CITY OF MILWAUKEE
POLICE ADMINISTRATION BUILDING

MASTERPLAN

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EUA Project Number: 309032-13
Date: April 1, 2010

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APRIL 1, 2010

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City of Milwaukee- Police Administration Building Master Plan
EXECUTIVE SUMMARY

Eppstein Uhen Architects(architecture and programming), IBC Engineering (mechanical, plumbing, fire protection), Powrtek Engineering (electrical), Pierce Engineering (structural) and Mortenson Construction (cost estimating) have prepared the Police Administration Building Master-plan.
The purpose of the PAB Master Plan project is to provide the following:

- Evaluate the existing building (including but not limited to mechanical, plumbing, fire protection and electrical systems) and prepare design recommendations that address any facility deficiencies.
- Provide recommendations for life safety systems that would be required for new buildings like the PAB built in accordance with current codes.
- Prepare a space program identifying police department space requirements in the next five years.
- Prepare space plan diagrams identifying how police departments can be reorganized and relocated within the facility to address flexibility, efficiency and safety requirements.
- Prepare a cost estimate associated with the space plan diagrams and the design recommendations.

Some of the main elements of the PAB Master Plan are outlined below and are included in the Total Project Budget

INTERIOR FLOOR RENOVATIONS

The proposed floor alterations being proposed address the following long term needs of the Police Department Needs:

- Flexibility-
  - Redistribute departments based on current and future square footage needs based on staff expansions.
  - New office and furniture standards.
- Improved Efficiency and Effectiveness.
  - Relocate departments that have a lot of interaction adjacent to one another.
  - Add state of the art Fusion Center for 24/7 real time monitoring of citywide security system
- Safety of Operation-
  - limit public access to levels 2 and 3.
  - add additional public restrooms on 2nd floor to segregate public from police staff.
  - Add (1) one elevator for police use only (in existing HVAC shaft that is being abandoned).
- Health and Wellness:
  - Fitness Center.

INFRASTRUCTURE UPGRADES

Because of the extent of interior floor renovations being proposed, and the deficiencies in the existing mechanical, plumbing, fire protection and electrical systems the following infrastructure upgrades are being proposed

Mechanical:

- Replacement of the existing duct systems (main hot duct/cold duct risers and floor by floor distribution) from the penthouse level to the 2nd floor level with tow (2) new exterior HVAC shaft risers and a new VAV distribution system The complete duct system replacement is necessary to address the following:
    - Interfacing with existing risers is expensive, complex and disruptive to occupants of building which needs to remain operational during construction.
    - Proposed VAV distribution system is less expensive to construct than a hot duct/cold duct system, operational costs are lower too.
    - Proposed VAV technology distribution only requires cold duct riser supply, current cold duct risers are near capacity.
    - Air quality issues: existing cold duct hot duct risers have internal duct insulation that is degrading causing loose fibers to become entrained in the air supply to the building.
    - New exterior duct risers will be sized to accommodate new internal design loads (computer technology loads) existing duct risers may not have capacity for these loads. This allows for more flexibility for the future plans for this building than if the existing riser systems were utilized
- Replacement of the existing piping systems (heating hot water, chilled water and steam) from the basement to the penthouse level (main risers and floor by floor distribution). The piping system replacement is necessary to prevent future leaks and failures which may result in damage to building systems and finishes and would be disruptive to the building occupants. The piping system upgrades are also required for the proposed floor by floor renovations.
- Finalize upgrades to the two (2) main penthouse air handling units that will complete the refurbishing work that started in 2004.
- Upgrade remaining existing and new controls to the digital control system that was installed in 2004. Replacement of the existing pneumatic controls system and connection to the Trane DDC system will improve mechanical systems operation and maintenance programs as well as improve overall energy efficiency of the existing and proposed new systems.

Plumbing:

- Replacement of the existing piping systems (domestic hot water, cold water, sanitary and storm sewer piping) from the basement to the penthouse level (main risers and floor by floor distribution). The piping system replacement is necessary to prevent future leaks and failures which may result in damage to building systems and finishes and would be disruptive to the building occupants. The piping system upgrades are also required for the proposed floor by floor renovations.
- Replacement of existing plumbing fixtures will be required for floor to floor renovations in order to meet current plumbing code standards.

Fire Protection:

- Replacement of the existing fire pump is recommended as the pump is original and the current size and location does not meet current NFPA standards.
- Extending full coverage sprinkler system to each floor level so building can be classified as a fully protected structure. This upgrade is recommended as main piping is already in place and a fully protected building would potentially reduce property losses while improving life safety provisions.

Electrical:

- Replace interiors and covers of original panelboards.
- Upgrade 480V feeder to 4th/5th floor 480V panels
- Replace 480-208/120V transformers with energy efficient types and create two floor 208V distribution from individual transformers to increase capacity for receptacles.
- Add additional 208/120V panels on each floor (minimum of one per electrical room).
- Segregate NEC 700 & 701 loads by creating a 2-hour rated room on the 8th floor with new transfer switches and emergency distribution (maintaining existing generator on 8th floor). Add additional emergency distribution panels on 5th floor.
- Replace motor control center on 8th floor.
- Upgrade lighting to energy efficient type with occupancy sensors where appropriate.
- Upgrade original building paging system to 70V from current 25V, including speakers and amplification.
- New fire pump feeders for relocated/upsized fire pump.

HIGH RISE UPGRADES

40 years ago the PAB was designed and built in accordance with the building codes enforced at that time. Current building codes have much more stringent life safety requirements than were in place 4 decades ago. If current code tendencies continue, future codes will only become more rigorous with regards to life safety standards. Because the city of Milwaukee will own and occupy this facility for the long term, as part of this remodeling, it is prudent to incorporate life safety systems that would be required for new buildings like the PAB built in accordance with current codes. This includes incorporating the following code requirements for High Rise Construction (the PAB is classified as a high rise because the uppermost occupied floor level is greater than 75 feet above the lowest level of fire department access):

- Fire Command Center
- Stairway Pressurization
- Elevator Pressurization
- Fire Alarm System with 2-way voice capabilities (expand system started on 6th floor)
- Fire Sprinkler
- Provide a separate generator for life safety systems

Some of these life safety features have already been partially incorporated into the building. For example the 6th floor remodeling that took place 2 years ago includes a fire sprinkler and fire alarm system.

HAZARDOUS MATERIALS

There are still extensive amounts of asbestos in the ceiling cavity on most of the floor levels in the PAB. Any significant remodeling work will require extensive asbestos abatement. The proposed construction work will be phased and contained so that the building can remain operational and the occupants can be safe, while asbestos abatement and construction work take place. Costs for Asbestos Abatement are included in the various phases of construction work

BUILDING ENVELOPE

The building enclosure was reviewed. Several areas of deterioration have been identified:

- The building envelope's thermal value is poor. Additional insulation to the interior face of the exterior concrete precast wall panels.
- The existing windows are inefficient, they are not thermally broken, glass is single pane, and perimeter gaskets have failed at many locations. New thermally broken windows with insulating glass are being proposed.

The proposed improvements to the building envelope can take place on a floor by floor basis during the various phases of remodeling. The building envelope costs are included in the interior floor renovations

End

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City of Milwaukee- Police Administration Building
Architectural Facility Assessment and Design Recommendations

INTRODUCTION

The purpose of this report, prepared by Eppstein Uhen Architects Inc, IBC Engineering Services Inc, Powrtek Engineering Inc. and Pierce Engineers, is to assess existing building conditions at the Police Administration Building Located at 749 W. State Street in Milwaukee WI and to provide recommendations for upgrades to the following areas-

- Building Enclosure
- Architectural Systems associated with alteration work
- HVAC Systems
- Plumbing Systems
- Fire Protection Systems
- Electrical Systems

Because of the presence of asbestos throughout the facility and the need for the building to be operational during construction the alteration work proposed for the basement, sub basement, mezzanine, 2nd thru 8th floors will need to be phased so the asbestos abatement work can be contained within the area of work without affecting the operations of areas not being remodeled. Currently the plan is for the construction alteration work to take place one floor at a time. As a result one major aspect of the proposed upgrades includes the addition of two (2) new HVAC supply shafts on either the interior or exterior of the building. It is our understanding that the alteration work that took place in 2005 on the 6th floor and the 8th floor mechanical level included abatement of all the asbestos on those levels.

BUILDING ENCLOSURE

Existing Conditions-

The Building Enclosure consists of Architectural Precast Concrete wall panels with an exposed aggregate finish. The original building drawings indicate the presence of 1-inch thick rigid foam insulation (approximate r-value of 5) on the interior side of the precast. A vapor retarder is not indicated on the drawings. During our site visits to the Comp Stat room alteration we were able to confirm that 1-inch rigid insulation has been installed and there is no vapor retarder. The structural columns at the building perimeter are on the outboard side of the insulation. The floor and roof girders that frame into these members act as a thermal bridge. This condition along with the lack of a vapor retarder may be contributing to the condensation issues that have been reported in this building. The precast concrete wall panels have punched window openings that consist of non-thermally broken operable windows with single pane glazing. The gasketed seals at a majority of the windows have failed and daylight is visible between the fixed and operable portions of the windows, which causes to air infiltration and condensation.

Recommendations-

Because of the extent of alteration work that will take place on the floor levels that are to be remodeled and because of the energy savings potential we recommend the addition of thermal insulation to the exterior wall. Two options are proposed-

Thermal Insulation Option 1- Remove existing drywall furring on inside surface of the exterior precast wall ; add 3" of rigid insulation (R=5 per inch) and polyethelene vapor retarder with taped joints over the existing insulation on the inside face of the precast wall panels; provide 2 ½" metal studs and drywall from floor to 4" above the ceilings; provide a spray fire

resistive thermal barrier (Monokote as manufactured by WR Grace or an approved equal) at areas where insulation is exposed to the ceiling plenum.

Thermal Insulation Option 2- Remove existing drywall furring and insulation on inside the inside surface of the exterior precast wall panels; spray apply 4" thick polyurethane foam insulation (R=7 per inch) on the inside face of the precast wall panels, this material acts as a vapor retarder as well (Versifoam Class 1 formula as manufactured by RHH Foam Systems or equal); provide 2 ½" metal studs and drywall from floor to 4" above ceilings; provide a spray fire resistive thermal barrier (Monokote as manufactured by WR Grace or an approved equal) at areas where insulation is exposed to the ceiling plenum.

Because of the poor thermal quality of the existing windows and the potential energy savings potential we recommend one of the two options below for upgrading the windows.

Window Option 1- Replace the existing window units with new operable thermally broken aluminum frames as follows

Size: 33-nches wide by 58-inches tall;
Finish: Color Anodic champagne bronze
Glass: 1" thick clear insulating with a low e coating (Solarban 60 as manufactured by PPG or approved equal)
Operation: window units shall pivot on either the vertical or horizontal axis similar to the existing units.
Perimeter Sealant: On the exterior side of the windows provide a perimeter sealant joint between the window frame and precast wall panel.

Window Option 2- Replace the existing gasket with a new custom gasket at the perimeter of the operable windows; Remove the existing single pane glass lite with a new 1" thick clear insulating glass with a low-e coating (Solarban 60 as manufactured by PPG or an approved equal).

NEW HVAC SUPPLY SHAFT ENCLOSURE OPTIONS

Because of the construction phasing and asbestos abatement associated with the alteration work new HVAC shafts are being proposed as part of the alteration work. Two options are being recommended. One option consists of two interior shafts that extend from the 8th floor to the 2nd floor. This will require new floor openings to be cut into the existing floor assemblies and the installation of fire resistant shaft wall construction. The new shafts will require alteration work to the building circulation and access to rooms. The second option consists of two shafts that will be located on the exterior of the building enclosure on the east and west elevations, Exterior precast wall panels will need to be removed at these locations, supplemental steel framing for the support of the ductwork and the shaft enclosure will be required as well. The interior of the building will be separated from these shafts with fire resistive construction. The exterior of the shafts will be clad in a lightweight metal panel system. The diagrammatic plans and sections have supplemental information regarding these shafts.

CODE ITEMS-

For compliance with the Current State of Wisconsin Commercial Building Code this building will need numerous upgrades. The building is classified as a high rise per the current codes. This will require addition of a fire command center. The proposed location needs to be approved by the fire department

and will probably occur at the basement or first floor. Per section 707.14.1 this building will require enclosed elevator lobbies on each level but the street floor (basement level). Enclosed elevator lobbies are not required where the elevator hoist-way is pressurized in accordance with section 707.14.2. The construction budgeting for this project will include the cost for pressurized elevator shafts. HVAC, Fire Protection, Electrical and Fire Alarm upgrades required in order to comply with the high rise code requirements are described in those respective sections of this report.

