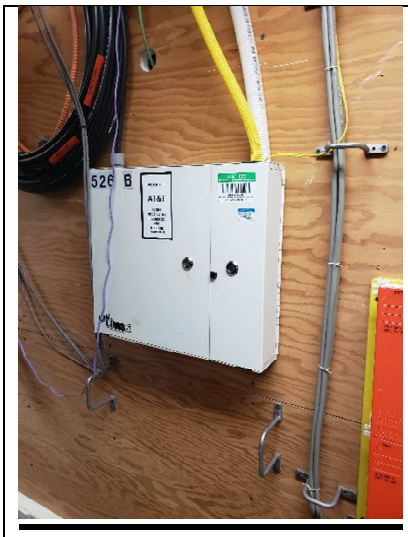
DAVIS SCHOOL and DISTRICT OFFICE [C]

526 B. Street
Davis, CA 95616

GRADE:	
[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

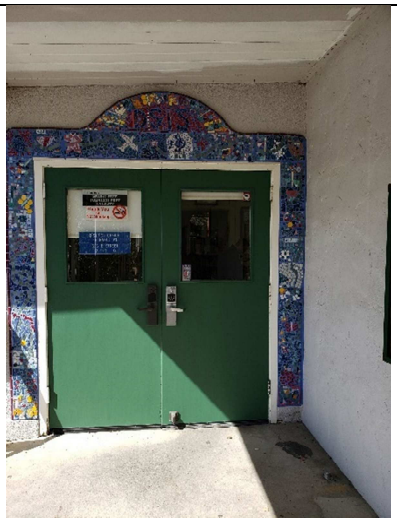
CATEGORY:	
[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]



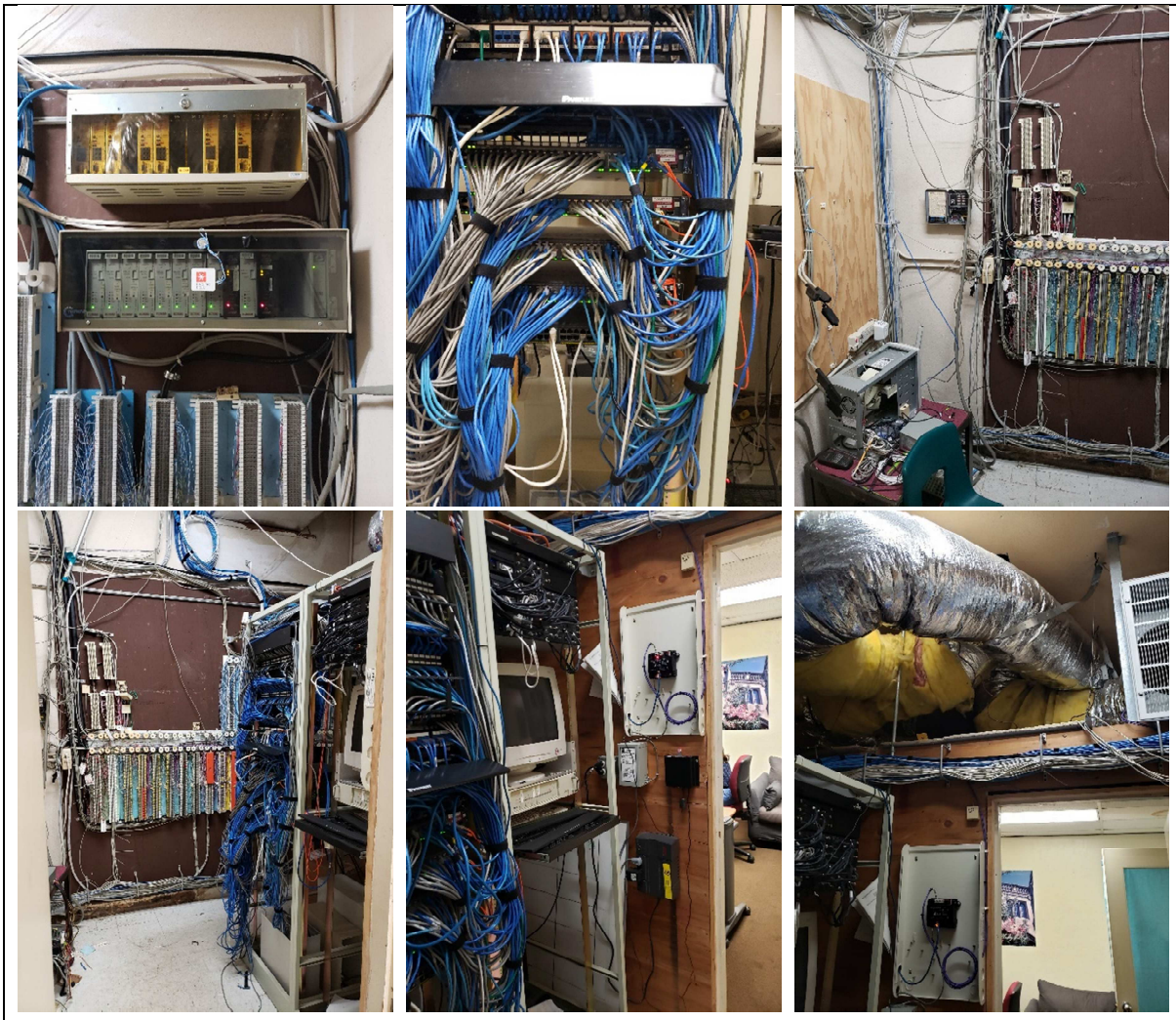
- MPOE: Located at main Server Room / MDF. No work required to services or entry pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [2]



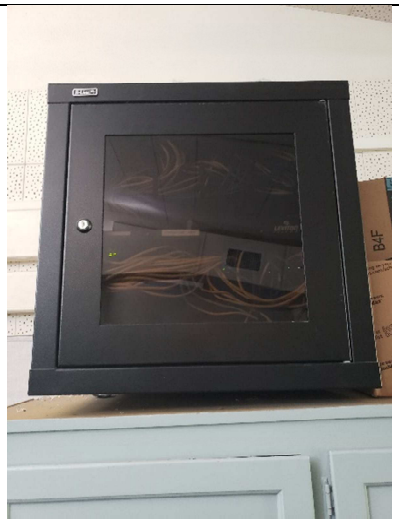
- Exterior above ground, under canopy backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

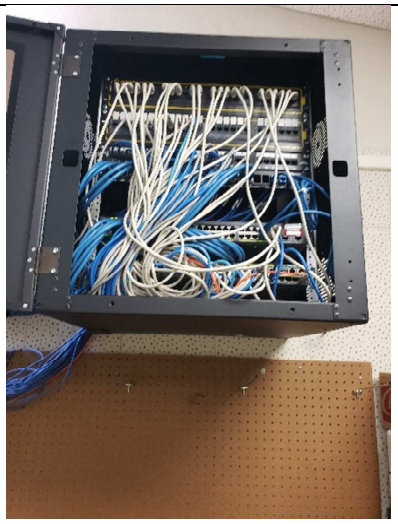
MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [5]



- Room Buildout: Requires major cleanup and rework for recommended modernizations.
- Size: Room is in shared space with custodial closet, approx. 148 sqft..
- Site Location: MDF to remain at existing location with modernizations to racking configuration.
- Racks: Existing floor mounted racks to remain for new UPS battery backup. Rack shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at new MDF location.

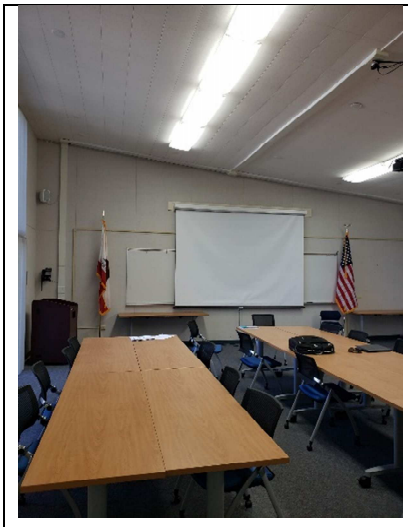
IDF LOCATIONS AND PHYSICAL INSTALLATION
CATEGORY [5]





- Room Buildout: No space defined for dedicated IDF rooms. Shared with offices, classrooms, storage rooms.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..
- Site Locations: IDF locations to remain with existing rooms on site. Remove and replace the existing racks with new 24RU floor mounted rack near room entrance. Rework existing horizontal pathways into new rack for cabling distribution.
- Racks: Existing racks are 12RU-24RU wall mounted with 18”-24” depth. Racks are located high on the wall with lower edge below 80” in many locations. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Cooling: Existing HVAC unit operating efficiently in shared spaces.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]



- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. DAVIS SCHOOL CLASSROOMS
2. ADMINISTRATION
3. ADMINISTRATION
4. ADMINISTRATION

DAVIS SCHOOL / DISTRICT OFFICE

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MARTIN LUTHER KING HIGH [C]

635 B Street
Davis, CA 95616

GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [4]

- MPOE: Located at front MDF/IDF wall rack, relocation is required no new MDF.
- Coordinate services relocation with District.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [2]

- Exterior underground backbone conduit system to remain. Conduit quantity and size is acceptable for single building cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [5]

- Room Buildout: No room defined for dedicated MDF. Suggest new room with proper working clearances and environmental conditioning.
- Size: Rack is in shared space, approx. 25 sqft..
- Site Location: MDF to be relocated to new location with modernizations to racking configuration.
- Racks: Existing wall mounted rack to be removed and new floor mounted 4-post rack to be installed for new UPS battery backup. Rack shall be configured for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at new MDF location.

IDF LOCATIONS AND PHYSICAL INSTALLATION
CATEGORY [5]

- Room Buildout: No space defined for dedicated IDF room. Shared with workroom, storage closets on opposite ends of the building.
- Size: Existing IDF rooms are in open air shared spaces, approx. 25 sqft..

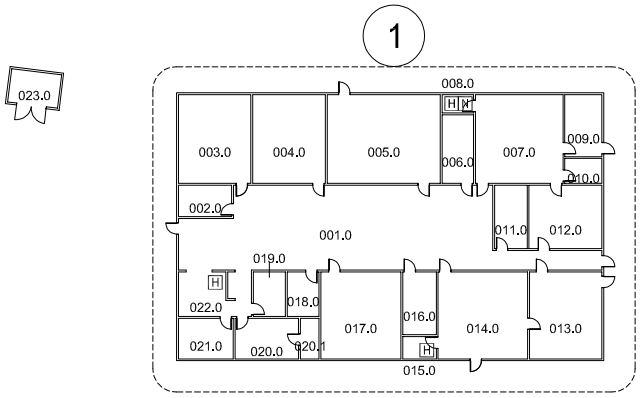
- Site Locations: IDF location to remain at existing storage rooms. Remove and replace the existing racks with new 24RU rack. Rework existing horizontal pathways into new rack as required for cabling distribution.
- Racks: Existing racks are 24RU wall mounted with 24" depth. Racks are located inside the workroom upper cabinet and at storage rooms. Recommendation is for removal and replacement of existing IDF rack at current room to utilize existing backbone and horizontal pathways. Depth of new rack to support new UPS battery backup, and support 300 lbs. minimum.
- Power: IDF to require one (1) 120VAC dedicated quad outlet at each data rack.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destinations. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit required at IDF location.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

- Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system.
- Remove any unused raceways. Patch and prepare surfaces for repainting by District.
- Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. MULTI-PURPOSE / CLASSROOMS



MARTIN LUTHER KING HIGH SCHOOL

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

MAINTENANCE AND OPERATIONS CENTER [B]

1919 5th Street
Davis, CA 95616

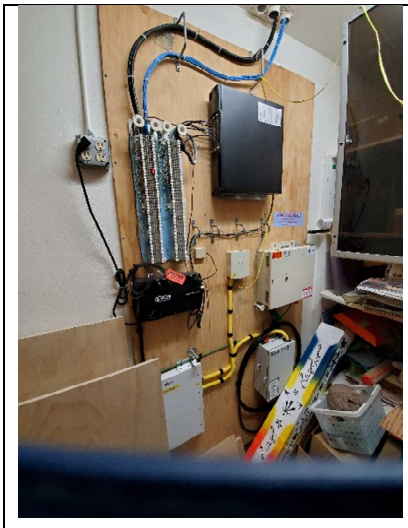
GRADE:

[A]	MINIMAL NETWORK UPGRADES
[B]	STANDARD NETWORK UPGRADES
[C]	MAJOR MODERNIZATION/RECONFIGURATION
[D]	CRITICAL NETWORK UPGRADES / FAILURE EMINENT

CATEGORY:

[0]	NO WORK
[1]	MINOR WORK
[2]	MINOR MODERNIZATION
[3]	STANDARD MODERNIZATION
[4]	MAJOR MODERNIZATION/RECONFIGURATION
[5]	COMPLETE REPLACEMENT

MINIMUM POINT OF ENTRY (MPOE) CATEGORY [1]



- MPOE: Located at MDF at Electrical room. No work required to services or entry pathway.

