

***POLICY ON  
MINIMUM PHASE SUBMISSION REQUIREMENTS***

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***ELEMENTS OF SCHEMATIC DESIGN DOCUMENTS***

***ARCHITECTURAL***

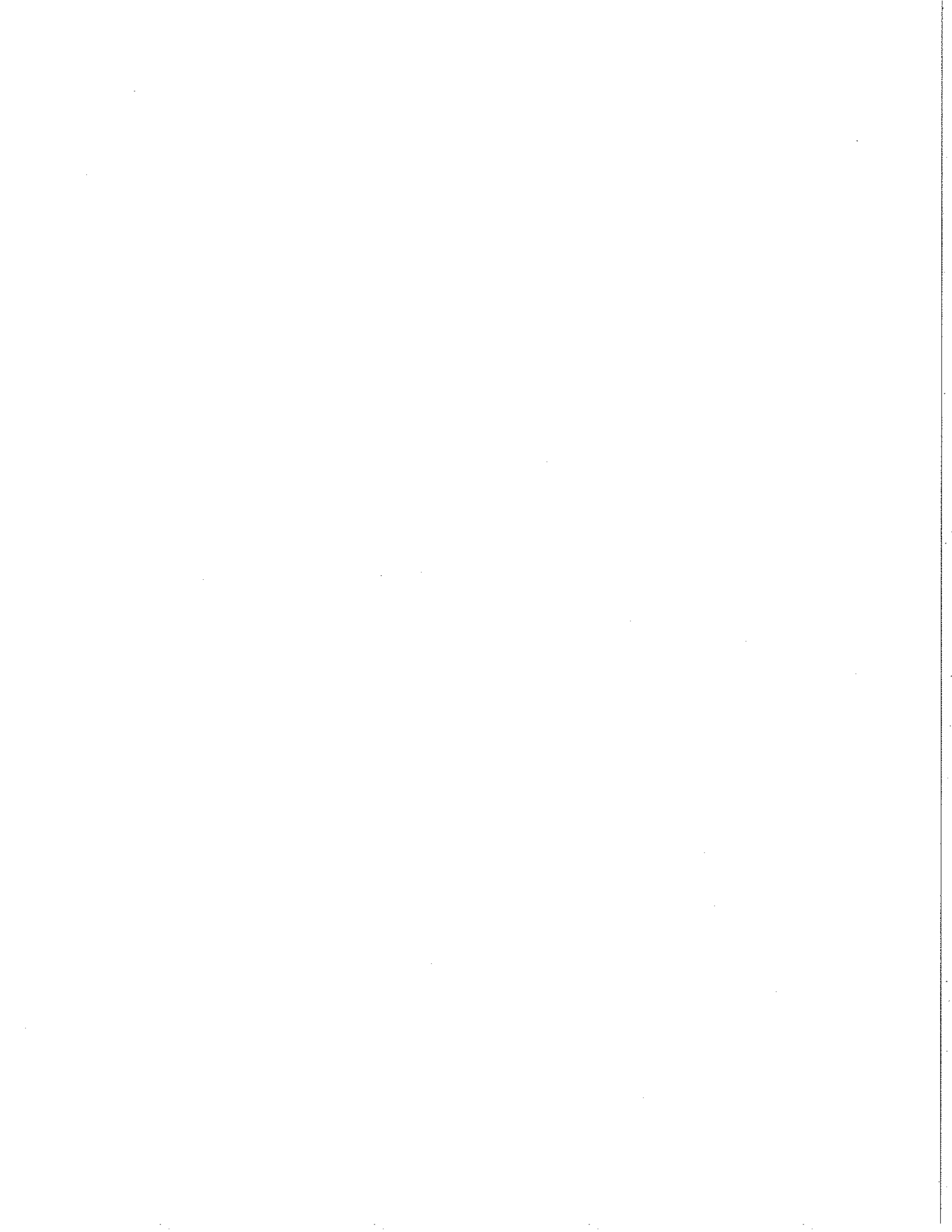
- Single-line drawings showing complete building layout, identifying the various Major areas, core areas and their relationships.
- Show preliminary exterior wall section indicating location of openings, and overall thermal transfer value for each element of the exterior wall/envelope.
- Identify roof system, deck, membrane flashing and drainage technique and indicate overall combined heat transfer coefficient value for exterior wall/envelope.
- Show exterior building elevations identifying proposed shell finishes (includes all exterior surfaces, doors and windows).
- Site plan with building located and overall grading plan with preliminary contours. Preliminary site development such as access road paving, walls and outside support buildings, and paved parking lots landscaping, storm water retention areas, site utilities (existing and new) should be shown.
- Gross and net area calculations separated to show conformance with Program of Requirements. Each space to be annotated with net square footage.
- Building Code type and occupancy information.