Egress widths for exit components like stairways serving the floor levels is compliant with current codes. Separation of exit components (stair doors) is compliant with current codes for a sprinklered building (exits are separated by more than the required 1/3 of the diagonal distance of the space they are serving) but not a non sprinklered building (exits are separated by less than the required 1/2 the diagonal distance of the space they are serving) . An analysis of egress from the cell blocks is not included in this report

The elevator machine room serving Elevator 1 needs to be separated from the mechanical equipment room on the 8th floor with 2 hour fire resistive construction in accordance with Section 3006.

Based on the magnitude of the proposed alterations, in order to comply with the Wisconsin Commercial Building Code numerous upgrades will be required to make the building accessible for people with disabilities. This will include alterations to the existing toilet rooms to incorporate at least 1 accessible toilet and stall, urinal and lavatory. Modifications to the entrances into the toilet rooms will be required, in most instances approaches to door openings and clearance requirements at toilet room doors are not adequate.
Doors with hardware that consists of knobs are not accessible. At areas where alteration work takes place code compliant door hardware will be required and doors along the accessible path leading to the area of work will be required to have code compliant hardware. At doors that lock or latch this will require lever type hardware in lieu of knobs.

ARCHITECTURAL ALTERATIONS-

The following is a description of the products, systems and finishes that are to be incorporated into the interior alteration work for the purposes of developing a project budget.
.
Sprayed Fire Resistive Materials On levels 2, 3, 4, 5 and 7 all the existing spray fire resistive materials that contain asbestos are to be abated (this includes the existing cell block area on the 5th floor) and the new spray fire resistive material shall be in compliance with the following fire proofing material

A. Concealed Cementitious Sprayed Fire Resistive Materials. Acceptable products:
   1. Isolatek International, CAFCO Blazeshield II.
   2. Grace, WR and Co. Construction Products Division; Monokote Type MK-6/HY.
B. Exposed Cementitious Sprayed Fire Resistive materials acceptable products:
   1. Isolatek International CAFCO Blazeshield HP
   2. Grace, WR and Co. Construction Products division; Monokote Type Z106.
C. Provide fire resistive coatings as follows:
   1. At floor and beam assemblies, 2 hour fire resistive assemblies per UL D925
   2. At roof and beam assemblies, 1 hour fire resistive assemblies per UL P732
   3. At columns, 2 hour fire resistive assemblies per UL X772.
D. Schedule of typical locations and type:
   1. Provide low density type spray fire resistive material at the following locations - Mechanical and Elevator Shafts, Return air plenums, and other concealed areas

2. Provide medium density type spray fire resistive material at the following locations - Electrical Rooms, Data Closets, Mechanical Rooms, Elevator Machine Rooms.
3. At locations not listed above provide, low density type spray fire resistive material.

Interior Partitions

A. Typical interior partitions typical throughout unless indicated otherwise:
   1. 3 5/8" steel studs at 24 inches on center with acoustical batt insulation and 5/8" gypsum drywall on both sides, extend entire assembly from floor to underside of structural frame. At chase walls provide 2 rows of 2 ½" steel stud framing at 24" on center with one layer of 5/8" gypsum drywall on one side of each row of studs.
B. Typical interior partitions at cell blocks and prisoner handling areas:
   1. 6" CMU from floor to underside of structure.

Interior Doors, Frames and Hardware

A. Doors and Frames
   1. Typical all floors unless indicated otherwise in subparagraph 2 and 3:
      Doors: 3-foot x 7-foot door leaf, solid core, AWI custom grade construction, plain sliced Oak veneer. Finish shall be factory applied stain and varnish.
      Frames: Hollow metal. Finish shall be semi gloss oil based paint.
   2. Mechanical Penthouse, Sub-Basement: flush steel door. Frame shall be hollow metal. Finish shall be semi gloss oil based paint.
   3. New door openings in elevator lobby at levels 2 through 7 :
      Doors: 3'-0" wide x 7'-2" tall with an 1'-6" tall transom above. Solid core, AWI custom grade construction, plain sliced Oak veneer. Finish shall be factory applied stain and varnish.
      Frames: solid oak frames color and profile to match existing.
B. Hardware
   1. At all new and existing doors in areas being remodeled with latching features shall be provided with new mortise locksets with lever handles.
   2. 5 doors on each level being altered shall have card access. Hardware at these locations shall include electric strikes.

Interior Specialties

A. Toilet partitions shall be fiberglass panels, doors, and pilasters, floor mounted overhead braced.
B. Toilet accessories:
   1. Stainless Steel soap, paper towel, toilet tissue dispensers , grab bars, mirrors, coat hooks and waste receptacles.

Wall Finishes- new wall finishes shall be provided at all new and existing partitions except where existing wall surfaces are stone, tile wood or a similar natural material.

A. Paint- One coat primer and two coats acrylic enamel (low VOC) eggshell paint at all wall partitions and drywall ceilings

Flooring- new flooring finishes shall be provided as follows:

A. Carpet Tile: material allowance of $28/ square yard, typical at private offices and conference rooms.

B. Vinyl Composition Tile: material allowance of $2/square foot, typical at break rooms, work areas, storage rooms and corridors where there is no existing terrazzo flooring.
C. Rubber Flooring: Ecosurfaces, Econights for sport, 8mm thick rolls, sealed; typical in Fitness Room.
D. Porcelain Ceramic Tile: material allowance $ 6/ sf typical at toilet rooms floors, toilet room wet walls and locker room floors.
E. Rubber Base: typical at all areas scheduled to receive carpet, vinyl composition tile and rubber flooring.

Ceilings- new ceilings shall be provided in all areas to be altered except at electrical and telephone rooms, equipment rooms, mechanical rooms. Provide as follows:

A. 2 x 2 ceiling tile with reveal edge and 15/16" grid. NRC= 0.95, CAC = 25 (Armstrong World Industries Optima or approved equal) all rooms with new ceilings except toilet rooms and locker rooms
B. ½" thick gypsum ceiling over 2 x 2 ceiling grid or steel framed support (contractor option) at toilet rooms and locker rooms.

Elevator- a new elevator shall be provided in the existing return shaft adjacent to the service elevator E2. The elevator shall be intended for use by the police staff only and shall have a landing at the sub-basement, mezzanine, basement level, 1st floor thru 7th floor and shall include the following –

A. (1) Machine Room Less Elevator with 10- stops; speed 400 fpm; 3,500 lb capacity elevator with 5'-5" wide by 6'-8" deep platform and the following:
   1. Interior cab clear height- 9'-7
   2. Hoistway entrances
      Stainless steel doors and frames
      Size 3'-6" wide by 8'-0" tall
   3. Inteior Cab Allowance: $5,000.
   4. Card Access shall be required at each floor landing.
   5. Manufacturers: Kone, Shindler, Otis Thyssen Krup.

Fire extinguishers and Cabinets

A. Semi-recessed aluminum cabinet with full glass.

Fixed Casework

A. Base and wall Cabinets shall be , flush overlay construction in compliance with AWI custom standards, consisting of plastic laminate finishes. Provide base and wall cabinets along one wall of each break-room
B. Solid surface countertops shall be provided in all toilet rooms.

End

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City of Milwaukee

Police Administration Building

Mechanical Systems Assessment and Recommendations

HVAC
Plumbing
Fire Protection

April 1, 2010
IBC Engineering Project Number: 2010005.00

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Intent:

The intent of this study is to document the existing building mechanical systems associated with floors two through eight, their condition and deficiencies, and provide possible solutions to incorporate for intended space renovations. Information herein contained is based on existing documentation, a mechanical assessment completed by Arnold, and O'Sheridan Engineering, Inc. in 2001, and limited site observations due to existence of asbestos within ceiling, shafts, and insulation in areas of the building.

Relevant Building Codes:

International Building Code
State of Wisconsin Commercial Building Code
National Fire Protection Association

Existing Mechanical (HVAC) Conditions:

The existing Police Administration Building (PAB) consists of an eight-story building with a basement and sub-basement. The sub-basement is slab-on-grade construction consisting of maintenance area/equipment rooms to the north with parking on the south. The basement consists of offices to the north and parking to the south. The first floor consists of Municipal Court and offices on separate systems. These systems will be included in this assessment for reference only. The second through seventh floors consist of offices, holding cells, data center and common elements such as lobbies, corridors, and restrooms. The eighth floor is the mechanical penthouse.

Steam:
The existing high pressure steam is provided by WE Energies and the service main is located in the basement of the parking structure. The main is split into two branches, one with 5psig to the parking structure and the other 15psig to the Administration Building. Steam is routed from the basement to the penthouse to serve the hot water converter for the mechanical hot water system. The owner has indicated that the main WE Energies service line and various components of the main pressure reducing station have been replaced since 2001 although an exact year is unknown. The condensate return pump had been replaced in 2004 as part of a larger HVAC systems upgrades project. Steam condensate had been used to preheat domestic hot water with 100% of condensate discharged to drain. The shell and tube type heat exchanger is in place, but has been removed from use. In 2002, a new domestic steam to hot water heat exchanger was installed to serve the building (see Plumbing section).

A recent audit on steam traps had been done and 33% of the traps had been replaced; however, the remaining traps are a minimum of 10 years of age.

Condition of Steam Distribution Piping: The existing distribution is original to the building; and while serviceable, it is past the life expectancy that would be anticipated. Asbestos is present in some of the insulation that is original to the installation.

Hydronic:

The building hydronic heating system is provided by (1) steam to hot water converter located in the eighth floor mechanical penthouse. The converter and two hot water circulating pumps, 7.5hp at 535gpm each, are sized to provide 210°F water. The two pumps serving the system are fully redundant. The heat exchanger is a shell-and-tube design with rated capacity of 9,573mbh. A condensate heat exchanger had been installed in 2004. This heat exchanger receives steam condensate from the main steam to hot water converter and heats the glycol heat reclaim system that serves the heat reclaim coils (outside air tempering) on AHU-1 and AHU-2. All remaining condensate at the penthouse level is discharged to drain. All equipment is located within the mechanical penthouse. The first floor renovation in 1982 added a dedicated steam to hot water converter that serves the first floor HVAC system (AHU coils, VAVs, fin tube radiators, cabinet heaters, etc.).

Condition of the converter: The converter seemed in acceptable operating condition but is original to the building.

Condition of the pumps: The pumps had been replaced in 2004 and have VFD's installed.

Condition of the condensate to hot water heat exchanger: The heat exchanger had been installed in 2004 and is in good condition.

Deficiencies: Concerns had been discussed during field interviews with staff regarding capacity of the heat exchanger should additional floors be changed to VAV with reheat.

The hydronic heating system is distributed throughout the building via vertical risers to Variable Air Volume (VAV) boxes, finned tube radiators, convectors, and Air Handling Units (AHU's). Distribution is typically routed below the floor to equipment that it serves. Most distribution is original to the building with the exception of the VAV piping that had been installed with the renovations to the basement and sixth floors in 2004 and 2006. As noted earlier, the first floor hydronic piping was installed new in 1982 and is assumed to be in satisfactory condition although it is reaching its typical life expectancy.

The building hydronic cooling system is provided by two 320 ton Trane chillers with variable frequency drives (VFDs) and one cooling tower. Condenser water is circulated by one 25hp primary condenser pump with a capacity of 1,500gpm. Two secondary 15hp pumps circulate, at 750gpm each, condenser water to the chillers. Chilled water is then circulated by two 25hp 1,000gpm pump. All equipment is located at the penthouse level.

Condition of cooling tower: The cooling tower is currently being replaced (winter of 2009/2010) and start up is about to commence.

Condition of chillers: Each of the chillers had been installed six years ago and are in good condition.

Condition of pumps: The pumps had been installed with the chillers and are in good condition.

Deficiencies:

Infrequent testing of system fluids has been reported and is an issue. An imbalance within fluids can lead to corrosion and degradation of the system.

With the exception of the immediate piping to equipment replaced in 2004, all remaining distribution piping is original to the building and is past its anticipated life expectancy.

Air Handling Units:

The existing equipment for air distribution is located throughout the building. Four major air-side systems exist as associated by floors and areas serviced. The first system, comprised of AHU-1 and AHU-2, serve floors two through seven. The second system, comprised of AC-1 and AC-2, serve the first floor VAV system. The third system serves the basement spaces and is comprised of AHU-3 and AHU-4. The final major airside system is comprised of AHU-5 which serves the sub-basement and mezzanine levels. Additional systems include AHU-6 for the electrical switchgear room; dedicated space cooling equipment for data centers located on the third and sixth floors, and garage supply and exhaust fans.