EXTERIOR BACKBONE, INTERIOR (CONDUIT)
CATEGORY [1]

- Exterior above ground, under canopy backbone conduit system to remain. Conduit quantity and size is acceptable for site cabling reuse.
- All vertical conduit risers to be covered with metal shroud. Paint to match exterior wall color.
- Legacy abandoned/non-active cabling shall be removed from head end to source destinations.
- Install additional conduit from nearest above ground junction box to servicing room as required if final cabling count exceeds 40% conduit fill ratio guidelines.

MDF LOCATION AND PHYSICAL INSTALLATION
CATEGORY [2]

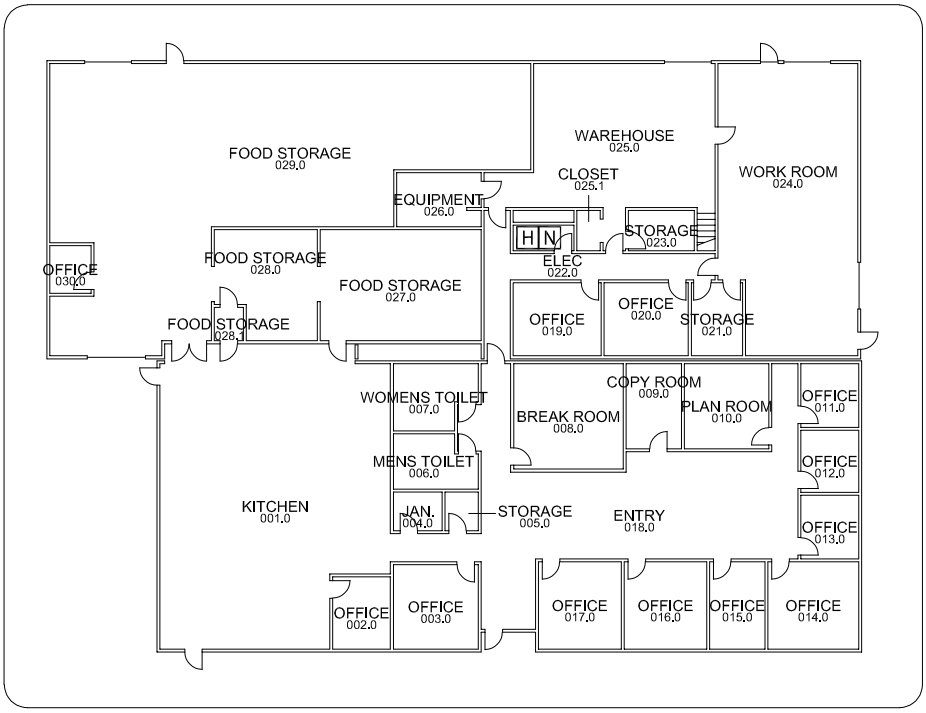
- Room Buildout: MDF to remain at current centralized location with general cleanup.
- Size: MDF is in shared space, approximate 70 sqft.
- Site Location: MDF location to remain.
- Racks: Existing rack to remain for new UPS battery backup. Rack shall be reworked for revised backbone/horizontal Cat6A cabling. Legacy abandoned/non-active equipment shall be removed and returned to District in as-is condition.
- Power: Room to require 208/220VAC for UPS power loading at data racks.
- Backbone/Horizontal Pathways: Legacy abandoned/non-active cabling shall be removed from head end to source destination. Additional conduits may be required per final Cat6A cabling count per 40% conduit fill ratio guidelines.
- Cooling: New dedicated HVAC split unit recommended at MDF.

INTERIOR PATHWAYS INSIDE THE BUILDING, TYPICALLY SURFACE RACEWAY IN HALLWAYS, VARIOUS TEACHING SPACES AND MULTI-PURPOSE ROOMS / GYMNASIUMS CATEGORY [2]

• Interior main surface mounted raceways to remain. All legacy cabling jacks are to be removed. Install new blank jack inserts and/or cover plates as required at all locations for closed raceway system. • Remove any unused raceways. Patch and prepare surfaces for repainting by District. • Interior conduits to be primed and painted color of wall/ceiling if exposed in common instruction, work areas.