***STRUCTURAL***

- Main building sections depicting proposed structural systems.
- Preliminary structural floor plan with overall dimensions and floor elevations. Identify structural system and provide preliminary sizes for all main structural members.
- Preliminary foundation plan. Identify foundation system and provide preliminary sizes

***PLUMBING AND MECHANICAL***

- Provide a narrative detailed description of HVAC systems that appear compatible with loading conditions for subsequent life cycle costing. (LCC not required for systems indicated as standards in Design Manual).
- Floor plan showing all mechanical (HVAC and Plumbing) equipment spaces.
- Floor plan showing all major mechanical equipment and plumbing fixtures (toilets, sinks, urinals, water fountains/coolers, janitor sinks, and fire protection system).



## ***ELECTRICAL***

- Lighting and power plans showing conceptual solution for lighting, power, communications, fire alarm and technology.
- Floor plan showing all major electrical equipment,
- Preliminary one-line electrical distribution diagrams. Indicate preliminary location of service entry, switchboards, motor control centers, panels, transformers and emergency generator, etc., if required.

## ***ELEMENTS OF DESIGN DEVELOPMENT DOCUMENTS***

### ***ARCHITECTURAL***

- Dimensioned floor plans indicating structural bay sizes and overall building dimensions. Floor Plan should show dimensions and final partition locations including all openings.
- Exterior and core wall sections showing final dimensional relationships, materials and component relationships.
- Floor Plan should show all fixed and loose equipment.
- Preliminary room finish schedule identifying all finishes.
- Exterior door and hardware schedule showing door, frame and hardware type.
- Site plan including grading and site utilities, utility connection points and a stormwater management design.
- Preliminary development of details and large scale plans and sections.
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- Preliminary reflected ceiling including ceiling grid, light fixtures and all devices that penetrate or are mounted upon finished ceiling.
- Interior movable furniture, office equipment, demountable partitions and system furniture, layouts for all departments and floors including proposed building signage system.
- Gross and net area calculations by department to determine compliance with program of requirements.
- Outline specifications including selected acceptable manufacturers and suppliers.

### ***STRUCTURAL***

- Floor plan with all structural members located and sized.
- Preliminary footing, beam, column and connection schedules.
- Establish final building elevations.
- Outline specifications including acceptable manufacturers.
- Foundation drawings
- Outline specifications including selected acceptable manufacturers.

### ***PLUMBING AND MECHANICAL***

- Heating and cooling load calculations for each individual space, include cooling requirements for heat loads generated by office equipment, personal computers, etc
- Mechanical equipment schedule indicating size and capacity.
- Plumbing fixtures schedule
- Floor plans showing mechanical equipment and plumbing fixtures. All equipment and fixtures should be shown and located.
- Floor plans showing main ductwork distribution, branch ductwork and plumbing piping. All ductwork and piping should be located and sized to coordinate with structural framing system.
- All ceiling mounted devices should be located.
- Legend showing all symbols used on drawings.
- Outline specifications including selected acceptable manufacturers.

### ***ELECTRICAL***

- Floor Plan locating all power consuming equipment with a description of the equipment load characteristics.
- Estimate total electric load, confirm Design Manual required excess capacity.
- Floor Plan showing all major electrical equipment (switchgear, distribution panels, emergency generator, transfer switches, UPS system, etc.) which shall be dimensioned and drawn to scale.
- Site Plan showing preliminary site lighting design with pole and fixture type designations.
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- Floor plan showing lighting layout, power, telecommunications and office automation devices and switches with preliminary circuiting.
- Light fixture schedule should be finalized.
- Estimate interior electrical loads for systems furniture, receptacles, lighting, food service equipment and any other special use areas, etc.
- Preliminary Distribution Panel Schedule
- Outline specifications including selected acceptable manufacturers and suppliers.

## ***ELEMENTS OF CONSTRUCTION DOCUMENTS***

### ***COVER SHEET(S)***

- Name, address of School District Board, Construction Manger, Architect, Interior Designer, etc.
- Vicinity map.
- Legal description of property.
- Final Building Code type, occupancy information and zoning information.
- Gross and net area calculations of all departments and floors.

- Abbreviation and symbol glossary.
- Index to all drawings.