The first system described, AHU-1 and AHU-2, is within the specific scope of this study to ascertain the requirements of new floor space assignments on floors two through seven. This system serves the second through seventh floors and is comprised of two built-up air handling units, AHU-1 and AHU-2. AHU-1 serves the west and the majority of the south side of the building with an original design capacity of 79,880cfm and AHU-2 serves the east and majority of the north side of the building with an original design capacity of 79,880cfm. Each unit consists of one supply fan (constant speed), one exhaust fan (constant speed), one hot water coil bank, one chilled water coil bank, one glycol pre-heat coil, steam humidifier, panel filtration (MERV-8), dampers and louvers for outdoor air and exhaust air and air silencers. Variable frequency drives (VFDs) were also added to each unit in 2004.

AHU-1 and AHU-2 are dual duct systems in which one duct supplies heated air while the other supplies cooled air. AHU-1 supply air distribution utilizes existing Shaft #1, located west of Stairwell #2 with the air distribution troughs. Pneumatically controlled air valve boxes are connected to the distribution system and control by space thermostat demand. AHU-2 distributes air in the same manner, but uses existing Shaft #3, east of Stairwell #1. Both systems use the building center Shaft #2, east of Stairwell #2, for return air duct routing.

These systems originally served the first floor as well; however, a renovation in 1982 removed the first floor from this system and replaced the original roll filters with bag filters. Later, the bag filters were replaced with panel filters due to the expense of the bag filters. Another renovation took place in 2006/2007 on the sixth floor that removed the hot deck distribution from serving the sixth floor to convert the space to a VAV system utilizing the existing cold deck.

Condition of AHU-1 and -2

Motors: AHU-1 and AHU-2 motors were rebuilt in 2004. AHU-1 has a supply fan equal to 150hp and a return fan equal to 50hp where AHU-2 has a supply fan equal to 125hp and a return fan equal to 40hp. All of these motors are 480V, 3-Phase.

Filters: MEV-8 panel filters upstream of fans and coils.

Humidifiers: 600 lbs/hr steam grid provided per unit and installed new in 2004 to replace the original equipment.

Dampers: The outside air, return air, and exhaust air automatic dampers were replaced in 2004 with all others original to the building.

Coils: The hot deck and cold deck coils are original and operational. The preheat coils were upgraded in 2004.

Controls: Controls were replaced in 2004 with VFD's integrated into the building management system.

Ductwork: Ductwork interior lining is deteriorating in both the supply and return ducts reducing indoor air quality and reducing filter longevity.

Deficiencies:
Heating and cooling coils are original to the building and are past their anticipated life expectancy.
An issue of outdoor air contamination by Plaza generator exhaust exists. Upblast fans were not used to force generator exhaust above the building as the Plaza generator building is single story at grade. Outside air intake generates a low pressure area that entrains generator exhaust into the air-handling units.
Mixing boxes associated with the dual duct system are of an age where replacement parts have become difficult to obtain.
Third floor occupants have described heating deficiencies in the winter and have reported frost on windows.

As the remaining air handling units do not serve the area within the scope of the renovation, full review of them will not be included; however, a brief summary of the remaining systems is as follows.

The first floor is served by a VAV system that was put in place in 1982 when the floor was removed from AHU-1 and -2. This system is comprised of two packaged air handling units which serve the Municipal Court areas, court clerk areas, case file area, and waiting area. Both packaged units have hot and chilled water coils and have independent outside air intakes. The outdoor air for the west unit is ducted adjacent to the loading dock and has been reported to be susceptible to vehicle exhaust infiltration. The primary controls for the first floor air-handling units are pneumatic and stand alone.

The basement level is served by AHU-3 and AHU-4. AHU-3 is a variable volume system with hot and chilled water coils serving multiple VAV zones. AHU-4 is a constant volume system which has heating and cooling coils for a single zone serving the maintenance shop. Outside air is ducted to each unit from an areaway on the north side of the building. Both of these units were replaced in 2004 and are connected to the existing ductwork.

The sub-basement and mezzanine is served from one single zone, heating only, modular air handling unit tagged AHU-5 which was replaced in 2004. Supply and return air is ducted from/to the unit. The electrical sub-station room, located within the sub-basement, is served by AHU-6, which is 100% outside air without heating or cooling coils. AHU-6 has had controls updated with VFD and tied into the building management system. Additionally, the Owner is currently investigating the addition of heating coils to AHU-6.

Installed on the first, third, and sixth floors are dedicated packaged data room air conditioning units with remote condensers installed on the penthouse roof for the sixth floor units and the second floor for the remaining units. These units are in good condition with no major complaints from the Owner. A ductless split unit serving the sixth floor electrical room is not operational as the installation was not yet complete. It is IBC's understanding that completion will resume this spring.

The mezzanine and sub-basement areas are served by AHU-5, a heating only ventilation unit. This unit was replaced in 2004 and is in good condition.

The garage is served by (2) 3-stage cycled supply and exhaust fans controlled by Vulcain CO2 sensors. The supply fan systems use steam coils that temper the outside air in winter. These units and coils were overhauled and replaced in 2004. The garage ventilation system maintains minimal level of required outdoor air ventilation with additional fans available to control

CO2 concentration levels. Numerous steam unit heaters provide additional space heating for the garage areas. It was noted that the garage area is kept at a relatively warm 68 deg F during the winter months.

Multiple exhaust systems are in place and dedicated to various requirements, including but not limited to, bathrooms, janitor closets, laboratory space, bullpens, and holding cells. The fans serving floors two through seven are located in the penthouse and exhaust through the north face of the building. Heat recovery coils had been installed in the fan discharge ducts; however, with the replacement of all exhaust fans in 2004, the heat recovery coils had been removed.

Additional exhaust fans are in the lower levels, specifically in the shop, lower level bathrooms/lockers, fueling island and garage. An issue exists for the locker rooms as make up air is transferred from the adjacent garage space into the locker rooms as make-up air to offset the exhaust.

Deficiencies:
It was noted during walk through that some janitor closets and electrical rooms do not have proper ventilation.
It was also noted that the existing 8th floor penthouse electrical room located just east of the electrical room has many ducts and mechanical piping that run over electrical panels and transformers which is a current code violation.
The garage levels are kept fairly warm (about 68 deg F) during winter months. Typically underground garages are recommended to be kept around 45-55 deg F.
As noted above air is allowed to be transferred from the garage into the locker rooms located just off of the upper garage level.

Miscellaneous Equipment
Separate ventilation exists for the elevator equipment room above the penthouse level. Additional exhaust at the penthouse level also serves the purpose of a refrigerant evacuation system.

Throughout the building are radiant hot water and steam cabinet unit heaters that are stand-alone with electric thermostats.

Existing equipment from various renovation projects remain. Examples of this include the remote condenser on the second floor roof, an old Carrier chiller system in the penthouse.

A vertical A/C unit is located in the shop; however, the cooling is no longer working and it is used as a recirculation fan.

The gas island station office is served by a local PTAC unit.

There are packaged rooftop units that serve the first floor lobby to the Municipal Court.

Controls:

On the major mechanical equipment the original pneumatic controls have been removed and replaced with Trane's Tracer Summit building management system in 2004. VFD's have been installed on AHU-1, -2, -3, -4, and -6, and selected exhaust fans and pumps. The controls are tied into a district network monitoring system. The controls have been extended to the sixth floor VAV system installed in 2005 and 2007; however, much of the remaining controls are still the original pneumatic or electric type and are stand alone. The pneumatic controls are served by a dual compressor unit located in the penthouse.

Discussions of the existing control system with Trane have determined that the existing control system is being underutilized.

Mechanical (HVAC) Recommendations:

The following are preliminary recommendations and basis of design of mechanical system upgrades for the proposed master space planning and systems upgrades for the City of Milwaukee Police Administration Building:

Add DDC controls to elevator equipment rooms AHU, unit heater and exhaust fan. Verify heating cooling and economizer mode sequences and revise if necessary. Clean/Rebalance systems.

The security elevator does not have an equipment room enclosure at the 8th floor level as required by code. Exhaust and supply air system would need to be provided for the proposed new room. New systems shall be connected to the DDC control system.

The electrical portion of the facility assessment recommends a new electrical room be located at the 8th floor level. Exhaust and supply air system would need to be provided for the proposed new room. New systems shall be connected to the DDC control system.

Refurbish (2) 80,000cfm AHU's in penthouse including new cooling coils (remove hot deck) and controls (increase DDC capabilities). VFD, new motors, steam humidifiers, dampers and heat reclaim/preheat coils were installed in 2004. Add smoke dampers and detectors for unit isolation/shutdown as required by code. Verify heating cooling and economizer mode sequences and revise if necessary. Clean/Rebalance units.

Add DDC controls to exhaust fans. Verify sequences and revise if necessary. Clean/Rebalance systems.

Replace steam to hot water converter for heating hot water (along with all associated piping, valves, etc) with (2) new converters that each provide about 60% total system capacity. Add DDC controls. Verify sequences and revise if necessary.

Replace all remaining HVAC piping in penthouse that was not replaced with 2004 HVAC upgrades. Balance all HVAC piping systems.

Extend new external supply air shafts/ducts at east and west ends of building to accommodate 2-7th floor remodels and conversions to VAV systems for these floors.

Replace existing HVAC piping (steam, hot water and chilled water) risers from basement to penthouse. Size hot water heating risers for proposed new VAV systems at floors 2-7.

Floors 2-7 with exception of 5th and 6th floors: Completely demolish all existing ductwork and piping distribution at each floor level and replace with new distribution. Supply air systems shall be new VAV (connected to new SA risers) with hot water reheat coils. A fully ducted return system should be extended from all spaces on each floor and temporarily connected to the existing return air shafts in the center of the building (shaft #2). Future connections from the main return ducts at each floor level should be extended to just outside the east and west internal shafts (shafts 1 and 3) for connection to new return air ducts after existing supply air ducts have been removed from these shafts. Exhaust air duct distribution (i.e. Toilet Rooms, Janitor

Closets, Electrical Rooms, etc.) shall be new at each floor level and reconnected to existing exhaust air ducts located in shafts 2 and 3. New hot water heating piping extended from new pipe risers will serve new VAV hot water reheat coils, perimeter hot water baseboard radiation and replacement of existing convectors and cabinet heaters throughout. Extend new DDC controls to VAVs, baseboard radiation and convectors/cabinet heaters.

Fifth floor level: Same as above with the exception of the holding cell areas located at the south and west sides. These areas will be left fairly untouched. Reconnection to existing supply and exhaust ductwork at various accessible areas will be necessary. Existing ductwork in these areas should be cleaned and rebalanced as much as possible.

Sixth floor level: This floor level was renovated from about 2006-2008. Currently meets the description listed for floors 2-7 above. However, supply air ductwork will need to be tied into the new external east/west risers and also the return ducts will need to be connected to the new return risers to be located in shafts 1 and 3. It would also be recommended that the sixth floor re-work is conducted after the renovation of the 7th floor. This would allow the owner the option of removing existing ductwork that had fed some of the 7th floor air distribution rather than leaving this ductwork abandoned above the ceiling. Disruptions for this work could be limited by vacating room by room for a day or two and removing the ductwork located in the ceiling above that particular room. The sixth floor also has holding cells on the south area of the floor so the recommendations listed above for the fifth floor would also apply to this area.

Replace existing return air duct risers located in shaft 2 with new risers located in shafts 1 and 3. This works would have to be completed after all floor renovations have been finished and the existing supply air ducts in shafts 1 and 3 would be removed. Connections to return ducts at each floor level would need to occur. The existing return air duct risers would then be removed after completion of the new return air risers and connections at each floor level (2nd-7th).

Install multiple injection stairwell pressurization system for the two main stair risers. Add roof mounted fans ducted down shafts adjacent to the stairwells with supply air outlets located at each floor level. The system would be controlled via static pressure sensors and would be connected to the DDC and fire alarm control systems.

Elevator hoistway pressurization. Elevator hoistway pressurization systems (one per shaft) would be similar to the stairwell pressurization systems and would eliminate the need for constructing rated elevator lobbies at each floor level. These systems would include roof mounted fans and motorized dampers that would be opened upon activation from the fire alarm system. Fans and airflow would be modulated based on various pressurization sensors and controls. Monitoring by the DDC control system would be recommended.

Generator Building located to the south of the main municipal court lobby: Look at conducting a plume modeling study for the generator exhaust. When these generators run the exhaust is so prevalent that it rises up eight stories and is entrained into the outside air intakes for AHU-1 and 2 which are also located on the south elevation of the building. The fumes can be so prevalent that it forces the shutdown of down main air handlers. One possible solution would be to install high velocity upblast fans such as those made by Strobic Air to help dilute and force the exhaust fumes higher into the air.