MDF / IDF MAP

1. OFFICE / ADMINISTRATION / OPERATIONS



DAVIS OPERATIONS CENTER

LEGEND
H EXISTING MDF / IDF LOCATION
N *NEW MDF / IDF LOCATION

*(N) IDF LOCATIONS A RECOMMENDATION, NOT FINALIZED LOCATION

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Davis Senior High School		C			1											
A.	MPOE Rework		1		1		$ 27,000		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,000
B.	Exterior Backbone, Raceways		2		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		4		1		$ 20,750		1	$ 20,750	$ -	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		1		$ 159,000		1	$ 159,000	$ -	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				1											
E1.	Routers		5	N	1		$ -		1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	1		$ 160,502		1	$ 160,502	$ -	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		5		1		$ 80,115		1	$ 80,115	$ -	$ -	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				1					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		1		$ 313,375		1	$ 313,375	$ -	$ -	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		1		$ 67,275		1	$ 67,275	$ -	$ -	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		1		$ 103,500		1	$ 103,500	$ -	$ -	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				1					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		1		$ 105,225		1	$ 105,225	$ -	$ -	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		1		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				1			$ 1,036,741		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				1	179,217	$ 5.78									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Da Vinci Campus		C			4b											
A.	MPOE Rework		2		4b		$ 27,000		2	$ -	$ 27,000	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		3		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		5		4b		$ 20,750		2	$ -	$ 20,750	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		3		4b		$ 119,250		2	$ -	$ 119,250	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				4b					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		5	N	4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	4b		$ 86,938		2	$ -	$ 86,938	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		5		4b		$ 31,156		2	$ -	$ 31,156	$ -	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				4b					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		4b		$ 125,350		2	$ -	$ 125,350	$ -	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		4b		$ 26,450		2	$ -	$ 26,450	$ -	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		4b		$ 48,300		2	$ -	$ 48,300	$ -	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				4b					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		4b		$ 50,600		2	$ -	$ 50,600	$ -	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		4b		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				4b			$ 535,794		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				4b	40,220	$ 13.32									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Frances Ellen Watkins Harper Junior High		B			8											
A.	MPOE Rework		0		8		$ 27,000		5	$ -	$ -	$ -	$ -	$ 27,000	$ -	$ -
B.	Exterior Backbone, Raceways		1		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		1		8		$ 13,875		5	$ -	$ -	$ -	$ -	$ 13,875	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		8		$ 92,500		5	$ -	$ -	$ -	$ -	$ 92,500	$ -	$ -
E.	Hardware/Equipment:				8					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		5	N	8		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	8		$ 93,626		5	$ -	$ -	$ -	$ -	$ 93,626	$ -	$ -
E3.	WAPs		5		8		$ 52,520		5	$ -	$ -	$ -	$ -	$ 52,520	$ -	$ -
E4.	VoIP phones		0		8		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				8					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		8		$ 186,300		5	$ -	$ -	$ -	$ -	$ 186,300	$ -	$ -
F2.	VoIP drops-6A		5		8		$ 42,550		5	$ -	$ -	$ -	$ -	$ 42,550	$ -	$ -
F3.	WAP drops-6A		5		8		$ 67,850		5	$ -	$ -	$ -	$ -	$ 67,850	$ -	$ -
G	Tier-2 network drops:				8					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		8		$ 86,825		5	$ -	$ -	$ -	$ -	$ 86,825	$ -	$ -
G5.	Fire Alarm drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		8		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				8			$ 663,046		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				8	73,543	$ 9.02									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Oliver Wendell Holmes Junior High		C			6											
A.	MPOE Rework		1		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		2		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		2		6		$ 7,000		3	$ -	$ -	$ 7,000	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		6		$ 198,750		3	$ -	$ -	$ 198,750	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				6					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		5	N	6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	6		$ 120,376		3	$ -	$ -	$ 120,376	$ -	$ -	$ -	$ -
E3.	WAPs		5		6		$ 58,751		3	$ -	$ -	$ 58,751	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		6		$ -		3	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				6					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		6		$ 216,200		3	$ -	$ -	$ 216,200	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		6		$ 46,000		3	$ -	$ -	$ 46,000	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		6		$ 75,900		3	$ -	$ -	$ 75,900	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				6					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		6		$ 88,550		3	$ -	$ -	$ 88,550	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		6		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				6			$ 811,527		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				6	79,016	$ 10.27									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										**$ 2,574,448**	**$ 1,523,152**	**$ 1,010,543**	**$ 1,173,639**	**$ 2,148,632**	**$ 1,418,223**	**$ 1,328,372**
MASTER PLANNING BUDGETING DOCUMENT										**Yr.1**	**Yr.2**	**Yr.3**	**Yr.4**	**Yr.5**	**Yr.6**	**Yr.7**
		Overall site "grade"	**Category "grade"**	**Equip. upgrade prior to IDF rework**	**KMM priority order by site**	**SqFt estimate**	**Line item Budget $**	**Project Budget, construction / equipment**	**Upgrade Year 1-7**	**2021-2022**	**2022-2023**	**2023-2024**	**2024-2025**	**2025-2026**	**2026-2027**	**2027-2028**
Ralph Waldo Emerson Junior High		B			9											
A.	MPOE Rework		1		9		$ 27,000		4	$ -	$ -	$ -	$ 27,000	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		1		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		3		9		$ 41,500		4	$ -	$ -	$ -	$ 41,500	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		9		$ 172,250		4	$ -	$ -	$ -	$ 172,250	$ -	$ -	$ -
E.	Hardware/Equipment:				9					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		5	N	9		$ 7,116		4	$ -	$ -	$ -	$ 7,116	$ -	$ -	$ -
E2.	Switches		5	N	9		$ 120,376		4	$ -	$ -	$ -	$ 120,376	$ -	$ -	$ -
E3.	WAPs		5		9		$ 55,190		4	$ -	$ -	$ -	$ 55,190	$ -	$ -	$ -
E4.	VoIP phones		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				9					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		9		$ 200,675		4	$ -	$ -	$ -	$ 200,675	$ -	$ -	$ -
F2.	VoIP drops-6A		5		9		$ 47,150		4	$ -	$ -	$ -	$ 47,150	$ -	$ -	$ -
F3.	WAP drops-6A		5		9		$ 71,300		4	$ -	$ -	$ -	$ 71,300	$ -	$ -	$ -
G	Tier-2 network drops:				9					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		9		$ 98,325		4	$ -	$ -	$ -	$ 98,325	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		9		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				9			$ 840,882		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				9	93,332	$ 9.01									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Birch Lane Elementary		C			3											
A.	MPOE Rework		2		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		1		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		5		3		$ 20,750		1	$ 20,750	$ -	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		3		$ 145,750		1	$ 145,750	$ -	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				3					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		5	N	3		$ 7,116		1	$ 7,116	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	3		$ 86,938		1	$ 86,938	$ -	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		5		3		$ 40,057		1	$ 40,057	$ -	$ -	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		3		$ -		1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				3					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		3		$ 151,800		1	$ 151,800	$ -	$ -	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		3		$ 29,325		1	$ 29,325	$ -	$ -	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		3		$ 51,750		1	$ 51,750	$ -	$ -	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				3					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		3		$ 75,325		1	$ 75,325	$ -	$ -	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		3		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				3			$ 608,811		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				3	43,986	$ 13.84									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
César Chávez Elementary		C			2											
A.	MPOE Rework		1		2		$ 27,000		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,000
B.	Exterior Backbone, Raceways		1		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		5		2		$ 20,750		1	$ 20,750	$ -	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		2		$ 106,000		1	$ 106,000	$ -	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				2					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		5	N	2		$ -		1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	2		$ 66,876		1	$ 66,876	$ -	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		5		2		$ 30,266		1	$ 30,266	$ -	$ -	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		2		$ -		1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				2					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		2		$ 104,650		1	$ 104,650	$ -	$ -	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		2		$ 24,150		1	$ 24,150	$ -	$ -	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		2		$ 39,100		1	$ 39,100	$ -	$ -	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				2					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		2		$ 56,925		1	$ 56,925	$ -	$ -	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		2		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				2			$ 475,716		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				2	39,913	$ 11.92									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Fairfield Elementary		B			7											
A.	MPOE Rework		2		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		1		7		$ 15,000		4	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		2		7		$ 41,500		4	$ -	$ -	$ -	$ 41,500	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		2		7		$ 13,250		4	$ -	$ -	$ -	$ 13,250	$ -	$ -	$ -
E.	Hardware/Equipment:				7					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		2	Y	7		$ 7,116		4	$ -	$ -	$ -	$ 7,116	$ -	$ -	$ -
E2.	Switches		2	Y	7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		2		7		$ 3,561		4	$ -	$ -	$ -	$ 3,561	$ -	$ -	$ -
E4.	VoIP phones		0		7		$ -		4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				7					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		2		7		$ 9,775		4	$ -	$ -	$ -	$ 9,775	$ -	$ -	$ -
F2.	VoIP drops-6A		2		7		$ 2,875		4	$ -	$ -	$ -	$ 2,875	$ -	$ -	$ -
F3.	WAP drops-6A		2		7		$ 4,600		4	$ -	$ -	$ -	$ 4,600	$ -	$ -	$ -
G	Tier-2 network drops:				7					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		2		7		$ 3,450		4	$ -	$ -	$ -	$ 3,450	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		7		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				7			$ 101,126		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				7	4,016	$ 25.18									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Fred T. Korematsu Elementary		B			10											
A.	MPOE Rework		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		2		10		$ 7,000		5	$ -	$ -	$ -	$ -	$ 7,000	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		10		$ 92,750		5	$ -	$ -	$ -	$ -	$ 92,750	$ -	$ -
E.	Hardware/Equipment:				10					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		2	N	10		$ 7,116		5	$ -	$ -	$ -	$ -	$ 7,116	$ -	$ -
E2.	Switches		5	N	10		$ 93,626		5	$ -	$ -	$ -	$ -	$ 93,626	$ -	$ -
E3.	WAPs		5		10		$ 34,716		5	$ -	$ -	$ -	$ -	$ 34,716	$ -	$ -
E4.	VoIP phones		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				10					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		10		$ 186,300		5	$ -	$ -	$ -	$ -	$ 186,300	$ -	$ -
F2.	VoIP drops-6A		5		10		$ 32,200		5	$ -	$ -	$ -	$ -	$ 32,200	$ -	$ -
F3.	WAP drops-6A		5		10		$ 44,850		5	$ -	$ -	$ -	$ -	$ 44,850	$ -	$ -
G	Tier-2 network drops:				10					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		10		$ 65,550		5	$ -	$ -	$ -	$ -	$ 65,550	$ -	$ -
G5.	Fire Alarm drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		10		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				10			$ 564,108		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				10	42,899	$ 13.15									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										**$ 2,574,448**	**$ 1,523,152**	**$ 1,010,543**	**$ 1,173,639**	**$ 2,148,632**	**$ 1,418,223**	**$ 1,328,372**
MASTER PLANNING BUDGETING DOCUMENT										**Yr.1**	**Yr.2**	**Yr.3**	**Yr.4**	**Yr.5**	**Yr.6**	**Yr.7**
		Overall site "grade"	**Category "grade"**	**Equip. upgrade prior to IDF rework**	**KMM priority order by site**	**SqFt estimate**	**Line item Budget $**	**Project Budget, construction / equipment**	**Upgrade Year 1-7**	**2021-2022**	**2022-2023**	**2023-2024**	**2024-2025**	**2025-2026**	**2026-2027**	**2027-2028**
Marguerite Montgomery Elementary		B			11											
A.	MPOE Rework		1		11		$ 27,000		6	$ -	$ -	$ -	$ -	$ -	$ 27,000	$ -
B.	Exterior Backbone, Raceways		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		2		11		$ 20,750		6	$ -	$ -	$ -	$ -	$ -	$ 20,750	$ -
D.	IDF Rework: Cabinets, power, UPS		5		11		$ 92,750		6	$ -	$ -	$ -	$ -	$ -	$ 92,750	$ -
E.	Hardware/Equipment:				11					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		2	N	11		$ 7,116		6	$ -	$ -	$ -	$ -	$ -	$ 7,116	$ -
E2.	Switches		5	N	11		$ 66,876		6	$ -	$ -	$ -	$ -	$ -	$ 66,876	$ -
E3.	WAPs		5		11		$ 33,826		6	$ -	$ -	$ -	$ -	$ -	$ 33,826	$ -
E4.	VoIP phones		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				11					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		11		$ 136,275		6	$ -	$ -	$ -	$ -	$ -	$ 136,275	$ -
F2.	VoIP drops-6A		5		11		$ 28,175		6	$ -	$ -	$ -	$ -	$ -	$ 28,175	$ -
F3.	WAP drops-6A		5		11		$ 43,700		6	$ -	$ -	$ -	$ -	$ -	$ 43,700	$ -
G	Tier-2 network drops:				11					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		11		$ 63,825		6	$ -	$ -	$ -	$ -	$ -	$ 63,825	$ -
G5.	Fire Alarm drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		11		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				11			$ 520,293		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				11	42,653	$ 12.20									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
North Davis Elementary		C			5											
A.	MPOE Rework		1		5		$ 27,000		2	$ -	$ 27,000	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		2		5		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		1		5		$ 7,000		2	$ -	$ 7,000	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		4		5		$ 119,250		2	$ -	$ 119,250	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				5					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		2	Y	5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		4	Y	5		$ 93,626		2	$ -	$ 93,626	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		4		5		$ 39,167		2	$ -	$ 39,167	$ -	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		5		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				5					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		5		$ 127,075		2	$ -	$ 127,075	$ -	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		5		$ 28,175		2	$ -	$ 28,175	$ -	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		5		$ 50,600		2	$ -	$ 50,600	$ -	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				5					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		5		$ 70,725		2	$ -	$ 70,725	$ -	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		5		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				5			$ 562,618		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				5	42,583	$ 13.21									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										**$ 2,574,448**	**$ 1,523,152**	**$ 1,010,543**	**$ 1,173,639**	**$ 2,148,632**	**$ 1,418,223**	**$ 1,328,372**
MASTER PLANNING BUDGETING DOCUMENT										**Yr.1**	**Yr.2**	**Yr.3**	**Yr.4**	**Yr.5**	**Yr.6**	**Yr.7**
		Overall site "grade"	**Category "grade"**	**Equip. upgrade prior to IDF rework**	**KMM priority order by site**	**SqFt estimate**	**Line item Budget $**	**Project Budget, construction / equipment**	**Upgrade Year 1-7**	**2021-2022**	**2022-2023**	**2023-2024**	**2024-2025**	**2025-2026**	**2026-2027**	**2027-2028**
Patwin Elementary		B			12											
A.	MPOE Rework		1		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		1		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		2		12		$ 7,000		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,000
D.	IDF Rework: Cabinets, power, UPS		5		12		$ 132,500		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 132,500
E.	Hardware/Equipment:				12					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		2	N	12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		5	N	12		$ 80,251		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 80,251
E3.	WAPs		5		12		$ 30,266		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,266
E4.	VoIP phones		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				12					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		12		$ 138,000		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 138,000
F2.	VoIP drops-6A		5		12		$ 25,300		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,300
F3.	WAP drops-6A		5		12		$ 42,550		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,550
G	Tier-2 network drops:				12					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		12		$ 69,000		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 69,000
G5.	Fire Alarm drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		12		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				12			$ 524,866		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				12	41,626	$ 12.61									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Pioneer Elementary		B			13											
A.	MPOE Rework		1		13		$ 27,000		6	$ -	$ -	$ -	$ -	$ -	$ 27,000	$ -
B.	Exterior Backbone, Raceways		2		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		4		13		$ 20,750		6	$ -	$ -	$ -	$ -	$ -	$ 20,750	$ -
D.	IDF Rework: Cabinets, power, UPS		4		13		$ 143,250		6	$ -	$ -	$ -	$ -	$ -	$ 143,250	$ -
E.	Hardware/Equipment:				13					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		4	N	13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		4	N	13		$ 80,251		6	$ -	$ -	$ -	$ -	$ -	$ 80,251	$ -
E3.	WAPs		4		13		$ 38,277		6	$ -	$ -	$ -	$ -	$ -	$ 38,277	$ -
E4.	VoIP phones		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				13					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		13		$ 155,825		6	$ -	$ -	$ -	$ -	$ -	$ 155,825	$ -
F2.	VoIP drops-6A		5		13		$ 28,750		6	$ -	$ -	$ -	$ -	$ -	$ 28,750	$ -
F3.	WAP drops-6A		5		13		$ 49,450		6	$ -	$ -	$ -	$ -	$ -	$ 49,450	$ -
G	Tier-2 network drops:				13					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		13		$ 74,175		6	$ -	$ -	$ -	$ -	$ -	$ 74,175	$ -
G5.	Fire Alarm drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		13		$ -		6	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				13			$ 617,728		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				13	47,491	$ 13.01									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Robert E. Willett Elementary		B			14											
A.	MPOE Rework		1		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		2		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		3		14		$ 21,000		5	$ -	$ -	$ -	$ -	$ 21,000	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		14		$ 106,000		5	$ -	$ -	$ -	$ -	$ 106,000	$ -	$ -
E.	Hardware/Equipment:				14					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		3	Y	14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		3	Y	14		$ 73,563		5	$ -	$ -	$ -	$ -	$ 73,563	$ -	$ -
E3.	WAPs		3		14		$ 34,716		5	$ -	$ -	$ -	$ -	$ 34,716	$ -	$ -
E4.	VoIP phones				14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				14					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		14		$ 125,925		5	$ -	$ -	$ -	$ -	$ 125,925	$ -	$ -
F2.	VoIP drops-6A		5		14		$ 27,600		5	$ -	$ -	$ -	$ -	$ 27,600	$ -	$ -
F3.	WAP drops-6A		5		14		$ 44,850		5	$ -	$ -	$ -	$ -	$ 44,850	$ -	$ -
G	Tier-2 network drops:				14					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		14		$ 67,275		5	$ -	$ -	$ -	$ -	$ 67,275	$ -	$ -
G5.	Fire Alarm drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		14		$ -		5	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				14			$ 500,930		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				14	38,879	$ 12.88									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
District Office/Davis School for Independent Study		C			2											
A.	MPOE Rework		1		2		$ 27,000		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,000
B.	Exterior Backbone, Raceways		2		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		5		2		$ 27,750		1	$ 27,750	$ -	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		2		$ 119,250		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 119,250
E.	Hardware/Equipment:				2					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		3	Y	2		$ -		1	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		3	Y	2		$ 46,813		1	$ 46,813	$ -	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		3		2		$ 14,243		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,243
E4.	VoIP phones				2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				2					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		2		$ 125,925		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 125,925
F2.	VoIP drops-6A		5		2		$ 35,075		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,075
F3.	WAP drops-6A		5		2		$ 18,400		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,400
G	Tier-2 network drops:				2					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		2		$ 41,400		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 41,400
G5.	Fire Alarm drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		2		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				2			$ 455,856		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				2	32,433	$ 14.06									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Martin Luther King, Jr High School		C			4											
A.	MPOE Rework		4		4		$ 13,500		2	$ -	$ 13,500	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		2		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		5		4		$ 20,750		2	$ -	$ 20,750	$ -	$ -	$ -	$ -	$ -
D.	IDF Rework: Cabinets, power, UPS		5		4		$ 26,500		2	$ -	$ 26,500	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				4					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		3	N	4		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E2.	Switches		3	N	4		$ 20,063		2	$ -	$ 20,063	$ -	$ -	$ -	$ -	$ -
E3.	WAPs		3		4		$ 8,902		2	$ -	$ 8,902	$ -	$ -	$ -	$ -	$ -
E4.	VoIP phones		0		4		$ -		2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				4					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		4		$ 40,250		2	$ -	$ 40,250	$ -	$ -	$ -	$ -	$ -
F2.	VoIP drops-6A		5		4		$ 10,350		2	$ -	$ 10,350	$ -	$ -	$ -	$ -	$ -
F3.	WAP drops-6A		5		4		$ 11,500		2	$ -	$ 11,500	$ -	$ -	$ -	$ -	$ -
G	Tier-2 network drops:				4					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		4		$ 15,525		2	$ -	$ 15,525	$ -	$ -	$ -	$ -	$ -
G5.	Fire Alarm drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		4		$ -		0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				4			$ 167,339		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				4	8,734	$ 19.16									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE										$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT										Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
		Overall site "grade"	Category "grade"	Equip. upgrade prior to IDF rework	KMM priority order by site	SqFt estimate	Line item Budget $	Project Budget, construction / equipment	Upgrade Year 1-7	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Maintenance and Operations Center		B			7											
A.	MPOE Rework		1		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B.	Exterior Backbone, Raceways		1		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C.	MDF Rework: Cabinets, power, UPS		2		7		$ 20,750		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,750
D.	IDF Rework: Cabinets, power, UPS		2		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E.	Hardware/Equipment:				7					$ -	$ -	$ -	$ -	$ -	$ -	$ -
E1.	Routers		3	N	7		$ 7,116		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,116
E2.	Switches		3	N	7		$ 13,375		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,375
E3.	WAPs		3		7		$ 6,231		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,231
E4.	VoIP phones				7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F	Tier-1 network drops:				7					$ -	$ -	$ -	$ -	$ -	$ -	$ -
F1.	Network drops-6A		5		7		$ 35,075		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,075
F2.	VoIP drops-6A		5		7		$ 12,075		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,075
F3.	WAP drops-6A		5		7		$ 8,050		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,050
G	Tier-2 network drops:				7					$ -	$ -	$ -	$ -	$ -	$ -	$ -
G1.	Clock drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G2.	Intercom drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G3.	CCTV drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G4.	AV drops-6A		5		7		$ 3,450		7	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,450
G5.	Fire Alarm drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G6.	Intrusion Alarm drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G7.	Electric Access drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G8.	Bldg. Automation System drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G9.	Lighting drops-6A		0		7		$ -		7	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Estimate				7			$ 106,122		$ -	$ -	$ -	$ -	$ -	$ -	$ -
	SqFt comparison				7	13,251	$ 8.01									