### ***SITE PLAN(S)***

- A certified plot plan, (sealed by an Ohio licensed Land Surveyor).
- A grading plan 1'-0" or 2'-0" increments with appropriate sections.
- Sediment Control and Stormwater Management Plans and profiles.
- Local governing utility standards included in all utility details.
- Standard details shall be modified to suit project conditions, all non-applicable information shall be deleted.
- Existing and proposed electrical, gas, sewer, water, storm drainage, telephone and TV cable utilities shall be identified.
- Utility designs shall show plan, profile and all fittings and details required by code and local government standards for all the materials being permitted in the specifications.
- Zoning Plan.

### ***LANDSCAPE***

- An overall site plan showing plantings, irrigation and drainage system, site lighting and all site development features.
- Details and sections of all site development features, sidewalks, curbs, paving stones, bollards, ramps, exterior stairs, lawn areas showing seeding methods, etc.
- All landscape conditions should be thoroughly detailed.
- A symbol glossary.
- Planting schedule.
- Seeding schedule.
- Standard details shall be modified to suit project conditions. All non-applicable information shall be deleted.

### ***ARCHITECTURAL***

- A basic floor plan of the entire facility showing minimal detail with a grid or column reference system showing overall building layout dimensions, core spaces, floor opening penetrations, etc. Fire ratings of all partitions, fire doors, etc. should be clearly denoted.
- A dimensioned floor plan locating all interior partitions and exterior wall partitions from the grid or column reference system. Floor plan should include room and workstation designations, interior and exterior door and window designations.
- A dimensioned floor plan showing wire management system with openings located for voice, data, video, and electrical outlet locations.
- Room wall elevations for all non-typical walls.

- Casework floor plan complete with schedule, details and elevations.
- Interior and exterior window, door and frame schedule complete with elevations and details for all head, jamb and sill conditions.
- Interior and exterior finish and color schedule (exposed finished mechanical and electrical items shall be clearly addressed).
- A reflected ceiling plan showing all grid, access doors, drapery tracks, light fixtures, grills, diffusers, sprinkler heads, security devices, fire alarm devices, intercom system, exit devices and acoustic treatment. Ceiling heights and type should be indicated on the reflected ceiling plan.
- Details shall be provided for transitions between finish materials and wall types.
- Major building sections in at least two directions.
- A sufficient number of details shall be provided to clearly indicate the method of construction for all building components and shall include but not be limited to the following; exterior wall, waterproofing systems, insulating systems, interior and exterior finishes, architectural details, interior stairs, elevators.
- Interior signage locations shall be shown on the floor plan complete with details and schedules.
- Final locations shall be shown on the floor plan with associated floor loadings being shown on the structural drawings.
- Partition type schedule and section details for all interior, exterior and floor wall conditions.
- Roof plan showing all roofing material, roof drains, overflows, access hatches, roof drainage slopes and elevations, scuppers, skylights, mechanical and plumbing penetrations. Details shall be provided for all edge, parapet and flashing conditions.
- All exterior building elevations showing finish materials, exterior door and window openings and designations, lights, louvers, grilles, sign age, speakers and other devices.
- All structural members included in, or enclosed by the architectural details shall be closely coordinated with and the size verified by the structural engineer. Details shall indicate the framing and furring method wherever appropriate.
- All mechanical/electrical elements included in, or enclosed by the architectural details shall be closely coordinated with and the size verified by the design engineer. Details shall indicate the framing and furring method wherever appropriate.
- Complete Technical Specification including acceptable manufacturers.

### ***STRUCTURAL***

- A dimensioned foundation plan showing and locating in plan and in elevation all footing, foundations, foundation piers, caissons, grade beams, reinforcement with all layouts for masonry and anchor bolts.
- A dimensioned floor plan for each floor, showing all beams, beam sizes, duct and piping penetrations, construction joints, expansion joints, edge conditions, imbedded anchors and frames thickened slabs, recessed slabs stair penetrations, elevator shafts, floor loading, top of structure elevation and reinforcement.
- Footing, column, grade beam, caissons, piers, reinforcement and beam schedules.

- Dimensioned to scale details showing all conditions, connections and structural sizes.
- Shear walls clearly shown on plan and schedule if symbol code is used.
- Abbreviation and symbol glossary.
- Fastener/connection schedule.
- Elevations of all footings, elevations to top of all beams, columns, recesses and floors.
- Roof beam plan, elevator hoist beams.
- Complete Technical Specification including acceptable manufacturers.