Provide new ductwork for the maintenance shop welding hood and duct to the outside to meet current code. Existing welding hood has new exhaust fan but it is not ducted to the outside due to previous renovations. Possibly providing a new hood or booth enclosure of the area would also be recommended.

Locker Rooms and Offices off of Garage: Provide ducted supply air system from new air handling units to serve these spaces. Provide outside air ducted from exterior, not from the garage proper. Units shall have heating and cooling coils. Extend hot water or steam piping and chilled water piping to the units. Provide new exhaust fans and ductwork as required by code.

Replace steam supply and steam condensate piping in the basement after the steam pressure reducing station located off the garage (along with steam system risers and piping at penthouse level as noted above). It is also recommended the remainder of the steam traps that were not replaced with the recent trap survey be replaced.

Life Safety upgrade: Add master control switch for ventilating systems as required by city code. Add other smoke control systems (dampers) as floors are renovated. This appears to have been completed for the basement level with the 2004 HVAC upgrades. It is assumed all other floors (2-7) will require certain code required smoke control dampers.

Maintain garage levels heating setpoints between 45-55 deg F.

Remove all abandoned or non-functioning equipment as noted above (i.e. heat exchanger near steam service entrance, remote condenser on 2nd floor roof, Carrier chiller system in 8th floor penthouse, etc.).

Mechanical (HVAC) Construction Phases:

The following is a preliminary sequencing of mechanical system upgrades for the proposed master space planning and systems upgrades for the City of Milwaukee Police Administration Building:

Step 1: Construct new supply air risers at east and west exterior shafts (new) starting from the penthouse and working down to the 2nd floor level. A jump back up to 7th floor would be proposed as the final complete floor renovation. The sixth floor tie-ins could be done any time after the supply ducts have been extended past the sixth floor level. Dampered and capped duct "stubs" would be recommended at each floor level during this stage to accommodate ease of connection as floors are renovated. Connections at the cold deck of each air handler would also need to installed and balanced until all floor are renovated and existing cold deck ductwork could be removed.

Step 2: Refurbish (2) 80,000cfm AHU's in penthouse including new cooling coils and controls (increase DDC capabilities). VFD, new motors, steam humidifiers, dampers and heat reclaim/preheat coils were installed in 2004. Add smoke dampers and detectors for unit isolation/shutdown as required by code. Verify heating cooling and economizer mode sequences and revise if necessary. Clean/Rebalance units. Note – removal of the hot deck heating coil will need to take place after all floors have been renovated and converted to new VAV system.

Step 3: Install multiple injection stairwell pressurization system for the two main stair risers. Add roof mounted fans ducted down shafts adjacent to the stairwells with supply air outlets located at each floor level. The system would be controlled via static pressure sensors and would be connected to the DDC and fire alarm control systems. While this item could be installed at almost any time it would be our recommendation that the work is completed before major floor renovations.

Step 4: Replace existing HVAC piping (steam, hot water and chilled water) risers from basement to penthouse. Size heating hot water risers for proposed new VAV and baseboard radiation systems at floors 2-7. The driving factor on this sequence is having the new heating hot water piping in place before the floor renovations begin in order to accommodate new VAV and

baseboard radiation systems as floors are renovated. Provide valves and capped connections for hot water piping at each floor level for future connection to new systems as floors are renovated. Replacement of remaining steam traps could be completed at this time. The heating system-related work noted above would require summer installation time frame (i.e. new steam traps and heat exchangers) unless new piping were installed parallel to existing piping and then tied to new or existing equipment using a sequenced change over procedure.

Step 5: Starting at 5th floor level and working down to the 2nd floor (and then jump back up to 7th floor) demolish all existing ductwork at the individual floor levels. Remove existing perimeter mixing boxes and cap the connections to the trough systems at the floor with proper fire rated method. Cap existing riser branch take offs at each floor during construction. Existing duct risers would remain in place until all renovations are complete. *Special note – in order to demolish all existing ductwork at each floor level the sequence must start at the 5th floor and work down as existing supply ducts serve affected floor as well as floor above.

Step 6: Install new ductwork at each floor level in same order noted in step above. Supply air ductwork would tie into new exterior shafts at east and west ends of building. Return ductwork would need to be temporarily tied back into the existing return shafts. Future return "stubs" would be also located at the east and west existing interior shafts (that currently house supply air risers) for connection to proposed new return air risers at later date (this would also need to occur on the 6th floor). Exhaust ducts would be reconnected to existing risers.

Step 7: Replace existing return air duct risers located in shaft 2 with new risers located in shafts 1 and 3. This work would have to be completed after all floor renovations have been finished and the existing supply air ducts in shafts 1 and 3 would be removed. Connections to return ducts at each floor level and to the existing return fan sections in the penthouse would need to occur. The existing return air duct risers would then be removed after completion of the new return air risers and connections at each floor level (2nd-7th).

<u>The following recommendations could be sequenced at almost any time</u>:

Add DDC controls to elevator equipment rooms AHU, unit heater and exhaust fan. Verify heating cooling and economizer mode sequences and revise if necessary. Clean/Rebalance systems.

Add DDC controls to exhaust fans. Verify sequences and revise if necessary. Clean/Rebalance systems.

Elevator hoistway pressurization. Elevator hoistway pressurization systems (one per shaft) would be similar to the stairwell pressurization systems and would eliminate the need for constructing rated elevator lobbies at each floor level. These systems would include roof mounted fans and motorized dampers that would be opened upon activation from the fire alarm system. Fans and airflow would be modulated based on various pressurization sensors and controls. Monitoring by the DDC control system would be recommended.

Generator Building located to the south of the main municipal court lobby: Look at conducting a plume modeling study for the generator exhaust. When these generators run the exhaust is so prevalent that it rises up eight stories and is entrained into the outside air intakes for AHU-1 and 2 which are also located on the south elevation of the building. The fumes can be so prevalent that it forces the shutdown of down main air handlers. One possible solution would be to install high velocity upblast fans to help dilute and force the exhaust fumes higher into the air.

Provide new ductwork for the maintenance shop welding hood and duct to the outside to meet current code. Existing welding hood has new exhaust fan but it is not ducted to the outside due to previous renovations. Possibly providing a new hood or booth enclosure of the area would also be recommended.

Locker Rooms and Offices off of Garage: Provide ducted supply air system from new air handling units to serve these spaces. Provide outside air ducted from exterior, not from the garage proper. Units shall have heating and cooling coils. Extend hot water or steam piping and chilled water piping to the units. Provide new exhaust fans and ductwork as required by code.

The security elevator does not have an equipment room enclosure at the 8th floor level as required by code. Exhaust and supply air system would need to be provided for the proposed new room. New systems shall be connected to the DDC control system.

The electrical portion of the facility assessment recommends a new electrical room be located at the 8th floor level. Exhaust and supply air system would need to be provided for the proposed new room. New systems shall be connected to the DDC control system.

Life Safety upgrade: Add master control switch for ventilating systems as required by city code. Add other smoke control systems (dampers) as floors are renovated.

Remove all abandoned or non-functioning equipment as noted above (i.e. heat exchanger near steam service entrance, remote condenser on 2nd floor roof, Carrier chiller system in 8th floor penthouse, etc.).

Existing Plumbing and Fire Protection Conditions;

Domestic Water System

The domestic water to the building is served by several laterals, which are supplied from a 12-inch City of Milwaukee water main located in the West State Street, on the north side of the building. The laterals include a 6-inch domestic water supply, a 1-1/2-inch lawn sprinkler line (which has been disconnected and capped at the entrance to sub-basement Room SB-2), a 6-inch fire protection supply, and an 8-inch fire protection supply. All of the water supplies enter the building in sub-basement room SB-2.

The building's 6-inch domestic water supply extends into the sub-basement through a 4-inch water meter with a 5/8-inch low flow meter. A 5-inch line extends from the meter up to the domestic booster pump system located in basement Room B-8. A booster pump system serves the entire Police Administration Building and is the original equipment to the building.

There is a second, 3-inch, water meter with by-pass located in basement Room B-16. It is unknown how this meter is supplied. This meter serves the two levels of the Police Garage, which includes the locker rooms, toilet rooms, and miscellaneous hose bibs and parking deck hose valve stations.

The domestic water booster pump system is comprised of (2) 5hp, 3515 RPM, 230/480V, 3-Phase alternating domestic booster pumps, rated at 200gpm at 27 ft of head each. Suction pressure read 65psig and system pressure read 120psig during the initial site observations; however, it has been reported that the pressure gauges are no longer accurate. After the

booster pumps are two pressure tanks at 80-90 gallons each. From the pressure tanks, a 4-inch cold water line provides the domestic water supply for the Police Administration Building, including the domestic hot water system.

The domestic hot water original to the building was supplied from a steam to water heat exchanger with a storage tank located in basement Room B-8. This system was replaced in 2002 and the storage tank was eliminated. The hot water system maintains 120-degree hot water for the building. Two hot water supply lines come from the converter, one provides hot water to the Police Administration Building and the other serves the Police Garage. All hot water is returned to the hot water supply system through circulating pumps located adjacent to the converter system. Return water temperature was observed to be 105-110-degrees.

A 4-inch line from the booster pump system drops down to the sub-basement's mezzanine level and serves the building's domestic cold water supply main. A 2-1/2" line from the hot water system drops down to the sub-basement's mezzanine level and serves the building's domestic hot water supply main. The hot and cold water supply mains extend across the mezzanine level to serve several risers located throughout the building. All of the hot water risers and mains are returned back to the hot water system through a 1-1/4-inch hot water return main, also located in the mezzanine level of the sub-basement. This line rises up to the basement and extends to the circulating pump and hot water supply system.

The domestic cold, hot, and return piping are comprised of three risers extending from the sub-basement mezzanine level. Riser #1 ends at the fifth floor, and branches at the third floor to create Riser #5. Riser #5 ends at the sixth floor. Riser #2 ends at the seventh floor and is extended at the first floor to create Riser #4 and again at the fourth floor to create Riser #6. Riser #4 and Riser #6 end at the sixth floor. Riser #3 ends at the eighth floor. These risers, and much of the distribution, are original to the building. As these risers offset many times, as herein mentioned, it will make remodeling floor by floor difficult if they are to remain in service.

The Police Garage is served separately from the Police Administration Building. A 3-inch domestic cold water line from basement Room B-16 and a 1-1/4-inch domestic hot water line from the hot water converter extend down to the sub-basement level of the garage and are distributed along the deck of that level. A ¾-inch hot water return line runs parallel to the hot and cold mains, returning to the circulating pump and hot water supply system.

Sanitary and Venting System

Sanitary drains are provided on the eighth floor for the mechanical room and mechanical equipment. Plumbing fixtures and drains located at each floor are collected in the sanitary waste system and gravity drained down through the building. The north half of the building is collected in a 6-inch gravity drain line that drops to the ceiling of the sub-basement and gravity drains through an 8-inch line extending to the far east end of the building. The south half of the building is collected at the ceiling of the sub-basement in an 8-inch drain line. This 8-inch drain line extends east along the wall of the garage and drops low in room SB-18. Both 8-inch sanitary lines are then combined in a 10-inch sanitary building drain/sewer. The 10-inch line extends to the City of Milwaukee sanitary main in North Seventh Street, east of the building. Sub-basement waste lines are gravity drained to the duplex ejector system and pumped up to the 8-inch sanitary line serving the north half of the building.

A separate 6-inch sanitary building drain connects to the City of Milwaukee sanitary system which serves the Police Garage in the Police Administration Building.

Sanitary vent pipes from both areas of the building are combined into vent stacks, typically located adjacent to the sanitary stacks, and terminate through the roof above the eighth floor and penthouse.

Storm Water System

Roof drains are provided on the eighth floor above the mechanical room, on the small roof area above the second floor, and on the entry stair lobby. Deck drains are provided on terrace areas on the first floor. Roof and deck drains are collected in the storm system and gravity drained through the building. Stacks on the east half of the building are collected at the ceiling of the sub-basement mezzanine in a 4-inch conductor east of Stair #6. This pipe then exits the building through the wall and extends north to a 15-inch storm sewer in the driveway. The stacks on the west half of the building are collected at the ceiling of the sub-basement mezzanine in a 12-inch storm conductor above room M-2. This pipe then exits the building through the wall and extends north to a 15-inch storm sewer in the driveway. There is a trench drain in the loading dock and catch basins in the driveway which connect to manholes along the 15-inch storm sewer in the driveway. The storm sewers are collected in a manhole and gravity drained through a 15-inch storm sewer which extends to the 36-inch City of Milwaukee combined sewer in West State Street, to the north of the building.