DAVIS JOINT USD - TECHNOLOGY INFRASTRUCTURE UPGRADE									$ 2,574,448	$ 1,523,152	$ 1,010,543	$ 1,173,639	$ 2,148,632	$ 1,418,223	$ 1,328,372
MASTER PLANNING BUDGETING DOCUMENT									**Yr.1**	**Yr.2**	**Yr.3**	**Yr.4**	**Yr.5**	**Yr.6**	**Yr.7**
	Overall site "grade"	**Category "grade"**	**Equip. upgrade prior to IDF rework**	**KMM priority order by site**	**SqFt estimate**	**Line item Budget $**	**Project Budget, construction / equipment**	**Upgrade Year 1-7**	**2021-2022**	**2022-2023**	**2023-2024**	**2024-2025**	**2025-2026**	**2026-2027**	**2027-2028**
NET SUM TOTALS:					863,792	$ 10.53	$ 9,093,504		$ 2,141,832	$ 1,265,752	$ 811,527	$ 942,008	$ 1,728,083	$ 1,138,020	$ 1,066,281
					SqFt estimate	SqFt budget	Project Budget, construction / equipment		Yr.1	Yr.2	Yr.3	Yr.4	Yr.5	Yr.6	Yr.7
4G / 5G Secondary backup / emergency, 17sites:					17	$ 250	Monthly avg		$ 4,250	$ 4,250	$ 4,250	$ 4,250	$ 4,250	$ 4,250	$ 4,250
Design, Construction Management, Inspection:						20%	of annual budget		$ 428,366	$ 253,150	$ 162,305	$ 188,402	$ 345,617	$ 227,604	$ 213,256
Price escallation:						4%	annual		$ -	$ -	$ 32,461	$ 38,979	$ 70,682	$ 48,348	$ 44,585
								ANNUAL BUDGET ESTIMATE:	**$ 2,574,448**	**$ 1,523,152**	**$ 1,010,543**	**$ 1,173,639**	**$ 2,148,632**	**$ 1,418,223**	**$ 1,328,372**
								TOTAL PROJECT BUDGET:	**$ 11,177,010**						

2020-06-30_Finalized district standards

DAVIS JOINT UNIFIED SCHOOL DISTRICT

Technology and Fire Life Safety Design Standards

I. Index

a. Technology Specifications, Division 27
   i. Section 27 05 00, Common Work Results
   ii. Section 27 11 00, Equipment rooms and Enclosures
   iii. Section 27 13 00, Communications Backbone Cabling
   iv. Section 27 15 00, Communications Horizontal Cabling
   v. Section 27 16 00, Connecting Cords
   vi. Section 27 41 00, Audio Visual Systems
   vii. Section 27 51 23, Educational Intercom
   viii. Section 27 53 13, Clock Systems
b. Fire Life Safety Specifications, Division 28
   i. Section 28 10 00, Electronic Access Control
   ii. Section 28 20 00, Video Surveillance
   iii. Section 28 31 00, Intrusion Detection Alarm and Monitoring
   iv. Section 28 46 00, Fire Detection and Alarm

II. Purpose

The purpose of these Technology and Fire Life Safety Systems Standards for the Davis Joint Unified School District are to define a framework of standardization and consistency for all Technology and Fire Life Safety systems installed throughout the District. These standards are not intended to limit an effective design, but provide minimum requirements on equipment, material and methods that have been determined to be important to the District. Minor deviations are anticipated, and alternatives shall be allowed with District approval where appropriate. Alternatives shall uphold the high standards outlined in this document. These standards are not intended to define a scope of work and a project scope of work shall be developed for each individual project.

III. Summary

The Product and System Standards outlined in these Technology and Fire Life Safety Systems Standards are organized in agreement with the Construction Specification Institute's (CSI) 2018 version MasterFormat®.

Division 27 – Technology - focuses on means to provide and establish effective electronic communication systems.

Division 28 – Fire Life Safety and Security outlines equipment, materials and methods for establishing increased safety and security for people and property and is the main focus of this document.

Product and Systems Standards Division 27 and 28

Below are Technology and Fire Life Safety General Guidelines for DAVIS JOINT UNIFIED SCHOOL DISTRICT.

1. The design team must verify all existing site conditions. The existing conditions must be verified and reviewed against “Record Drawings” provided by the District.
2. If no “Record Drawings” currently exist, the engineer/designer shall develop such as close as possible so the bidding contractor will have accurate information for the bidding process.
3. If specific scope of work necessitates excavation or minor destructive investigation, the design team shall coordinate with District/District Representative who will obtain an underground locator service. The District Maintenance & Operations personnel and/or General Contractor, if selected, will assist if necessary and requested.
4. The identification and abatement of existing asbestos containing materials shall be designated and abated by a separate consultant hired by the District and will be provided to the design team.
5. New construction on existing campus shall be tied into the existing conduit backbone system. Existing underground conduit system shall be reviewed and, if required, new conduit to be added to provide required pathway for new cables to be installed.
6. Underground conduit system shall be 4 ea. 2” conduits unless written notification is giving to the engineer/designer by district/district representative. New conduit shall be merged with existing underground low voltage backbone at nearest existing backbone system ground box.
7. If existing pathways are mostly unknown, careful review shall be done to confirm and rework pathways as required for the project.
8. Care shall be taken to avoid, if possible, adding additional backbone conduits exterior above ground on buildings and overhangs. If required, conduits shall only be added after approval by the District.
9. Conduit risers from the ground up on exterior of a building shall be covered with a metal shroud extending from the ground level to full height of riser and painted to best match adjacent surfaces.
10. Above-ground junction boxes shall have hinged lids and be able to be keyed to fit existing exterior door master key schedule at the campus.
11. Underground enclosures placed in the ground at traffic rated areas shall have H-20 rated cover.
12. Underground enclosures shall have GPS coordinates noted on project completion closeout documentation.
13. Environmental monitoring systems (EMS) and lighting control that need to utilize underground pathways shall be determined to be either data/fiber (orange) or data/copper (yellow) and then be merged and routed accordingly.