### ***MECHANICAL***

- Abbreviation and symbol glossary.
- Mechanical equipment schedule.
- Exterior louver schedule, as coordinated with architectural louvers.
- Floor plans indicating ductwork with sizes, ductwork mechanical devices, beams for floor above with ductwork penetrations.
- Reflected ceiling plan showing final location of all ceiling mounted mechanical devices which include but is not limited to; diffusers, return air grilles and thermostats.
- Floor plan indicating the sprinkler and standpipe riser systems including all required pumps and control devices.
- Fire damper schedule and individually shown on the floor plan at each required location.
- Ductwork sound attenuation schedule.
- Vibration isolation schedule.
- Terminal control box schedule, with electrical and air volume requirements.
- Chilled water, condenser, refrigerant, fuel oil, steam and gas riser piping floor plans and riser diagrams and schematics including pipe sizes. Piping schematics shall be in large enough scale to clearly indicate all control devices, valves, unions and miscellaneous appurtenances.
- Areas of concentrated mechanical equipment shall be enlarged from the basic floor plan to not less than 1/4" = 1'-0" illustrating detailed ductwork and equipment within the mechanical room in both plan and section views; coil access and filter access are to be shown to scale as verification of clearance.
- Access doors both wall and ceiling, shall be called out at each applicable location as coordinated with the architectural drawings (rated where applicable).
- Floor plans should indicate housekeeping pads and weight of concentrated loads.
- Duct/piping penetrations of all walls, floors, roofs, beams, columns and foundations shall be coordinated with and verified by the structural engineer, code complying firestopping will be detailed for penetrations through fire rated assemblies.

- Locate on the floor plans all controls system equipment and provide a panel and device schedule, indicator panel graphics complete with sequence of operation and control system program diagram.
- Complete Technical Specification including acceptable manufacturers.

### ***PLUMBING***

- Fixture/connection schedule.
- Abbreviation/symbol glossary
- Floor plans indicating domestic hot and cold water, storm, waste, vent and gas piping plans, including all valves, unions, fixtures, pipe sizes, and riser diagrams etc.
- Piping and insulation jacket dimensions are to be coordinated with architectural finishes and casework; all exposed piping is to be verified with the architect.
- Plan drawing of all water and sanitary branch piping for installation of interior equipment and fixtures.
- Typical piping riser schematics for all gravity flow piping systems.
- Areas of concentrated plumbing equipment (hot water heaters, circulating pumps, etc.) shall be enlarged from the basic floor plan to not less than 1/4" = 1-0" detail in both plan and section views.
- Access panels, doors and provisions in both walls and ceilings are to be shown on floor plans for all valves, cleanouts and caps, etc.
- Connections to existing and new building utilities shall be clearly shown; requirements of governing utilities shall be determined and clearly detailed and shown; connection details and elevations shall be checked and coordinated with applicable civil
- Design details
- Piping penetrations of all walls, floors, roofs, beams, columns and foundations shall be coordinated with and verified by the structural engineer, code complying firestopping will be detailed for penetrations through fire rated assemblies.
- Complete Technical Specification including acceptable manufacturers.

### ***ELECTRICAL***

- Lighting fixture schedule
- Lighting control schedule, switches, emergency lighting.
- Power riser diagram for interior lighting systems.
- Abbreviations and symbol glossary.
- Panel schedules with panel locations shown on floor.
- Fan/motor control schedule/diagram.

- Floor plan showing location of all fire alarm device/panel schedule and indicator graphics and riser diagram including activated hardware, pull stations, confirm activated hardware with hardware schedule.
- Floor plan showing location of all intercom devices, panel schedule and location, program, riser diagram.
- Floor plan showing location of all security devices, panel schedule and locations and riser diagram.
- Floor plan showing location of all intercom and TV. outlets and devices.
- Power riser diagram and main distribution panel layout in large enough scale so each run can be clearly seen.
- Telephone board schedule and riser diagram coordinated as to equipment size requirements and connection provisions with the governing telephone utility and owner requirements.
- TV. terminal/splitter and riser diagram coordinated as to equipment size requirements and connection provisions to antenna and cable TV. system.
- Floor plan indicating wire management wiring for power, receptacles, voice, video and data communications including circuiting, and connections to systems furniture, etc.
- Separate plans for power, voice and data shall be provided.
- Floor plan indicating power connections to all mechanical equipment.
- Reflected ceiling plan indicating above ceiling wiring and circuits for lighting/electrical switches, security, fire alarm, emergency exit lighting and intercom controls, etc.
- Main service entrance connection diagram as verified and coordinated with the governing power utility; locations of service entrances and transformers shall be verified with the architect.
- Areas of concentrated electrical equipment and electric vault rooms in particular, shall be enlarged from the basic floor plan to not less than 1/4" =1'-0"and shall be shown in plan and elevation.
- Sheet notes shall be applicable to each sheet standard notes and details shall be modified to specific conditions, non-applicable notes or details shall be deleted.
- Access to systems shall be verified, doors, panels or other provision shall be called out in all wall and ceiling locations for junction boxes, controls or any other device requiring access.
- Raceway penetrations of all walls, floors, roofs, beams, columns and foundations shall be coordinated with and verified by the structural engineer. Code complying fire-stopping will be detailed for penetrations through fire rated assemblies.
- Complete Technical Specification including acceptable manufacturers.