There is a drain tile system around the east, north, and west exterior walls of the sub-basement in the Police Administration Building that is collected in a clearwater sump. The sub-basement clearwater drain lines are gravity drained below the floor and also connected to the clearwater sump. The sump contains a duplex ejector system, which pumps the storm water collected up to the 12-inch sanitary gravity drain line located on the sub-basement mezzanine level above room M-2.

The drains in the Police Garage are collected separately from the Police Administration Building. The storm drain piping is gravity drained down to below the sub-basement level and combined in a 12-inch storm building drain. There is drain tile around the perimeter and below the sub-basement floor slab in the Police Garage, which is collected and tied in to the storm building drain. The storm building drain line runs east and leaves the building in a 12-inch storm building sewer and connects to the City of Milwaukee storm sewer system.

Plumbing Fixtures

The north central area of the building, typically located north of passenger elevator (E-2) contains public toilet rooms. Most of these public toilet rooms are original to the building, excluding the sixth floor which was renovated in 2006. The typical fixtures, original to the building, include wall hung water closets with hand operated flush valves and wall hung lavatories with handle controlled faucets. The men's rooms also include stall type floor urinals, which typically flush from a controller operated by a door switch. Holding cells, on the fifth and sixth floors are equipped with combination type, security fixtures (aluminum body with a porcelain finish inside the bowls).

Most of the elevator lobbies have been remodeled to include new drinking fountains, which appear to have been upgraded to meet ADA requirements.

Fire Suppression System

Multiple fire suppression systems exist. The primary system is a sprinkler system that serves only the garage, sixth floor, and other minor areas (sub-basement, mezzanine); with sub-systems that includes a dry system for the gas island and an ECARO25 system for the data room on the sixth floor.

The fire pump serving the primary wet system is original to the building and is a 30hp, 1765RPM, 230/460 volt, 3-phase continuous duty pump. This system is fed from the 6-inch fire protection supply main in the sub-basement, which includes a double detector check valve and by-pass meter. This system, including the jockey pump, valves, controls, flow and tamper switches, etc., is located in basement Room B-8. The pump supplies several standpipe risers serving fire hose cabinets located on each floor throughout the building and fire hose valves located on the floor level landings in the main stair towers (Stair #1 and Stair #2). There are automatic sprinkler heads in the sub-basement, sub-basement mezzanine and 6th floor levels which are also fed from the sprinkler system.

The Police Garage is fully sprinkled and is supplied separately from the Police Administration Building. The fire protection riser for this area includes backflow protection, valves, flow and tamper switches, etc. and is located in basement Room B-16. This riser is fed from the 8-inch fire protection supply main running through the sub-basement. This riser also serves the dry-pipe valve extending to provide fire protection for the gas island.

Plumbing and Fire Protection Deficiencies:

Plumbing piping distribution (water, Sanitary and storm) is past anticipated life expectancy and much of the insulation contains asbestos. Many sanitary lines have been abandoned due to failure and lack of access due to asbestos concern.
Domestic booster pump is past anticipated life expectancy and gauges are inaccurate. The controller is obsolete and parts are increasingly difficult to obtain for the pump assembly.
Toilet rooms, where the original fixtures remain, do not meet ADA requirements or current water efficiency requirements.
The security elevator contains no sump or drain.
The current NFPA code requires hose connections at the intermediate stairwell landings. Existing hose connections are at each floor level proper. The local authority having jurisdiction should be consulted to confirm if the existing hose connection locations could be grandfathered in even with future renovations.
Fire Pump size, installation and location does not meet current NFPA codes and standards.

Plumbing and Fire Protection Recommendations:

The following are preliminary recommendations and basis of design of plumbing and fire protection systems upgrades for the proposed master space planning and systems upgrades for the City of Milwaukee Police Administration Building:

Domestic Water Booster Pump system: Replace existing 200gpm duplex booster pump system and associated pressure tanks located in the basement level. Extend monitoring controls from the existing Trane DDC system to provide status and alarm notification. This replacement is currently being scheduled for implementation in 2010 under a separate contract.

Domestic Water Piping: New cold water, hot water and hot water return piping should be installed throughout the building. New risers should be extended through the existing duct shafts located near the main stair wells and central to the building. These risers would supply fixtures on all floors and would accommodate phased remodeling of each floor if desired. All piping shall be insulated with new fiberglass insulation. All existing piping and asbestos insulation (assumed) should be removed.

Sanitary waste system: Existing piping should be removed and new risers should be installed utilizing either existing or new shaft locations. Branch piping to each floor would be replaced as floors are remodeled and connected to the new risers. Sanitary piping at the basement, sub-basement and garage level ceilings should be replaced as well. The existing duplex

ejector pump system in the sub-basement would remain. DDC controls should be extended to these pumps to provide status and alarm conditions to the building management system.

Storm waste system: Existing piping should be removed and new risers should be installed utilizing either existing or new shaft locations. Existing roof and deck drains would be reconnected to new piping and risers. Storm piping at the basement, sub-basement and garage level ceilings should be replaced as well. The existing duplex sump pump system would remain. DDC controls should be extended to these pumps to provide status and alarm conditions to the building management system.

Add clear water sump and simplex pump system and piping for the inmate elevator pit. Connect to existing storm drain piping per code. Connect to DDC control system for status and alarm monitoring.

Plumbing Fixtures: Replace all existing fixtures with new code required water efficient fixtures as space programming and floor by floor remodeling warrants. Existing water coolers are fairly newer (approx. 10 years old) and could be re-used if desired as they appear to meet ADA codes and look to be in good condition. Public toilet fixtures would be vitreous china type with hard wired infrared faucet and urinal flush valve controls. The owner has requested that all water closet fixtures are fitted with manual flush valve controls. One to two employee break areas will be accommodated on each floor with future remodeling. These break areas would be fitted with stainless steel sinks and manual faucets. Holding cell fixtures on the 5th and 6th floors should be replaced with new stainless steel combination correctional institution type security fixtures. ADA fixtures would need to be provided as required by code in all areas.

Fire Protection system: Extend new sprinkler system at each floor level (including penthouses) from the existing stairwell standpipes. Flow and tamper switches would be provide at each level to monitor the system through the fire alarm system. The recent sixth floor remodeling project is a good example of this recommendation. Remaining areas in the sub-basement and garage areas that are currently protected would remain connected to the system and would require only upgrades as required by current codes and standards.

Fire Pump system: The existing 30h.p. fire pump is not large enough to supply the building based on current codes and standards. A new fire pump, jockey pump and controllers would be recommended. The new fire pump size would be approximately 100h.p. The new fire pump system should be connected to the building fire alarm system. Based on current NFPA 20 (2010), the fire pump is required to be placed in a 2hr rated room separate from all other occupancies. No other equipment or infrastructure (piping, conduits, ducts) are allowed in this room unless the utilities serves the room (exception for domestic water piping and equipment is allowed). One possible location for the fire pump would be to relocate it to room B-16 located just off of the parking garage level.

Plumbing and Fire Protection Construction Phases:

The following is a preliminary sequencing of plumbing and fire protection system upgrades for the proposed master space planning and systems upgrades for the City of Milwaukee Police Administration Building:

Step 1: Replace fire pump system. Since this is a code deficiency it would be recommended that the fire pump upgrades should be implemented at the earliest part of any infrastructure or remodeling upgrade projects.

Step 2: Domestic Water Piping: New cold water, hot water and hot water return piping should be installed throughout the building. New risers should be extended through the existing duct shafts located near the main stair wells and central to the building. These risers would supply fixtures on all floors and would accommodate phased remodeling of each floor if desired. All piping shall be insulated with new fiberglass insulation. All existing piping and asbestos insulation (assumed) should be removed. This recommendation should occur prior to any major floor renovations (similar to extending new supply ducts). This work could occur in existing shafts or could be sequenced in conjunction with the stairwell pressurization system install with new pipe chases created adjacent to the pressurization duct shafts.

Step 3: Storm and Sanitary Piping: New sanitary and storm piping (including venting) should be installed throughout the building. New risers should be extended through either the existing duct shafts located near the main stair wells and central to the building or in new pipe chases where required. The sanitary risers would serve fixtures on all floors and would accommodate phased remodeling of each floor if desired. The new storm piping would serve existing roof and deck drain locations. All piping shall be insulated with new fiberglass insulation. All existing piping and asbestos insulation (assumed) should be removed. This recommendation should occur prior to any major floor renovations (similar to extending new water risers). Most work could occur in existing shafts or could be sequenced in conjunction with the stairwell pressurization system install with new pipe chases created adjacent to the pressurization duct shafts.

<u>The following recommendations would occur during the floor by floor renovation projects</u>:

Sanitary waste and domestic water distribution: Extend new branch piping to new risers noted above. Remove existing branch piping.

Plumbing Fixtures: Replace all existing fixtures with new code required water efficient fixtures as space programming and floor by floor remodeling warrants. Existing water coolers are fairly newer (approx. 10 years old) and could be re-used if desired as they appear to meet ADA codes and look to be in good condition. Public toilet fixtures would be vitreous china type with hard wired infrared faucet and urinal flush valve controls. The owner has requested that all water closet fixtures are fitted with manual flush valve controls. One to two employee break areas will be accommodated on each floor with future remodeling. These break areas would be fitted with stainless steel sinks and manual faucets. Holding cell fixtures on the 5th and 6th floors should be replaced with new stainless steel combination correctional institution type fixtures. ADA fixtures would need to be provided as required by code in all areas.

Fire Protection system: Extend new sprinkler system at each floor level (including penthouses) from the existing stairwell standpipes. Flow and tamper switches would be provide at each level to monitor the system through the fire alarm system.

<u>The following recommendations could be sequenced at almost any time</u>:

Fire Protection: Remaining areas in the sub-basement and garage areas that are currently protected would remain connected to the system and would require only upgrades as required by current codes and standards.

The existing duplex ejector pump system in the sub-basement would remain. DDC controls should be extended to these pumps to provide status and alarm conditions to the building management system.

The existing duplex sump pump system would remain. DDC controls should be extended to these pumps to provide status and alarm conditions to the building management system.

Add clear water sump and simplex pump system and piping for the inmate elevator pit. Connect to existing storm drain piping per code. Connect to DDC control system for status and alarm monitoring.

Domestic Water Booster Pump system: Replace existing 200gpm duplex booster pump system and associated pressure tanks located in the basement level. Extend monitoring controls from the existing Trane DDC system to provide status and alarm notification. This replacement is currently being scheduled for implementation in 2010 under a separate contract.

POWRTEK ENGINEERING, INC.
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City of Milwaukee- Police Administration Building
Electrical Systems Assessment and Design Recommendations (March 19, 2010)

A site visit was made on February 22, 2010 to make a cursory review of the existing electrical, lighting, fire alarm and other systems currently in use. Following is a general description of the existing systems and conditions, along with recommendations based on current conditions; proposed remodeling will have an impact on these recommendations.

GENERAL

Pneumatic tube system (i.e. pipes, control conduits and compressor cabinets) have been abandoned in place.

The controller on the existing water booster pumps is obsolete.

There is currently no lightning protection system. However, the building hasn't apparently received any direct lightning hits.

Recommendation

- Remove pneumatic system components.
- Replace controller for water booster pumps.
- Provide a budget estimate for a lighting protection system.

ELECTRICAL SERVICE AND NORMAL DISTRIBUTION

The building is currently served by two 13.2KV incoming WE Energies lines (one primary and one alternate line). These lines serve a double ended substation that is in the process of being replaced, as well as the addition of two automatic transfer switches to interconnect backup power from the generators located in the plaza building.

Existing overall substation loading is assumed to be reduced due to Communications Department no longer in building.

There will be additional breaker space available in the substation when replaced to allow for additional distribution if needed.

There are concerns with transformer overheating/overloading, especially for transformer TFD (45KVA) which feeds five (5) 208Y/120V panels located on four (4) floors. The use of a single transformer to feed multiple panels over multiple floors occurs all over the building, leaving inadequate circuit and load capacity for increasing computer loads.

There are issues where the electrical rooms are used as storage areas, and impede required access and workspace around electrical equipment.

The east electrical rooms on floors 2nd thru 7th have inadequate width to provide code required work space in front of panels. There are also numerous locations where pipes, transformers, etc. impede on required work spaces required around equipment.

Approximate available electrical capacity per floor (based on 19,000SF/floor):

7th floor: 8.7W/SF
6th floor: 8.7W/SF
5th floor: 7.0W/SF
4th floor: 7.0W/SF
3rd floor: 9.2W/SF

2nd floor: 9.2W/SF

8th Floor

The existing General Electric (GE) distribution board LA is original to the building.
The four existing emergency panels are all original GE panels.
The existing motor control center (referred to as TCP on original plans) is obsolete Continental equipment that has sections converted for use as simple disconnect switches for large fans due to installation of separate VFDs.