27 05 00 – Common Work Results for Communication

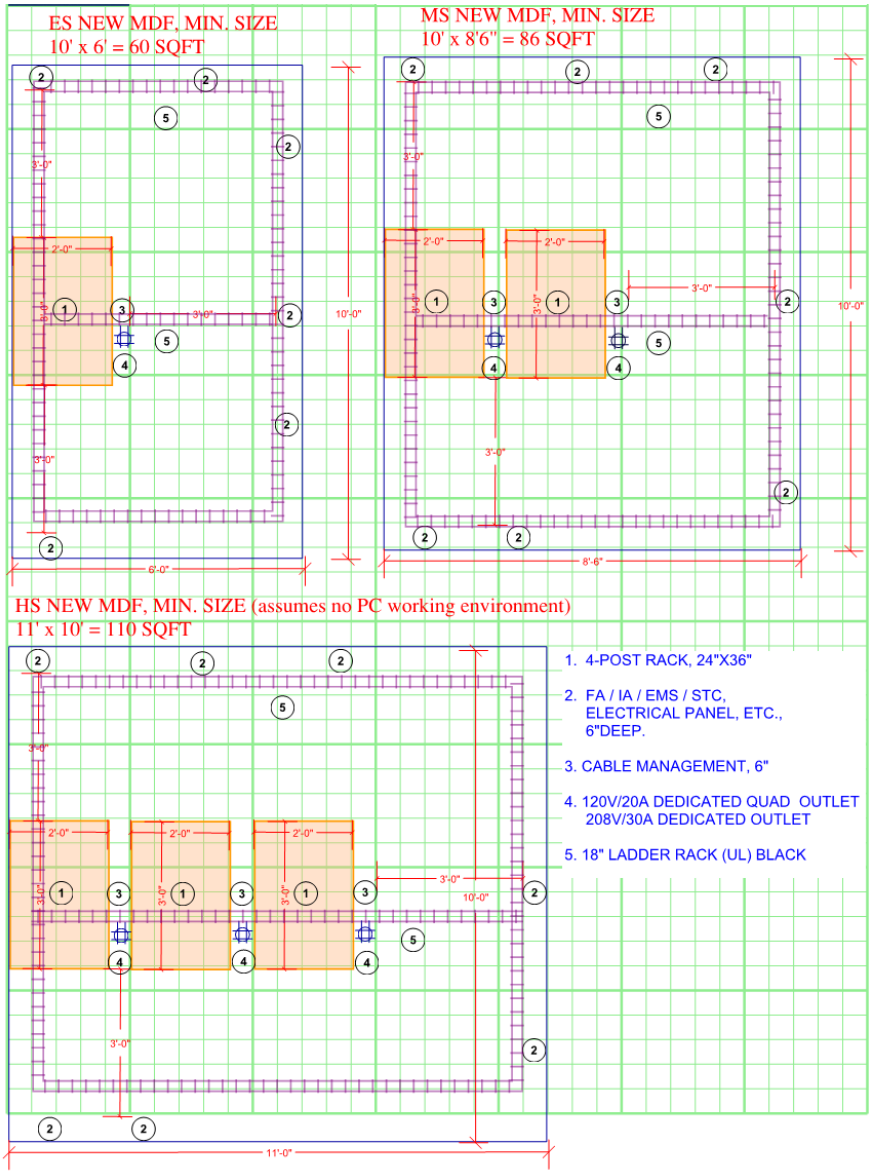
1. This section consists of the equipment, materials and methods for all low voltage pathways and associated work included under Division 27 and 28.
2. Existing pathway shall be utilized whenever possible. Additional exposed pathways (conduits or exposed raceway) shall only be implemented in the design documents with District approval.
3. If cable pathway is exposed in occupied areas, provide solid bottom cable tray pathways, either center hung, or wall mounted.
4. District standards for site underground conduit is 4 ea. 2".
5. AT&T requirement for conduit is 2 ea. 4".
6. Comcast requirement for conduit is 1 ea. 2".
7. District preference for spare low voltage utility provider conduit is 1 ea. 2".
8. All wall junction boxes larger than 10" shall have a hinged lid.
9. All in-ground pull boxes with metal lids shall have the word "COMM" welded to the lid.
10. All conduit, boxes and supports shall be primed and painted to match existing conditions, adjacent roof surface or to best match building body color.
11. Cable bundles less than 24 ea. shall be routed utilizing J-Hooks.
    a. Fiber Optics and Service Provider cable bundles shall be routed utilizing ORANGE colored J-Hooks.
    b. Data copper cable bundles less than 24 ea. shall be routed utilizing YELLOW colored J-Hooks.
    c. Data copper cable bundles in excess of 23 ea. shall be routed in a cable tray / wire basket above the ceiling (see below).
    d. Clock, intercom and Audio-Visual (non-data) cable bundles shall be routed utilizing BLUE colored J-Hooks.
    e. EMS and Lighting Control low voltage cables shall be routed utilizing GREEN colored J-Hooks.
12. Cable bundles in excess of 24 ea. shall be routed in a cable tray/wire basket above the ceiling. The cable tray/wire basked shall be routed down corridors if at all possible. A product such as Snake-Tray, sized and specified to allow proper fill ratio and mounting requirements is acceptable.
13. If cable pathway is exposed in occupied areas, provide solid bottom cable tray pathways, either center hung, or wall mounted.
14. Fire Alarm pathways shall be in red painted conduit.

27 11 00 – Equipment Rooms and Enclosures

1. This section specifies the equipment and materials which typically only occurs in tele/data communication rooms. These rooms are typically identified as Minimum Point of Entry (MPOE), main distribution frame (MDF) or intermediate distribution frame (IDF) rooms.
2. The District has a few vendors that they prefer to work with during purchasing of equipment and configuration/installation of such equipment. The District's Instructional Technology (ITS) department shall be consulted and coordinated with for the following:

a. Voice/Telephony equipment: C&S Telecom, Attn: Scott Richards, Ph:916-364-8636, email: srichards@cstelecommunications.com
b. Data system such as switches, wireless access points: Quest Technology Management, Attn: Andrew Samms, Ph: 800-326-4220, email: andrew_samms@questsys.com

3. Equipment shall be laid out in an organized logical order with groupings of like systems and with consideration for future expansion.
4. MPOE design standards.
    a. Provide dedicated 4'x8' min. fire rated ¾" plywood on all walls requiring utility MPOE equipment anchoring with fire rated label clearly shown for inspection.
    b. Utilize rack mount MPOE hardware where applicable and available from utility provider(s).
    c. Provide 1 ea. 120vac/20amp dedicated electrical circuit for MPOE connectivity.
    d. Install Cat5 cabling for termination to 66-block bridge at remote MPOE to MDF locations. The cable terminations on the MDF side shall be terminated on RJ-45 jacks, gray color, single pair per port.
    e. Planning for incoming service tie-in from utility carrier(s) shall consider:
        i. Elevators/handicap lift locations will require a connection for emergency use
        ii. Fire and Intrusion offsite alarm monitoring will require a POTS/1MB type connection in addition to the IP alarm connection(s).
        iii. VoIP failover communication circuit shall be considered.
        iv. Carrier service requirement shall be coordinated with District ITS Department.
5. There shall be a minimum of one MDF and/or IDF per wing and per floor. Depending on distances of anticipated cable runs and the quantity of cables to be pulled, there might be a requirement for additional IDFs per floor.
6. MDF design standards:
    a. The MDF and each IDF shall be equipped with an HVAC unit, properly sized for proposed active equipment. HVAC unit shall not be mounted directly above any electronic equipment to avoid any potential moisture damage.
    b. Minimum room size for a new MDF shall be as outlined below, which differs depending on if it is intended for an Elementary School (60 SQFT), Middle School (86 SQFT) or High School (110 SQFT). The room shall be dedicated for Technology and Fire-Life-Safety systems.
    c. Suggested sizes and layouts for MDFs:

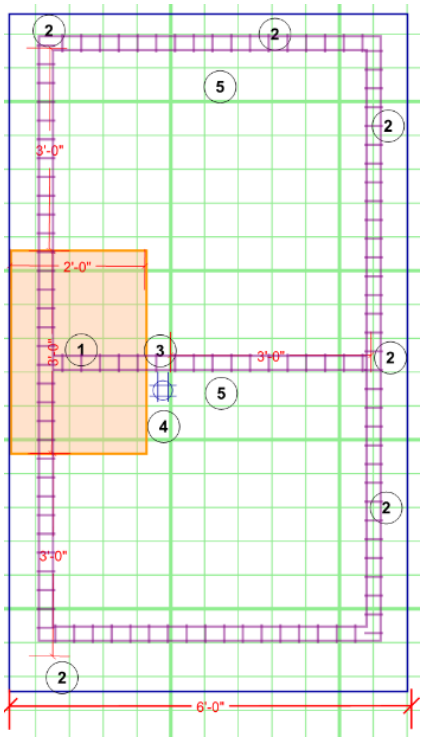


d. All walls on the MDF shall be covered with ¾" fire-rated plywood. If the plywood is painted with fire-retardant paint, the plywood rating stamp must be protected so it is visible after painting.
e. All new dedicated MDF rooms shall have 4-post rack(s) installed. Each side that is exposed to the room shall have a solid side panel installed.
f. Multiple floor mounted racks shall be organized in rows with vertical wire management (6" min.) in between each rack and on each end. Adequate workspace shall be 36" in front and behind each rack.
g. The MDF room shall have:
    i. UL listed ladder rack/cable management on top of each rack connected to all 4 walls.
    ii. Ladder rack height shall be min. 6" above highest equipment enclosure.

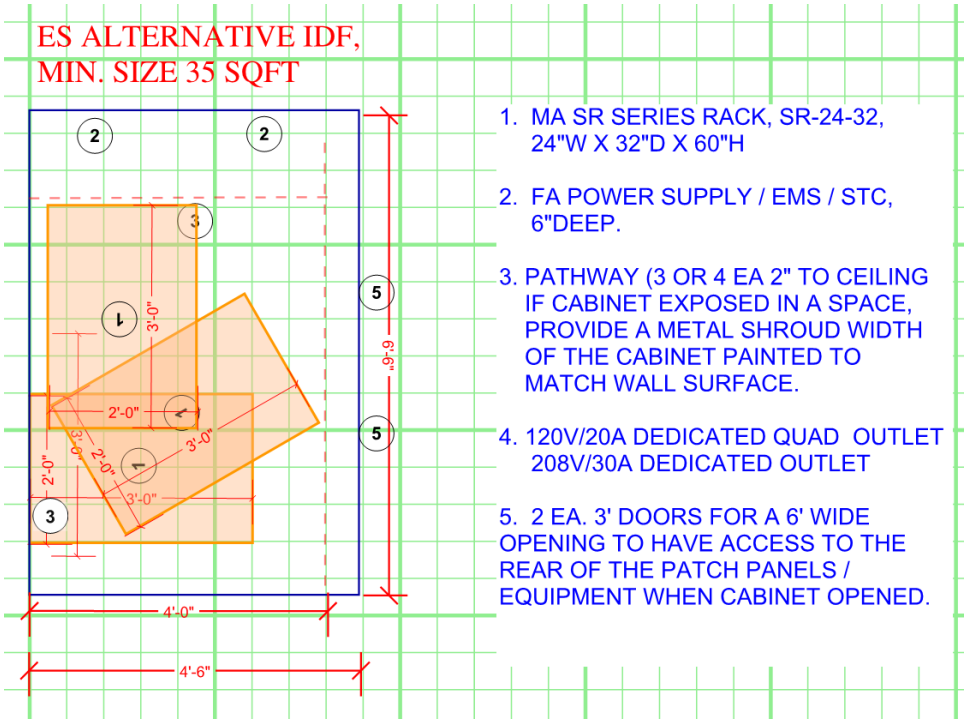
iii. UL listed cable management on the wall if conduits enter from the ground or excess of 12" above the horizontal ladder rack for the room. Preference is an 18" ladder rack mounted vertically on the wall directly above the conduits.
iv. Light fixtures. The fixtures shall be mounted in front of and behind the rack. Lights shall not be mounted directly above the rack.
v. A minimum of one convenience receptable on each of the walls in the room.
vi. Provide ground bus bar, bonding straps, and connection to grounding source.

h. If existing MDF is in an area where construction will generate dust, the entire rack or cabinet shall be protected from dust. Extra care shall be taken to provide ventilation of the rack/cabinet if it is covered to allow air to circulate through the rack/cabinet for the equipment not to overheat.
i. MDF rack designed to be equipped with:
    i. Threaded rack rails.
    ii. One dedicated 220V outlet and two duplex 110V outlets, on a single dedicated circuit, mounted at the top of each rack.
    iii. Horizontal rack mount power distribution units (PDU), 2-per rack.
    iv. Top of each rack shall have 2 ea. rack units unoccupied for future flexibility and growth.
    v. Design of the rack layout shall allow a minimum of 5 ea. Rack units at the bottom of the rack to allow the district equipment vendor to install 1 ea. appropriately sized uninterruptable power supply (UPS) at each rack to provide 2-hour backup from loss of power.
    vi. The UPS shall include a network management card with environmental sensor kit for each UPS.
    vii. Horizontal wire management shall be installed in-between each switch and patch panel.
j. Contractor is to coordinate with District ITS and District Equipment Vendor to furnish all required data switches. Contractor is not responsible to furnish or install the active data equipment. Designer to coordinate with District ITS for specific port density requirements.
k. PoE switch port load needs to be coordinated with District ITS for all the above listed systems.