## *Appendix B*

### **TECHNOLOGY PHASED SUBMISSION CHECK LIST FOR COMMENTS**

#### *Elements of Schematic Documents*

##### Technology

- Provide a detailed description of the Owner's needs, including such items as: Connection to DA-Site, Connection to other schools district-wide, Carrier system requirements (ATM, PRI, Ethernet, etc.), owner's vision of how technology will be used in the classroom/school/district, provisions for a district-wide network operations center, and fiber between schools.
- Initial meeting with Architect and Owner to determine location and size requirements of all technology spaces.
- Single-line drawings showing connectivity schematic of various networks, including: data, voice, video, media retrieval, security, paging, specialized audio, etc.
- Provide a detailed description of any special design considerations, including such items as: lighting and wall color requirements for video conferencing rooms, separate HVAC systems for each of the technology areas, coordination issues with local service providers, running cat5e tie cables between TC's, etc.

#### *Elements of Design Development Documents*

##### Technology

- Preliminary list of all T drawings as per OSFC specifications
- Technology consultant must coordinate with all other trades in order to ensure proper pathway sizes and locations
- Preliminary floor plans indicating the locations of all technology outlets throughout the building, including, but not limited to: data, voice, video, sound, paging, security, speakers, access control, and wireless.
- Preliminary connectivity codes for each type of communication outlet to be installed.
- Riser diagrams of all technology systems.
- Outline specifications including acceptable manufacturers.
- Preliminary engineering of any outside plant work to be performed
- Preliminary schematics of all technology systems showing connectivity schemes.
- Floor plans showing all technology pathways, including cable trays in hallways, and conduits in walls.
- Floor plans indicating the locations of all technology devices throughout the building, including, but not limited: rack/cabinet layouts, wall-fields, layer-2 and layer-3 network switches, routers, transceivers, PBX, servers, security system, media retrieval equipment, ATM switches, monitors, DVD players, patch panels, cross-connects, etc.
- CM's estimate.

## *Elements of Construction Documents*

### Technology

- ❑ Complete list of T drawings as per OSFC specifications.
- ❑ Detailed CM's estimate.
- ❑ Detailed floor plans indicating the locations of all technology outlets throughout the building, including, but not limited to: data, voice, video, sound, paging, security, speakers, access control, and wireless.
- ❑ Detailed connectivity codes for each type of communication outlet to be installed.
- ❑ Detailed riser diagrams of all technology systems.
- ❑ Detailed specifications including acceptable manufacturers.
- ❑ Detailed engineering of any outside plant and inter-building work to be performed
- ❑ Detailed schematics of all technology showing the integration of all Technology systems. Schematics should include: component type, connecting cable type, transmission speed, circuit type, inter-/intra building connections, uplink connections, etc.
- ❑ Schematics shall show physical/logical connection between all integrated technology systems.
- ❑ Detailed floor plans indicating the locations of all technology devices throughout the building, including, but not limited: rack/cabinet layouts, wall-fields, layer-2 and layer-3 network switches, routers, transceivers, PBX, servers, security system, media retrieval equipment, ATM switches, monitors, DVD players, patch panels, cross-connects, etc.
- ❑ System Training Requirements
- ❑ Areas of concentrated technology equipment and telecommunication rooms, in particular, shall be enlarged from basic floor plan to not less than  $\frac{1}{4}'' = 1'-0''$ .
- ❑ Sheet notes shall be applicable to each sheet standard notes and details shall be modified to specific conditions, non-applicable notes or details shall be deleted.
- ❑ Provide scalable rack and wallfield details that indicate equipment locations and wire management.