7th Floor

Panels KA and KB (480V normal power) are original GE panelboards with available spaces.
Panels KC and KD (208V normal power) are newer Square D panels, but are essentially full.
Panel EH (208V emergency power) is a newer Square D panel, with 18 spaces but only has a 60A enclosed circuit breaker/15KVA transformer serving it.

6th Floor

Equipment has been updated as apart of recent remodeling project.

5th Floor

Panels HA and HB (480V normal power) are original GE panelboards with available spaces.
Panels HC and HE (208V normal power) are original GE panels, and are essentially full.
Panel HD and HC/1 (208V normal power) are newer Square D panels, with available spaces/spares, but these are panels already feed from other panels.

4th Floor

Panels GA and GB (480V normal power) are original GE panelboards with available spaces.
Panel GC (208V normal power) is an original GE panel, with only 6 available circuits.
Panel GD and GC/1 (208V normal power) are newer Square D panels, but are essentially full. Panel GD already has tandem breakers installed.

3rd Floor

Panels FA and FB (480V normal power) are original GE panelboards with some available spaces.
Panel FC (208V normal power) is an original double tub GE panel and full.
Panel FE on the west side (208V normal power) is a newer Square D panel and has available spaces.
Panel FE on the east side (208V normal power) is a newer Square D panel but was inaccessible for further review. It appears to be feed from a small (<= 15kva) transformer.
There is a "UPS 6th floor" load center that has been abandoned in place.
Panels FD and FD/1 are newer Square D panels with only 5 spaces available between them.
Transformer TFD mentioned previously is located on this floor.

2nd Floor

Panels DA and DB (480V normal power) are original GE panelboards with some available spaces.
Panel DE (208V normal power) is a newer Square D panel but has no workspace clearance due to transformer TDE sitting on the floor directly in front of the panel.
Panels DD and DC/1 (208V normal power) are newer Square D panels, but only one space is available in DC/1.
Panels DB and DC (208V normal power) are original GE panels with only 4 spaces in DB.

1st Floor

Panel PA (480V normal power) is a newer Square D I-Line panel that only has 2 3-pole spaces available.
Panel CA (480V normal power) is an original GE panelboard with some spaces.
Panels CA/A, CA/B and CC are newer Square D panels with some spaces available.
Panel CB and associated transformer TCB (208V normal power) are located in the access (mezzanine) space near the elevators on the east side (addition) of the building.

Basement
Panel BA (480V normal power) is an original GE panelboard with few spaces.
Panel BC (left and right) is a newer Square D panel, but is full.
Panel ED (480V) and panel EE (208V) emergency panels are original GE panels and have some spaces.

Sub-Basement
Panel P-7 (240V 1 phase normal power) is a newer Square D panel, but is full.
Panel P-11 (240V 1 phase normal power) is an old Cutler-Hammer panel, has rusted and a couple of spaces.
Panel P-8 (240V 1 phase normal power) is a newer Square D, and has some spaces, with no main circuit breaker and feed from a 5kva transformer.
Panel AG (480V normal power) is an old Westinghouse panel with 4 spaces.
Panel AG-1 (240V 1 phase normal power) is a newer Square D, and has some spaces and feed from a 15kva transformer.
Panel AD (480V normal power) is a newer Square D I-line panel, but is full.
Panel AA (480V normal power) is an original GE panel with some spaces and currently feeds the fire pump with a 100A CB.
Panel AC (208V normal) is a newer Square D panel with approx. 20 spares.

Recommendations:

- Determine existing loading data on the existing panels and feeders via. meters installed a minimum of 5 days per panel to confirm that the existing and proposed adjustments to distribution will be adequate.
- Parts are no longer available for the 8th floor MCC and since half of the equipment is no longer used as starters, it is recommended to replace or refurbish the MCC and/or relocate some loads to a panelboard.
- Replace interiors of all original GE and Westinghouse panelboards.
- Remove single phase transformers and panelboards and install new three phase equipment.
- Replace rusted panelboards in sub-basement.
- Assuming that 1.5W/SF will be utilized for lighting per floor, at least 6W/SF should be provided for general devices (no HVAC); upgrade the 100A, 480V feeder currently serving the east fourth and fifth floor panels (GB & HB) to a 225A feeder.
- Replace existing transformers and add new energy efficient transformers so there are two on every other floor so that the 208/120V distribution is similar to the 480V distribution where one set of panels on a feeder serves two floors. Provide secondary protection on the transformers either as enclosed molded case circuit breakers or integrate a main circuit breaker into the secondary panelboard where possible.

GENERATOR BACKUP POWER AND EMERGENCY DISTRIBUTION

There are two 600KW/750KVA generators located in the plaza building that are connected into the substation. The connection method into the normal distribution means that these generators don't meet the NEC 700 or 701 sections for Emergency or Legally Required sources since the loads are not separable, however these generators would meet the definition of NEC 702 (Optional) loads.

There are "emergency" distribution panels located on the 8th floor, 7th floor, 6th floor (transformer TEK/panel EK is currently not in service) and the 1st floor. $*) volt is only available on the 8th and 1st floors.

There is an existing 170KW (standby rating) generator located on the 8th floor that feeds through one (1) newer 400A transfer switch to a distribution panel. However, this distribution system serves lighting, exit signs, elevators and other critical loads. These loads are required to be separated into NEC 700 (Emergency) and 701 (Legally Required) loads. The transfer switch is located with the other distribution equipment and piping and not in a dedicated 2-hour room as required for these transfer switches.

There is also concern that the 170KW generator doesn't have the capacity to actually run the four (4) elevators simultaneously (elevator load is approx. 133KVA) if it was the only backup power (i.e. if the 600KW generators

failed) – this should be investigated further to make sure that elevator operation may need to be alternated so only one is allowed to operate at a time.

The existing fire pump is 30hp with the probability that it will increase in size as the sprinkler system gets expanded throughout the building. As part of the substation replacement project, there are new normal and emergency feeders brought to the existing fire pump (with new transfer switch). The disconnect switches being installed for the fire pump are sized at 400A. No jockey pump was observed.

There are three lighting contactors that are separated into exit signs, general lights and stairwells located on the 8th floor with correlated bypass switches located on the 1st floor that allows on/off operation. These switches are apparently never used, and it is unsure if the lighting contactors are appropriately wired to automatically turn on in the event of a power failure.

Recommendations:

- Build a 2 hour rated room on the terrace of the 8th floor to house new Emergency and Legally Required load transfer switches.
- Separate the NEC 700 and 701 loads, including additional loads for high rise requirements such as stairwell pressurization fans.
- Remove lighting contactors and associated switches.
- Add a set of emergency panels on the 4th floor to serve the middle portion of the building.
- Use fused panelboards and disconnect switches for life safety and legally required systems to assure selective coordination.
- Add circuit for added jockey pump.
- Replace existing 400A disconnect switches and provide new 800A service rated; lockable fused disconnect switches (normal and emergency) for a new fire pump (100HP assumed) and new 2-hour rated feeders (Lifeline RHW conductors in conduit). Feeder taps between substation bus and generator bus to respective 400A disconnect switches appear to be re-useable.

LIGHTING/LIGHTING CONTROLS

The lighting in most rooms consists of 4-lamp (2-lamp in corridors) lensed troffers with T8 lamps and electronic ballasts. Existing 2'x4' 4-lamp fixtures also have air handling capabilities.

Exit signs though the majority of the building has been retrofitted to PL florescent. Majority of them also look in poor shape.

The 6th floor had been changed to 3-lamp direct/indirect fixtures, PL fluorescent downlights and LED exit signs.

Exterior lighting wasn't reviewed, but some fixtures are still mercury vapor (which are supposedly no longer allowed to be produced).

The lighting controls for typical spaces consist of standard toggle switches. There are no occupancy sensors or low voltage control system.

There are lights for emergency illumination in the stairs, corridors and larger areas.

The lighting in the parking levels of the basement and sub-basement consist of high pressure sodium with some metal halide replacements

Recommendations:

- Complete retrofitting of light fixtures utilizing high output/long life T8 lamps/electronic ballasts capable of dual level switching (inner/outer fixture lamps) – no air handling capabilities to allow easy maintenance. However, it is recommended that volumetric type fixtures or energy saving type parabolics be considered to reducing lamping down to 2-lamp fixtures.
- Install occupancy sensors in offices and other areas where possible.
- Coordinate proper spacing of emergency lights throughout.
- Provide new LED exit signs.

- Verify and add exterior emergency illumination as needed.
- Replace lighting in parking areas with LED fixtures – LED fixtures will allow for potentially more efficient fixtures as technology advances for future LED module replacements. The use of LED fixtures would also provide instant on technology for emergency illumination use, since the area only has some emergency battery units that don't provide code required illumination.

FIRE ALARM

The existing fire alarm system (on the 6th floor) is a multiplex audio (speaker) Simplex 4100U system with the fire alarm control panel currently located on the 5th floor. There are speakers and/or strobes on the 6th floor, but no other AV devices in the building. Manual pull stations exist on the 6th floors. The original smoke detectors on the floors for elevator recall have been replaced and connected into the new system. Monitoring is done 24hours on site.

The original fire alarm panel and smoke detectors used for elevator recall have been abandoned in place.

Recommendations

- Continue expanding the fire alarm system to the remaining floors to meet high rise standards including adding 2 way communication capability to the elevators and stairwells.
- Provide a command center on the first floor as required by code with necessary controls for fire alarm, elevator controls and 8th floor emergency generator annunciator/controls.
- Remove abandoned fire alarm devices and equipment.
- Add duct smoke detectors for distribution as it is added to the individual floors and add smoke detection to AHUs.

SECURITY – ACCESS CONTROL

There is currently an access system (proximity ID cards) installed throughout the building including all elevators. There is no active monitoring of the access control, because doors being unlocked via keys vs. the local card reader don't cause an alarm.

Recommendations:

- Modify and add card readers and controllers as needed to accommodate remodeling (construction budget shall include six new card readers per floor- 1 at each of the 2 exit stairs, 1 at the new elevator door opening and 3 at locations to be determined).

SECURITY – CCTV

There are numerous areas (i.e. jail and various offices) that have CCTV cameras. Cameras/monitors in office areas appear to be color, while the cameras/monitors are B&W utilizing VHS recorders in the jail area on the 5th floor.

The interview rooms that were part of the 6th floor remodeling are cabled to a rack in the communications room, but there doesn't appear to be any monitors or recording capability installed.

Recommendations:

- Relocate camera systems as needed to accommodate remodeling.
- Consider upgrading camera system/recording in the jail area.

CLOCK SYSTEM

The existing clock system is a Simplex 24VAC 3-wire synchronous system with the master clock located in the 6th floor communications room.

Recommendations:

- Replace the master clock head end or convert the system to a GPS based system with battery operated clocks. Using a GPS based system will eliminate need for additional wiring for different clock locations caused by remodeling and will allow for additional and/or relocations without additional wiring infrastructure.

PUBLIC ADDRESS SYSTEM

The existing overall building paging system (25V) equipment is original with the equipment rack located on the first floor consisting of Dukane equipment (9-15W and 3-180W) amplifiers. This system is also used for making emergency announcements.

There is an existing original console sound system on the 4th floor that is in poor condition with operation being hit and miss. The console also has low voltage controls for the lighting in the room, which doesn't appear to be used.

Recommendations:

- Replace the existing overall building headend equipment and associated speakers and upgrade to a current 70V system. The system would need to be run in parallel till the existing system can be removed.
- Replace the sound system on the 4th floor with an infrared sound reinforcement system.

TELEPHONE/DATA/VIDEO

There are typically wall mounted punch blocks for telephone and rack mounted patch panels/switches located in the west electrical room of most floors.

There appears to Video as well as numerous other antenna systems routed throughout the building. However, there is an excessive amount of cabling that is unsupported and equipment that apparently is abandoned.

Recommendations:

- Remove all abandoned equipment and support all cabling.
- Continue to use telephone backboards and data racks for telephone and data systems, respectively.

OTHER SYSTEMS/CONCERNS

Receptacles for office use.

Old (and not operational) equipment for MacArthur Square fountain is located in the basement; that appears to be powered from a source outside this building.

Recommendations:

- Add additional general use receptacles and circuits as needed to accommodate renovated area layouts – these should be installed at ADA heights. This will require additional panelboards and distribution transformers.
- Remove or replace fountain equipment.