7. IDF design standards:
    a. Minimum room size for a new IDF in a wing shall be minimum of 60 SQFT as listed above.
    b. Preferred IDF size is 6' x 10':



c. If space requires a smaller room than the 60 SQFT, the district will allow the following solution:



d. If the IDF is in a dedicated room, the room shall have an independent cooling unit, sized to keep the room cool based on anticipated heat load from anticipated equipment.

e. All walls on the IDF shall be covered with ¾" fire-rated plywood. If the plywood is painted with fire-retardant paint, the plywood rating stamp must be protected so it is visible after painting.
f. If the location is in an open room environment (i.e. classroom), design drawings shall provide a floor mount, wall anchor mounted Middle Atlantic SR-24-32 (62" height) with threaded rack rails for equipment mounting.
g. If the cabinet is located in an occupied area (i.e. classroom, meeting room, etc.), engineer/designer shall coordinate to make sure design drawings include a metal shroud from the top of the rear section of the cabinet (the section secured to the wall) up to the ceiling in order for conduit or cables to not be exposed in the room itself. The shroud shall be of 16gauge galvanized metal, painted to match cabinet (typically black).
h. Cabinets shall be lockable, same key to open all cabinets. Coordinate with district when added rack to existing site location for key series matching.
i. Each of the IDF room shall have:
    i. UL listed ladder rack/cable management on top of each rack connected to all 4 walls.
    ii. Ladder rack height shall be min. 6" above highest equipment enclosure.
    iii. UL listed cable management on the wall if conduits enter from the ground or excess of 12" above the horizontal ladder rack for the room. Preference is an 18" ladder rack mounted vertically on the wall directly above the conduits.
    iv. Light fixtures. The fixtures shall be mounted in front of and behind the rack. Lights shall not be mounted directly above the rack.
    v. A minimum of one convenience receptable on each of the walls in the room.
    vi. Provide ground bus bar and bonding straps.
j. If existing IDF is in an area where construction will generate dust, the entire rack or cabinet shall be protected from dust. Extra care shall be taken to provide ventilation of the rack/cabinet if it is covered to allow air to circulate through the rack/cabinet for the equipment not to overheat.
k. IDF rack shall be equipped with:
    i. Threaded rack rails.
    ii. Top of each rack shall have 2 ea. rack units unoccupied for future flexibility and growth.
    iii. One dedicated 220V outlet and two duplex 110V outlets, single dedicated circuit, mounted at the top of each rack.
    iv. Horizontal rack mount power distribution units (PDU), 1-per rack.
    v. Design of the rack layout shall allow a minimum of 5 ea. Rack units at the bottom of the rack to allow the district equipment vendor to install 1 ea. uninterruptable power supply (UPS) at each rack appropriately sized to provide 2 hours battery backup after loss of power.
    vi. The UPS shall include a network management card with environmental sensor kit.
    vii. Horizontal wire management shall be installed in-between each switch and patch panel.

l. Contractor is to coordinate with District ITS and District Equipment Vendor to furnish all required data switches. The building contractor is not responsible to furnish or install the active data equipment. Designer to coordinate with District ITS for specific port density requirements. PoE switch port load needs to be coordinated with District ITS for all the above listed systems.

27 13 00 – Communications Backbone Cabling

1. Fiber feed to each IDF shall be as follows:
    a. Each MDF/IDF shall have a rack mount Fiber LIU shall be installed to receive the fiber optic backbone cable.
    b. If existing MDF is to remain on the campus and no impact to existing fiber distribution, match type of fiber currently installed, typically 62.5-micron, 12 strand multi-mode fiber.
    c. If an existing MDF is part of the project and requires rework or upgrade to more than 50% of the site's IDFs, all the IDFs shall be upgraded to a new fiber cable, 50 microns, OM4 multi-mode fiber with LC connectors. Elementary Schools shall have 6 strands to each IDF. Middle and High schools shall have 12 strands to each IDF.
    d. If a new MDF is part of the project, each of the IDFs shall be fed with a new 12 strand, 50 micron, OM4 multi-mode fiber with LC connectors.
    e. Voice feeders:
        i. If the site's phone system has been converted to VoIP, voice feeders are no longer applicable.
        ii. If the existing campus is on an analog voice PBX system, a 12-pair, or 25-pair Cat5 copper feeder shall be provided. The feeder shall be terminated on a patch panel on each end, each pair terminated on a RJ-45 gray Cat5 jack, center pin.
2. No gel filled copper cables shall be terminated in the MDF or the IDF.
3. For voice connectivity, Engineer shall confirm with owner what devices and/or equipment shall be connected to VOIP system, i.e. fax machines, elevators, handicap lifts, etc., which might require a separate analog pair from IDF where the special equipment terminates to the MDF where the VoIP switch is mounted.

27 15 00 – Communications Horizontal Cabling

1. All data station cabling shall be universal, Cat6A minimum. No Cat6A cable shall exceed 0.250" diameter. Specific cables and jack colors are as follows:
    a. Voice cable: Orange
    b. Voice jack: Orange
    c. Data cable: Blue
    d. Data jack: Blue
2. No gel filled copper cables shall be terminated in the MDF or the IDF.

3. Wireless access point locations, 1 for each typical classroom shall be universal, Cat6A. Specific cables and jack colors are as follows:
    a. Cable: Black
    b. Jack: Black
4. Classroom connectivity:
    a. Dedicated hardwired data drops in classrooms.
        i. 4 ea. hardwired data drops per classroom for teacher and student usage.
        ii. 1 ea. data drop for teacher phone.
    b. Each wall shall have 2 ea. double gang boxes with a 1" conduit feeding into the double gang box.
        i. During construction one of the boxes will be occupied with 1 ea. data drop.
        ii. On each wall, one empty in-wall double gang box with blank face plate and 1" conduit to accessible above ceiling are for future use (voice/data/AV).
    c. Data outlets shall be designed to be adjacent (within 18") of an electrical outlet, except for wireless access points and wall phones.
    d. Data outlets behind or at each TV / LCD / Projector location for a screen sharing devices (i.e. such as an Apple TV) or similar devices. If project budget does not allow TVs / Projectors as part of the project, the pathway and data drops shall be installed as part of the project. See 274100 for quantity and type.
    e. 1 ea. hard wired data drop for lighting control system if it is connected to the network. Wireless connections not acceptable. If reliant on PoE power, proper coordination for PoE switch port loads needs to be coordinated with ITS.
    f. Environmental controls/HVAC Thermostats, if it is connected to the network, wireless connections are not acceptable. If reliant on PoE power, proper coordination for PoE switch port load needs to be coordinated with ITS.
    g. Electronic door security, if it is connected to the network, wireless connections are not acceptable. If reliant on PoE power, proper coordination for PoE switch port load needs to be coordinated with District ITS.
5. Wireless data connectivity:
    a. Each typical classroom shall have two wireless access point data drop connections installed, typically at the center of room.
    b. Each of the access point data drops shall have a service loop of 20' installed directly above the ceiling where the access point is installed. The service loop shall be neatly coiled and secured to structure above.
    c. Design shall indicate that the district is to provide the access point hardware. Design shall indicate that the contractor is to install the district provided hardware. Coordinate with District's ITS Department. Ph: 530-757-5300 x117
    d. The District will program the access points. Coordination for this work will happen through the ITS Department.
    e. Engineer must work with ITS for placement and exact locations of WAPS.
    f. Wireless Access Point requirements for larger gathering areas (MP rooms, cafeterias, Gyms, Performing Art Centers, Student Unions, outdoor learning areas and other not typical instruction environments, etc.) will be developed in consultation with the Facilities and ITS Departments to meet space utilization requirements. Engineer shall

coordinate with ITS for quantity and placement of WAPs. The access points may need to be protected by an enclosure if in an area deemed necessary.

g. If project is new construction, a recessed wall enclosure would be preferred at each of the vertically mounted wireless access points with antennas attached, or a 90-degree wall-mount bracket installed to provide horizontal installation of the WAP(s).
h. Depending on the environment, the following guideline shall be reviewed for proper enclosure or mounting option for the wireless access points.
    i. Wireless access points installed in a drop ceiling environment shall be installed using Oberon Model 1040-CCOAP3800 enclosure.
    ii. Access points installed in larger gathering areas requiring a patch antenna, unless it is a drop ceiling environment, shall be installed using Oberon Model 1013-XXX.
    iii. Access points installed in hard-lid ceiling shall be installed using Oberon Model 1042-CCOAP3800 enclosure.
    iv. Access points on high ceilings to ensure that it is mounted horizontal shall be installed using Oberon model 1042-CCOAP3800.
    v. Pole mounted brackets, if required, shall be mounted no higher than 12 ft. AFF and shall be installed using Oberon model 900-HC-WH bracket.
    vi. External connections to outdoor learning areas is a requirement for the teaching environment at District. In instances where this is required, the data drop to the exterior wireless access point location shall be terminated in a weatherproof box flush with the outside of the building.

6. Other Outdoor and Indoor data connectivity:
    a. All connection of controls devices, intercoms, video surveillance, alarms, etc. to the network must be coordinated through ITS.
    b. Irrigation Controls if networked, connect via hardwire. Wireless connections not acceptable unless prior approval from the District.
    c. Outdoor (and Indoor) Lighting Controls if networked, connect via hardwire. Wireless connections not acceptable unless prior approval from the District.
    d. Pool Controls if networked, connect via hardwire. Wireless connections not acceptable unless prior approval from the District.
    e. Intercom control unit. Connect via hard wire.
    f. Fire Alarm Panel. Connect via hard wire.
    g. Intrusion Alarm Panel. Connect via hard wire.
    h. Card Access panel. Connect via hard wire.
    i. CCTV recording unit. Connect via hard wire.
    j. CCTV cameras. Connect via hard wire. Provide power for exterior pan-tilt-zoom cameras as required for operation.
    k. PoE switch port load needs to be coordinated with ITS for all the above listed systems.

27 16 00 – Connecting Cords

1. Contractor to furnish and install all patch cords required to connect to the active data network equipment. Both at the MDF/IDF sides as well as the patch cords at the outlet locations.
2. Each cable of 12 strand fiber shall have 12 ea. twin connector (6 ea. for MDF side / 6 ea. for IDF side) patch cords, LC/LC connectors to be able to activate all strands of installed fiber optic cable.