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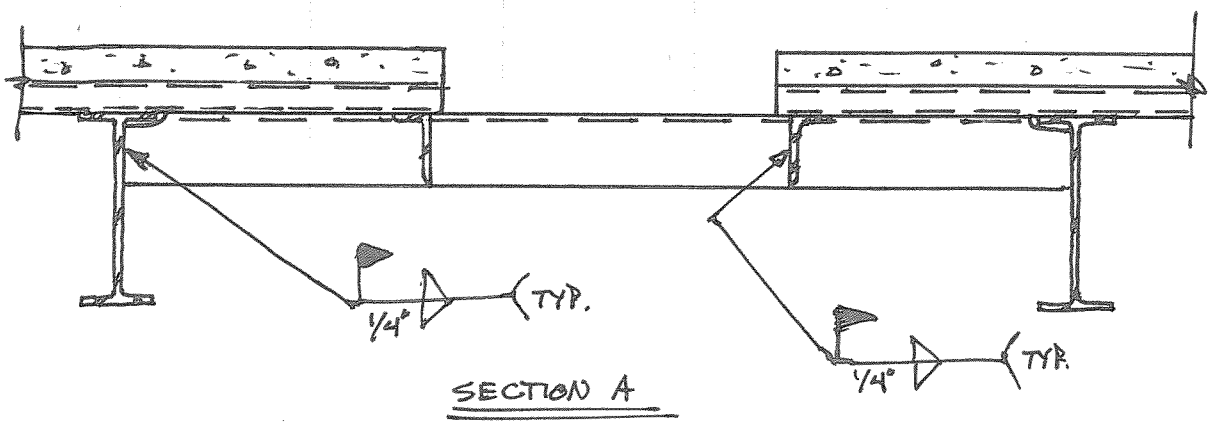
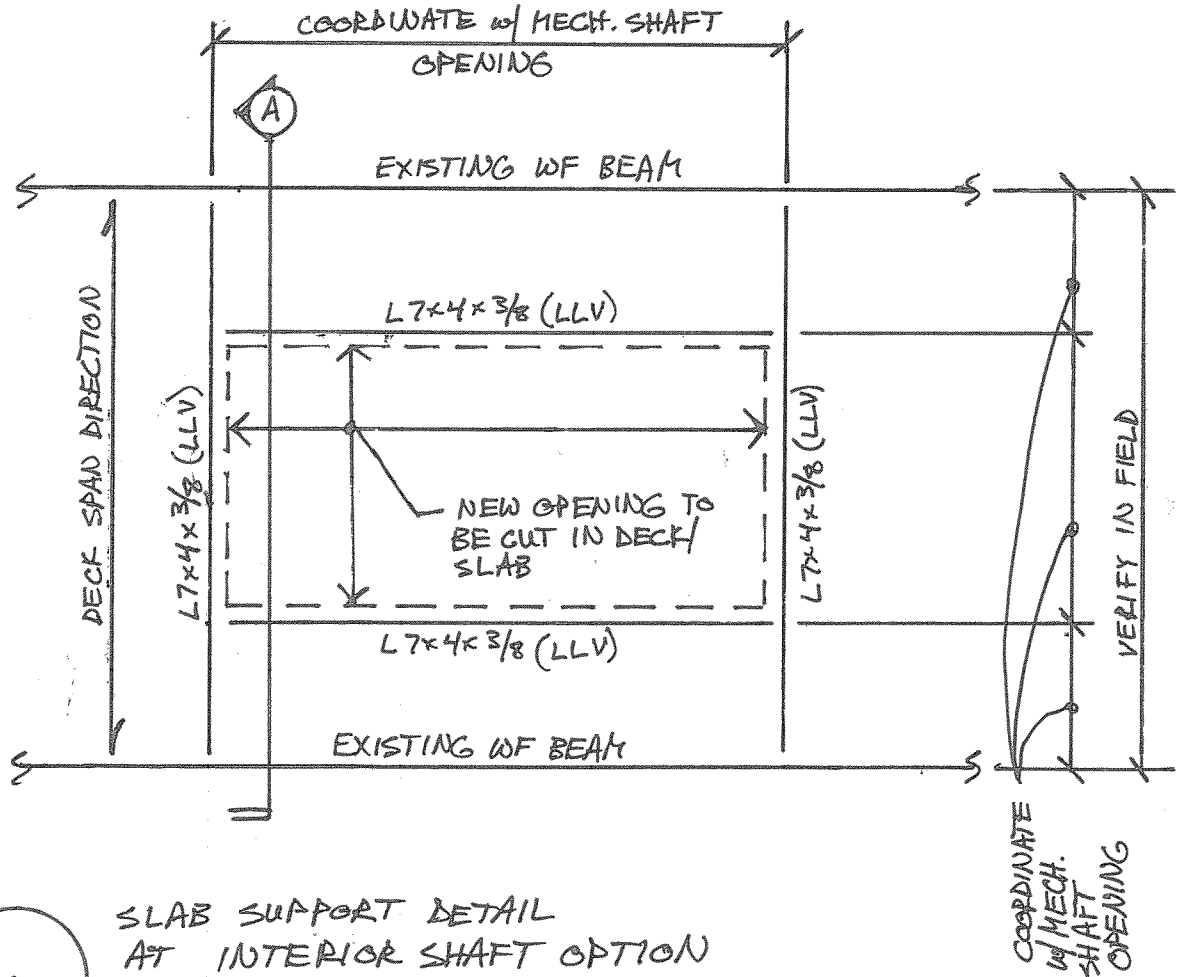
Checked by	Date	Sheet Number
Backchecked by	Date	

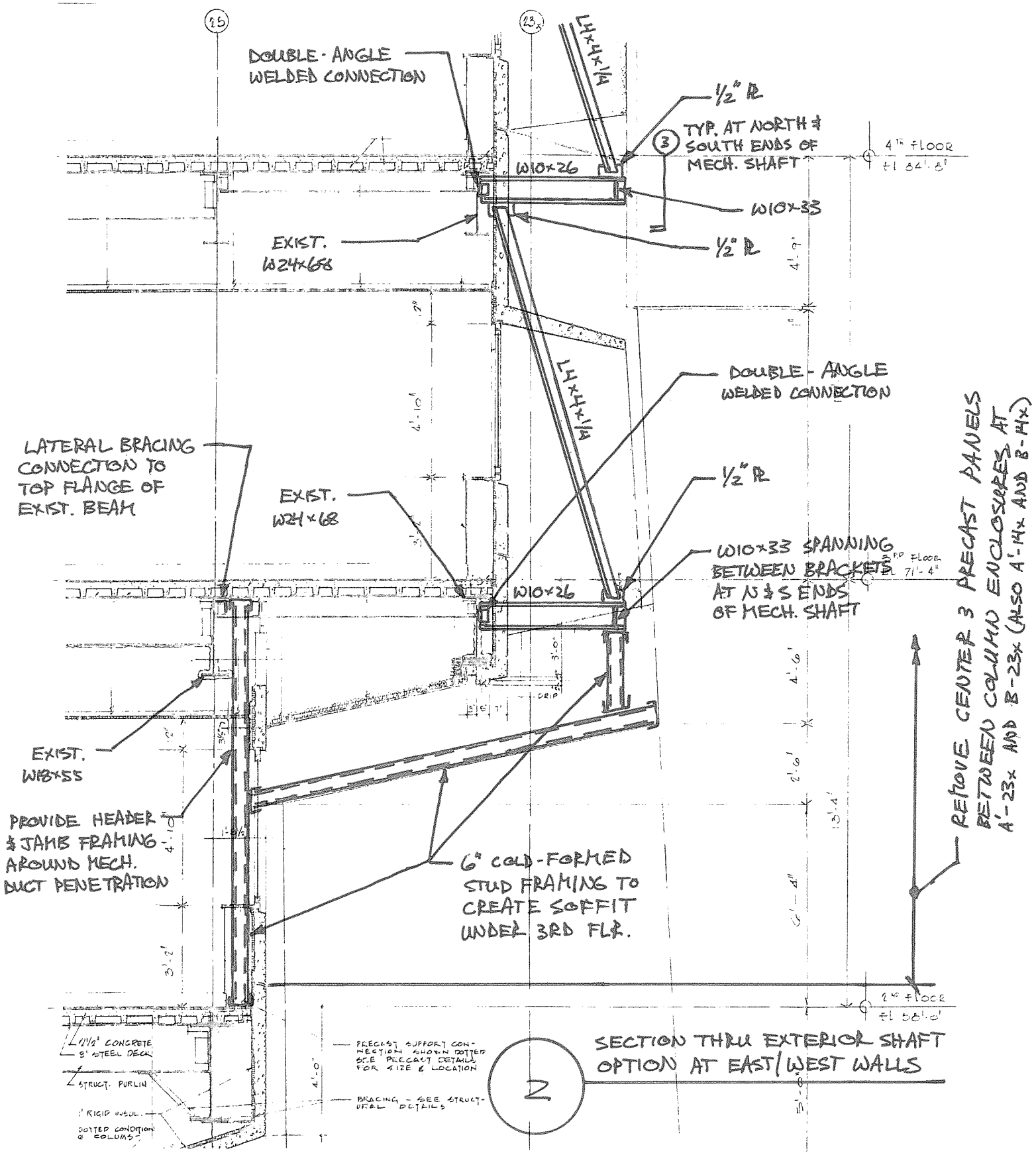


SECTION A

NOTES: FOR SHAFT OPENINGS AT 8TH FLOOR, CONTACT A/E FOR VARIATION OF THIS DETAIL.