27 41 00 – Audio Visual Systems

The standards for new construction and building renovations throughout the District for classrooms shall be reviewed by Facilities and ITS for each project to evaluate the need for modification due to space, utilization, or design constraints. Standards for classroom new construction and building renovations established in 2020 shall include:

1. Audio Visual 4K digital cabling shall be Cat6A shielded cable (blue) to transmitters (Tx) and receivers (Rx), except for Extron XTP DTP 24 Shielded Twisted Pair Cable for XTP Systems and DTP Systems.
    a. Bulk cable part number: 22-235-03
    b. Patch cable part number: 26-702-xx
2. AV Projection and Audio standards for Common Classrooms under 1,000 SQFT shall include:
    a. One Short Throw, LED projector: Epson Powerlit 535W-3LCD
    b. Furnish 2 ea. Cat6A data drops at projector location for projector and screen sharing device.
    c. Pull down screen allowing minimum of 110” screen size.
    Da-Lite Model C with CSR 16:10 69”x110” Part number: 34734
    d. AV control system controlled using RS-232 protocol is required. The District Standard control system is:
        i. Extron MediaLink Controller with RS-232 Control
        ii. Decorator-Style Wallplate Part Number: 60-1005-02
3. AV Projection and Audio standards for Common Classrooms above 1,000 SQFT shall include:
    a. Sharp Pro 90” Part Number: PN-LE901 Note: Unit is 4.6” deep.
    b. Overall room depth dimension divided by 6, shall determine appropriate image height.
    c. Commercial grade, without smart enabled application or wireless network connectivity option enabled.
    d. Due to the size of the monitors and their natural depth, a low-profile wall mount is required to meet the less than 4” depth requirement.
    Chief MFG. Large THINSTALL™ Fixed Wall Display Mount with .39” depth. Chief MFG part number: LTM1U. Note: Even with this low profile mount any Sharp monitor (identified as a standard) over 86” will exceed the 4” minimum.
    Additionally, these room systems will require accessories to be located behind the screen such as HDMI extenders, power supplies and possibly wireless presentation devices. Due to the depth requirement and the shallow wall mount that would need to be used, a large recessed accessory box should be installed to support and house these

items. The recessed electrical box will also house the electrical outlet and data stub outs. The manufacturer and part number for this would be: Peerless IB14X14-W.

e. Proper in-wall backing shall be coordinated with architect/structural. ¾" plywood in wall backing or metal plate straps.
f. Each monitor shall connect to a single teaching input source with HDMI connectivity (Input: HDMI-01) and distribute direct image content to the classroom monitor. In 2020 the District standard is:
    i. Auto Switching Dual HDMI Input DTP Transmitter-Decorator-Style Wallplate Extron part number: 60-1365-13.
    ii. The screen sharing device is to be located away from the monitor to save/minimize space behind the monitor.
    iii. DTP Receiver for HDMI Extron part number: 60-1271-13
g. Each monitor will have a screen sharing device connected to it (Input: HDMI-02). The screen sharing device must connect to the District's network via a hard-wired network connection. Architect/Engineer shall confirm with ITS, Blake Hutchings, what the latest District standard screen sharing solution. In 2020, the District standard is:
    i. ShareLink 250 Series Wireless Collaboration Gateway Extron Part number: 60-1508-02.
    ii. This unit will be connected to the Auto Switching Dual HDMI Input noted above.

4. Voice Lift System in classrooms -- Voice lift application system shall include, at a minimum:
    a. Amplifier: Lightspeed 955 Access
    b. Pendant microphone: Lightspeed Redmike VC Infrared Microphone
    c. Handheld microphone: Lightspeed Sharemike
    d. Speakers
        i. Drop ceiling speaker: Lightspeed DRQ
        ii. Wall mounted speaker: Lightspeed WMQ
    e. Input for Assisted Listening System connectivity.
    f. Fixed Line Level Audio Input from the output of the In-Room monitor for playback of presentation audio through in room speakers.
5. Audio amplification in classrooms:
    a. Audio amplification for Audiovisual content shall be provided through a system integrated into the voice lift sound amplification system. The AV audio system shall be designed to have a shunt/mute device connected to the rooms intercom speaker so the AV audio system mutes when a fire alarm or an intercom announcement is being made.
    b. Shunt/mute for intercom will be accomplished via the Lightspeed 955 Access amplifier.
6. Assisted Listening System if standalone system is required:
    a. One ea. 8-person portable assistive listening package shall be provided per building.
    b. The District standard for ALS in 2020 is the Listen Technologies LISTENTALK COLLABOR-8 SYSTEM
7. Divisible rooms as designated on plans shall be configured so that when divisible wall is open both classrooms shall operate in similar fashion and display content from any input station to any of the selected 4k LED monitors. When divisible wall is closed, classrooms/spaces shall operate independent of each other and input from associated room shall only be displayed on associated LED monitors within enclosed classroom.

8. AV standards throughout the District for all advanced Science classrooms shall require:
    a. 116” ultra-short throw laser projector w/ interactive interface control module, science classroom. The District standard for this is the Epson BrightLink 1480Fi Interactive Ultra Short-Throw Laser Projector Part Number: V11H921520
    b. Each projector shall connect to a single teaching input source with HDMI connectivity (Input: HDMI-01) and distribute direct image content to the classroom projector. The District standard will be an Auto Switching Dual HDMI Input DTP Transmitter-Decorator-Style Wallplate Extron part number: 60-1365-13. The screen sharing device is to be located away from the projector. DTP Receiver for HDMI Extron part number: 60-1271-13
    c. Each projector will have a screen sharing device connected to it (Input: HDMI-02). The screen sharing device must connect to the District’s network via a hard-wired network connection. Architect/Engineer shall confirm with ITS, Blake Hutchings, what the latest District standard screen sharing solution. The District standard is ShareLink 250 Series Wireless Collaboration Gateway Extron Part number: 60-1508-02. This unit will be connected to the Auto Switching Dual HDMI Input noted above.
    d. At a minimum, additional audio amplification shall be provided through a system integrated into the voice lift sound amplifications system outlined below. The AV audio system shall be designed to have a shunt/mute device connected to the rooms intercom speaker so the AV audio system mutes when an intercom announcement is being made.
        i. Extron 12x8 ProDSP Processor w/AEC and Dante Part Number: 60-1512-10
        ii. Extron Two Channel Amplifier - 200 Watts Per Channel Part Number: 60-883-02
        iii. SoundField XD 6.5" Two-Way Ceiling Speaker with 8" Composite Back Can and 70/100 V
        iv. Transformer Part Number: 60-1310-03
        v. The shunt/mute function is to be configured and programed within the audio DSP/Mixer.
    e. The projector shall be controlled via a RS-232 control system.
    Extron IPCP Pro 360 IP Link Pro Control Processor Part Number: 60-1432-01
    Extron TLC Pro 726M 7" Wall Mount TouchLink Pro Control System Part Number: 60-1854-02
    Control functions shall, at a minimum, include:
        i. On/off
        ii. Volume up/down
        iii. Source selection
    f. HDMI, and USB 2.0 connections shall require Cat extenders for all in-wall routing. Extron XTP DTP 24 Shielded Twisted Pair Cable is required for XTP Systems and DTP Systems.
        i. Bulk cable part number: 22-235-03.
        ii. Patch cable part number: 26-702-xx
        iii. USB extender part numbers:
            1. USB Extender Plus D T Transmitter - Decorator-Style Version – White Part Number: 60-1473-13

2. USB Extender Plus D R Receiver - Decorator-Style Version – White Part Number: 60-1473-23

g. Lecture capture or similar solutions to be implemented if project planning/programming requires. The District standard for this item is a Dual Recording H.264 Streaming Media Processor with Dual Recording – 400 GB SSD. Extron part number 60-1634-11.

h. Inputs for document cameras, microscopes, and other required sources. DTP CrossPoint 108 4K 10x8 Seamless 4K Scaling Presentation Matrix Switcher Extron Part Number: 60-1381-01

i. Setup of active lecture streaming or distance learning to be explored and implemented as project planning/programming requires. This may be accomplished with the recommended lecture capture component under above item g.

j. Divisible rooms, as designated on plans, shall be configured so that when divisible wall is open, both classrooms shall operate in similar fashion and display content from any input station to any of the selected display device(s). When divisible wall is closed, classrooms shall operate independent of each other and input from associated room shall only be displayed on associated display device(s) within each enclosed classroom. This is easily accomplished through a certified Extron Control Pro programmer utilizing a Pro programing configuration. It is also suggested that a room partition sensor be used within the system to automatically recall the appropriate room configuration based on feedback given by the state of the room partition (open/closed). Extron part: 60-1705-03

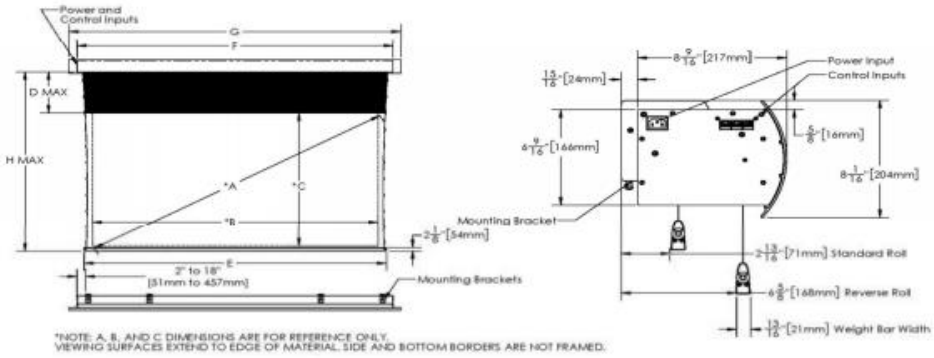
9. AV standards throughout the District for Auditoriums/MP Rooms/Gymnasiums shall require:
   a. The district has standardized on Allen & Heath GLD-112, or SQ-7 digital mixer w/ stage boxes
   b. Large format laser projector, 10,000 lumen or higher. The District standard is the Panasonic 3 Chip Lightweight Laser DLP Projector 4k, 10,000 lumen Part Number: PT-RQ13K

c. Large format projection screen 16:9/16:10, 220” diagonal minimum screen size. The District standard for this screen is the Screen Innovations: SPT100SL12-NA-CADG-24S-LI

Model No: 5WMEX220SLXL
Aspect Ratio: 16:10
Material: Slate XL

x_____ _____
Acceptance Signature Date

Quote good for 90 days from 5-8-2020. Shipping not included in quoted price. All Motorized screen sales are final. Returns or exchanges will not be accepted.



Measurements		
Diagonal	A	220.0000"
Width	B	186.5625"
Height	C	116.6250"
Drop	D	12.0000"
Weight Bar	E	195.8125"
Case Length	F	201.3750"
Fascia Length	G	209.1875"
Max Height	H	131.6250"

Shipping Dims	
Ship Length	221"
Ship Width	13"
Ship Height	13"
Ship Weight	263 lbs.

Shipping weights & dims are for freight estimating purposes only. Additions to the order eg. accessories may effect actual weights & dims at time of order.

Options

Case Type: External
Case Color: White
Mounting Bracket: L-Shaped Bracket
Number of Mounting Brackets: 4
Voltage: 110v
Power Input: ACILT-IEC
Orientation: Standard Roll/Standard View (Orientation A)
Crate: No
Peforated Black Drop?: No

d. Audio Visual control system, seamless matrix switch, Extron Crosspoint XTP XTP II CrossPoint 1600 16x16 Frame (32x32 & 64x64 also available pending final design requirements) Part Number 60-1545-11
e. Control touch panels, 5” at stage, 10” at control locations
    i. Extron IPCP Pro 550 IP Link Pro Control Processor Part Number: 60-1418-01
    ii. Extron TLP Pro 525M5” Wall Mount TouchLink Pro Touchpanel Part Number: 60-1561-02
    iii. Extron TLP Pro 1025M 10" Wall Mount Touchlink Pro Touchpanel Part Number: 60-1566-02
f. Touch panels shall require access login password to initialize system start/power on. This is configured within Extron Pro programing.
g. Touch panels shall provide similar function of remote control, play/stop/fwd/rev/source/vol up/down/menu and others as defined in design coordination process as required per project. This is configured within Extron Pro programing.
h. Audio Visual wall input plate transmitters/receivers -- XTP Transmitters & Receivers Extron XTP transmitters and receivers provide signal extension of video, audio, RS-232 and IR control, and Ethernet. The twisted pair models can be remotely powered and support distances up to 330 feet (100 meters) over a shielded CATx cable, and fiber optic models support even greater distances. Available in desktop, floor box, and wallplate models XTP transmitters can accept digital, analog, or standard definition video. Specific part numbers to be specified based on specific requirements.

i. HDMI, VGA, USB 2.0 Cat extenders shall be used for all in-wall routing, unless transmitters/receivers are being installed (HDBaseT or similar). Minimum signal distance shall be 230' feet for HDMI sources.
    i. All HDMI & VGA devices may use the XTP extenders listed above and shall exceed the 220' requirement via a CATx cable.
    ii. USB 2.0 extenders shall be limited to 220' via a Catx extender system but may be exceeded via a fiber extender solution.
        1. CATx USB Extender Plus D T Transmitter - Decorator-Style Version – White Part Number: 60-1473-13
        2. CATx USB Extender Plus D R Receiver - Decorator-Style Version - White Part Number: 60-1473-23
        3. Multimode Fiber FOX USB Extender Plus Fiber Optic Extender for USB Peripherals FOX Transmitter USB Extender Plus MM Part Number: 60-1474-11
        4. Multimode Fiber FOX USB Extender Plus Fiber Optic Extender for USB Peripherals FOX Receiver USB Extender Plus MM Part Number: 60-1474-21
j. Wireless display gateway, Windows/OS/iOS/Android compatible. The District standard is the ShareLink 250 Series Wireless Collaboration Gateway Extron Part number: 60-1508-02
k. Wireless microphones, both handheld and bodypack with lapel, mfr. Shure, Audio Technica, Sennheiser, AKG. Pending final microphone count, the Shure Wireless Microflex would be the preferred system and should integrate via Dante' audio network into the audio mixer or via a network interface controller.
l. Wireless microphone antenna distribution. Included as part of the above-mentioned Shure Wireless Microflex system.
m. Audio amplifiers w/ DSP. The District standard is Extron 12x8 ProDSP Processor w/AEC and Dante Part Number: 60-1512-10 Note: Multiple units may be required pending final microphone channel count.
n. Speaker array (traditional/column) w/ low frequency subwoofers. The District standard is the TOA HX-7 Variable Dispersion Speaker. Specific models, quantities and placement is to be determined based on final room layout, design, and size.
o. Assistive listening as required by ADA guidelines. For this environment, a Loop assisted listening system is recommended. The recommended solution is the ListenLOOP Hearing Loop System.
p. Theater communications system w/ 6-8 control packs, mfr. ClearComm
q. Power conditioner w/ sequencer. Control touch panels shall initiate full power on/off for all equipment, equipment shall sequence on/off in proper AV protocol. Furman 20A SmartSequencing Power Conditioner Part Number: CN-2400S
   Touch panel control of the sequencer may be easily configured within Extron Pro programing. Auxiliary PDU units may be used in conjunction with the above sequencer. Specific models will be based on final equipment housing and rack enclosure specifications.

r. Acoustic absorption and diffusion panels on front, rear, and side walls. An acoustical assessment of the room should be performed to make specific quantity and placement recommendations or, if prior to construction, a review of planned wall construction may be performed to provide added recommendations for acoustical enhancement at the time of construction
s. Audio system shall meet NFPA fire alarm requirements (i.e. shunt). The shunt/mute function is to be configured and programed within the before mentioned audio DSP/Mixer.

Please reference *27 15 00 – Communications Horizontal Cabling, Item 11* for all systems in the following sections that will connect to the IP network

27 51 23 –Educational Intercom

1. District is standardized on the CareHawk® CH1000 Life Safety Communication Platform
2. If the classroom has a suspended, drop-in ceiling type, preference is to install a ceiling IP speaker that fits in the ceiling grid.
3. If speaker is unable to be installed in ceiling wall mounting is acceptable. Place speaker and clock adjacent to each other at similar height. Separate clock and speaker by framing stud bay.
4. All new speakers shall be IP based and terminate to intercom IP gateways units.
5. If the contract includes the upgrade of the intercom system to an IP platform, ALL speakers (interior/exterior) at site, regardless of if the building/rooms are part of the modernization project, shall be connected to new intercom IP system. Appropriate gateways (type and quantity) shall be specified to allow existing remaining analog speakers to be individually programmed for bell tone as well as individually paged.
6. All occupied areas shall have a dedicated bi-directional intercom speaker.
7. Exterior speakers shall be located to provide adequate exterior site coverage. Areas such as bus drop-offs, playgrounds/fields, interior court yards, etc. shall all have coverage. Speakers shall not exceed 60dB at property line.

27 53 13 – Clock Systems

1. Current district standard is Sapling.
2. Any clocks installed in the future shall be IP clocks.
3. Main administration area should have a digital IP type clock installed.
4. MP/Gym/Cafeteria areas shall have 16” clock with a cage to protect the clock from objects.
5. If the contract includes the upgrade of the clocks to an IP platform, ALL clocks (interior/exterior) at site, regardless of if the building/rooms are part of the modernization project, shall be connected to new IP clock system. Appropriate hardware or software (type and quantity) shall be specified to allow existing remaining clocks to be tied into the new IP clock platform.

28 10 00 – Electronic Access Control

1. The District is not requiring Activated Access Control as a standard on current project.
2. The District is currently exploring using "3xLogic/Infinias" as their server-based access control platform and door control modules.
3. If project includes electrified door hardware devices, they shall be powered using PoE if possible. PoE switch port load needs to be coordinated with ITS.
4. All new or retrofitted doors shall have a minimum ½" conduit with a pull-string into the top of the door frame, on both left and right side, for future add of electronic door lock solutions.
5. Each door shall have a door contact dedicated for intrusion/access control to monitor door status.

28 20 00 – Video Surveillance

1. Presently, the district has not standardized on a specific Closed-Circuit Television (CCTV) system.
2. If the project requires a CCTV system to be installed, the designer shall:
    a. Review and assess existing analog or digital camera systems. Any system components older than 7 years shall be replaced as part of the project.
    b. Review each camera location for proper lighting and modify/add lighting as required.
    c. Review existing and new landscape environment (trees, etc.) to allow the best possible unobstructed view from the camera. Designer shall consider the size of the trees in 10 years from planting.
3. Main components of the CCTV system shall include, but not limited to:
    a. IP Gateway with Analytics and support for 16 cameras (3rd party)
    b. Network Video Recorder
    c. High definition outdoor rated 6MP min. panoramic camera w/ mounting hardware and accessories.
    d. High definition outdoor rated 4MP min. bullet camera w/ mounting hardware and accessories.
    e. High definition indoor rated 4MP min. dome camera w/ mounting hardware and accessories.
4. System shall provide 7-days local video storage and 30-days hosted video storage.
5. Contractor to provide 128GB SD cards with cameras if SD card required.

28 31 00 – Intrusion Detection Alarm and Monitoring

1. District has standardized on Bosch intrusion control panels. If the site does not have a recently installed intrusion panel, the project design shall include the installation of a new Intrusion Alarm Control Panel (IACP). Who is expected to install this? Our existing vendor?
2. The IACP shall utilize the District existing IP network for monitoring communication.

3. Whenever possible the IACP shall be installed in the MDF room adjacent to the Fire Alarm Control Panel (FACP).
4. Data communication cabling shall be routed to nearest MDF or IDF and connected with a "green" patch cable.
5. Keypads shall be in a convenient location near the front door.
6. Motion detectors shall be installed in all first-floor rooms with windows and second floor entry/exit stairways.
7. Motion detectors shall be in room corners facing the middle of the room, whenever possible, to minimize false activation from windows.
8. Glass break detectors shall be required in high security areas with windows.
9. Each new exterior door shall be equipped with a dual pole dual through (DPDT) door contact for intrusion monitoring and HVAC Title 24 compliance.
10. Door contact pathway shall include 4" sq. j-box with a double gang device ring above the door for wiring makeup and monitoring device placement at a maximum height of 120" AFF to support maintenance from a 6' ladder.
11. All roll-up doors shall have ruggedized contacts.
12. All roof access hatches shall be monitored by the Intrusion Detection system.
13. Design documents shall show all point to point connections to each device on the one-line riser diagrams.

28 46 00 – Fire Detection and Alarm

1. District standard is Silent Knight for all upgrades to fire alarm control panel (FACP) systems and components.
2. The FACP shall utilize the District existing IP network for monitoring communication.
3. Secondary FACP communication shall be by standard analog phone line or cellular service.
4. Except when allowed by code the FACP shall be an emergency voice-alarm communication (EVAC) system.
5. Notification appliances shall be compatible with the Silent Knight FACP installed.
6. For early notification of a fire event the District requires at least one smoke detector to be in each room.
7. Notification devices shall be in all occupiable rooms.
8. Notification devices shall be synchronized per type (EVAC & non-EVAC) site wide.
9. New construction (buildings and/or additions) shall have emergency voice alarm communications (EVAC).
10. EVAC exception:
    a. Relocatable buildings that are to be on-site less than 3 years.
    b. Buildings that are no more than 1 classroom and an occupant load of 49 or less and with a 20-foot separation from adjacent buildings.
    c. Detached buildings that are used for non-instructional purposes.
    d. Existing sites that do not require an EVAC capable system are to have the existing horn/strobe notification appliance devices and circuits extended to the affected area. The horn/strobe notification devices shall notify occupants that a fire alarm condition

has occurred. The horns and strobes shall be synchronized site wide. As a District standard, the notification devices shall automatically deactivate after 15 minutes. This time out function shall be included in the system function testing.

11. Voice Evacuation speakers are to be laid out in compliance with NFPA 72 for intelligibility and audibility in all occupiable spaces.
12. Carbon monoxide (CO) detectors shall be located to be in compliance with NFPA 72. District standard for CO is a dedicated detector with a sounder base producing a Temporal 4 local notification.
13. Sounder base power shall be provided by a dedicated power booster.
14. All Fire Alarm additions shall be coordinated with existing system and shall seamlessly integrate.
15. Smoke relief hatches shall be monitored by the Fire Alarm system and report as Supervisory.
16. Design documents shall show all point to point connections to each device on the one-line riser diagrams.

Recommended Sheet Index

TELECOMMUNICATIONS AND LOW VOLTAGE

Typical Systems:

- Utility Services
- Backbone Cabling
- Horizontal Cabling
- Audio-Visual Systems
- Intercom and Clock Systems
- Video Surveillance
- Intrusion Systems

T0.00 Technology Symbols and Notes

T0.50 Technology Demo Site Plan

T1.00 Technology Site Plan (1:20 Default Scale)

T2.10 Technology Floor Plan – First Floor

T2.20 Technology Floor Plan – Second Floor

T3.10 Technology Interior Elevations and Sections

T4.10 Technology Equipment Room (MDF/IDF Elevations and Schedules)

T5.10 Technology Exterior Elevations

T6.10 Technology Ceiling Plan – First Floor

T6.20 Technology Ceiling Plan – Second Floor

T7.00-T7.xx Technology One-Lines (provided for each system)

T8.00 Technology Camera Locations/Views

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T9.10 Technology MDF/IDF Rack Elevation/Schedule, elevation shall be comprehensive for all systems.

FIRE ALARM:

FA0.00 Fire Alarm Symbols, Notes and Equipment Schedule

FA0.50 Fire Alarm Demo Site Plan (1:20 Default Scale)

FA1.00 Fire Alarm Site Plan

FA2.10 Fire Alarm Demo Ceiling Plan – First Floor

FA2.20 Fire Alarm Demo Ceiling Plan – Second Floor

FA6.10 Fire Alarm Ceiling Plan – First Floor

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