1 SLAB SUPPORT DETAIL AT INTERIOR SHAFT OPTION



2 SECTION THRU EXTERIOR SHAFT OPTION AT EAST/WEST WALLS

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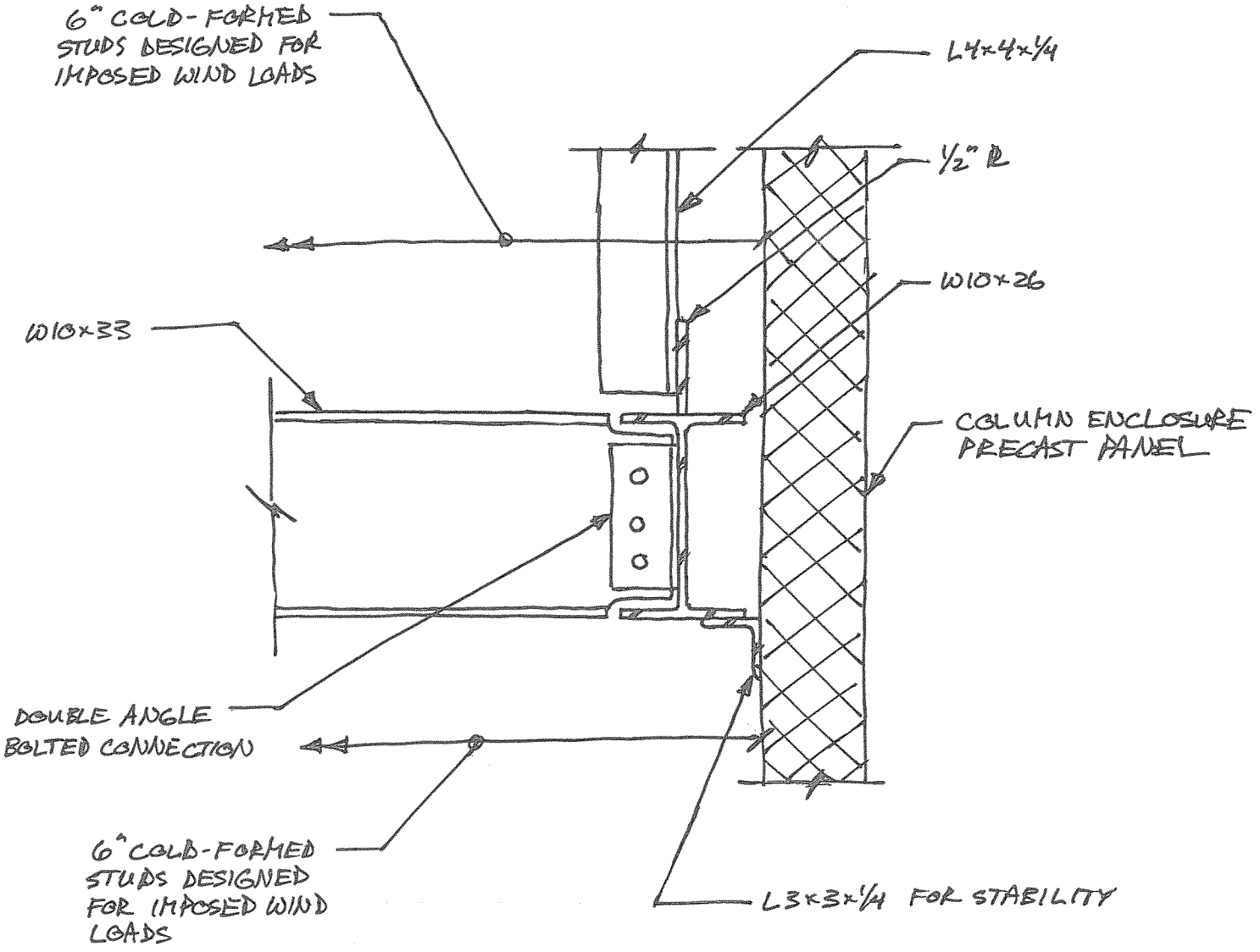
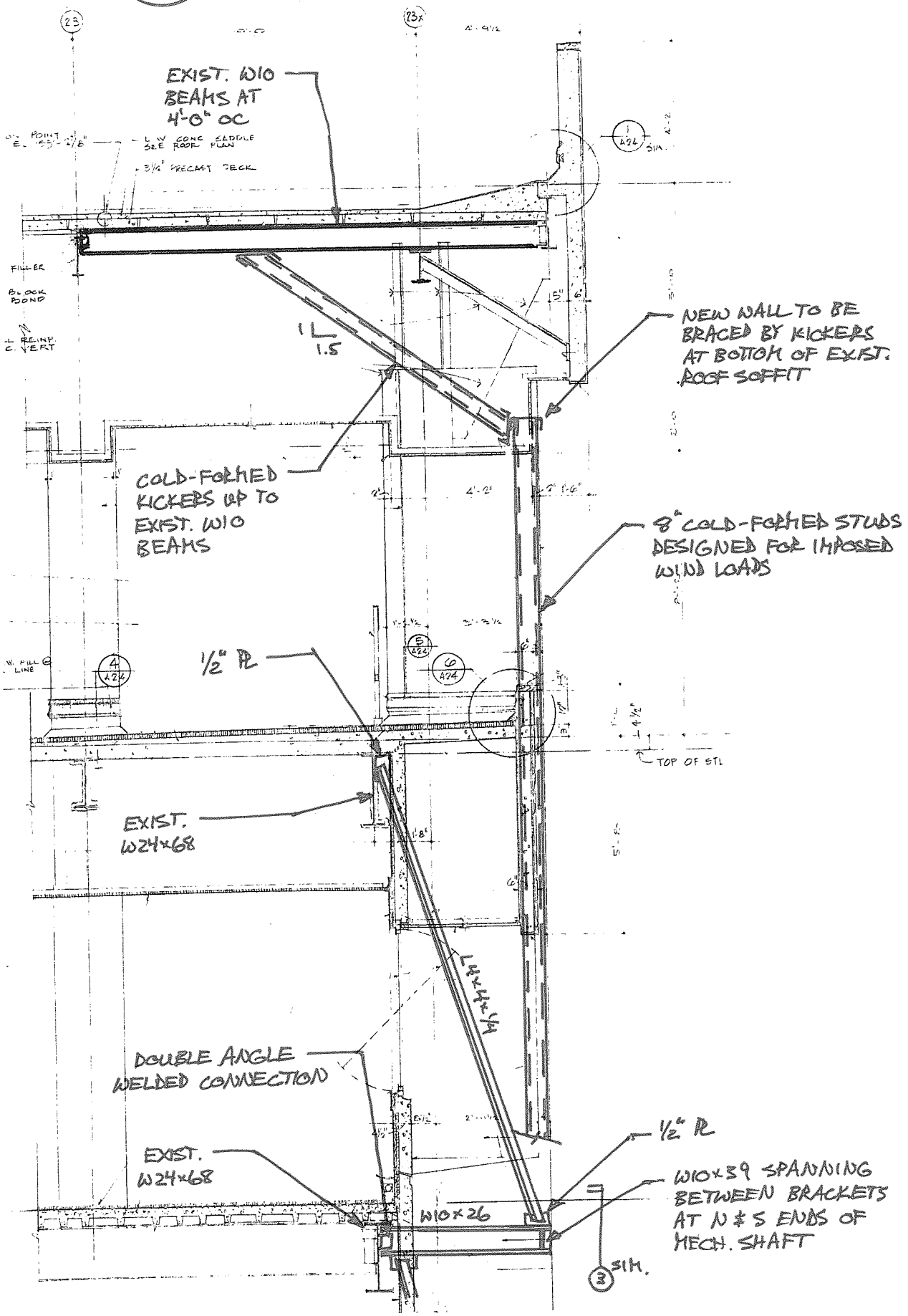
Checked by		Date		Sheet Number	
Backchecked by		Date			

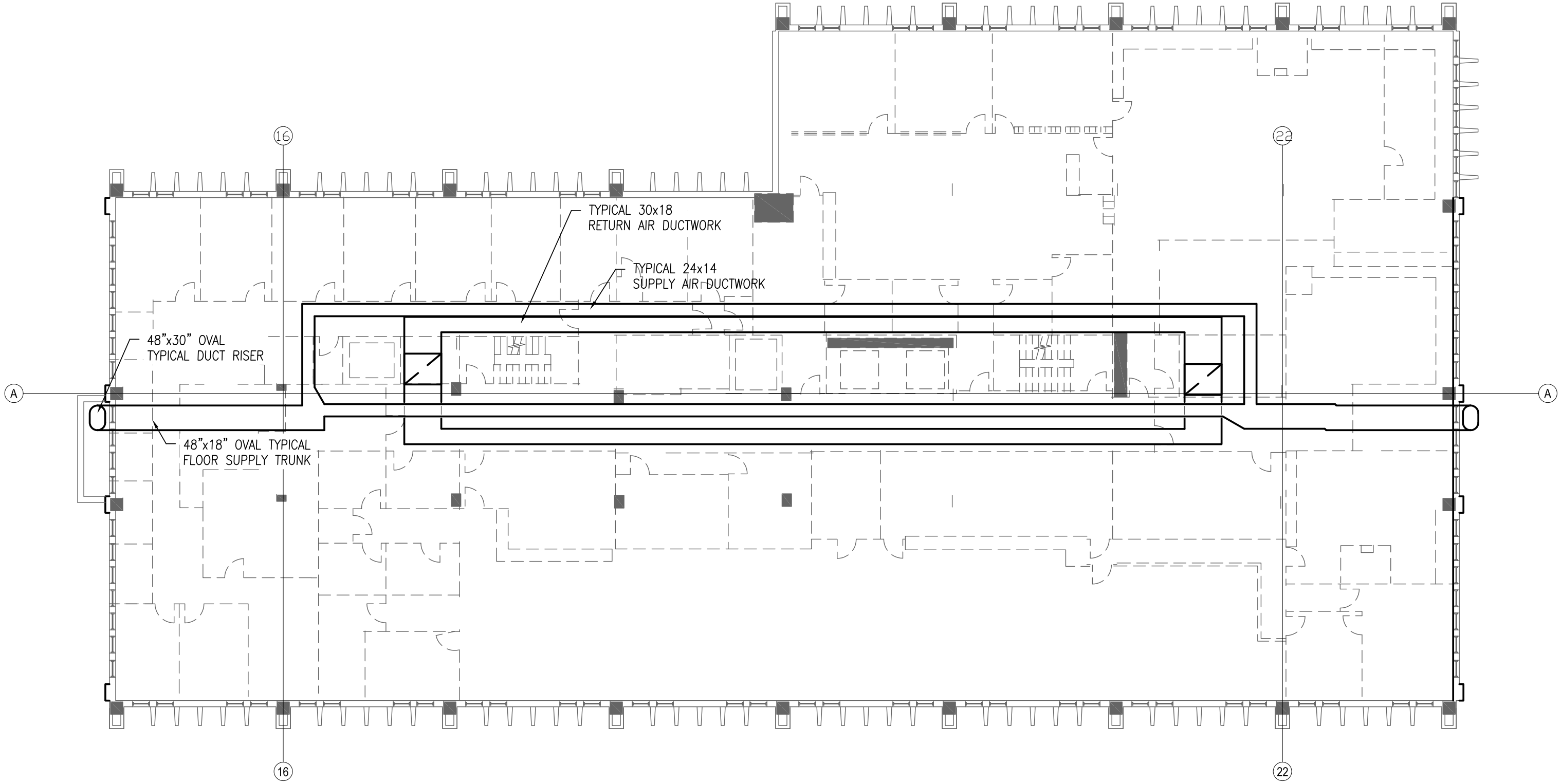


3

TYPICAL BRACKET CONNECTION AT NORTH & SOUTH ENDS OF EXTERIOR SHAFT OPTION

4 SECTION THRU EXTERIOR SHAFT OPTION AT EAST/WEST WALLS - ROOF CONDITION





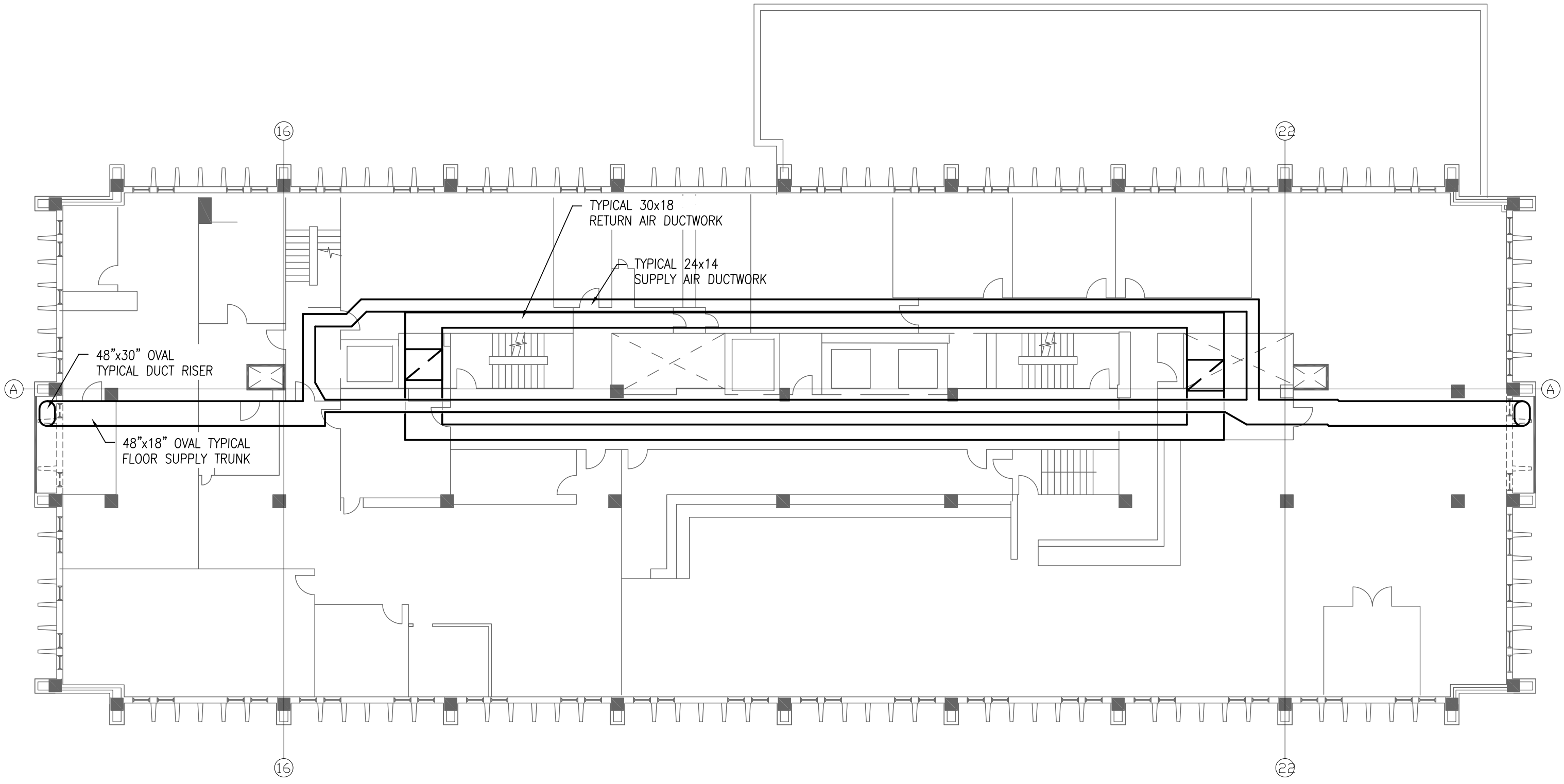
POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 2ND FLOOR PLAN

951 North James Lovell Street
Milwaukee, WI 53233-1429

DATE: 03/16/2010

IBC ENGINEERING SERVICES INC.
N8 W22195 JOHNSON DR, STE 180 262.549.1190
WAUKESHA, WI 53186 fx 262.549.1620



POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 3rd FLOOR PLAN

951 North James Lovell Street
Milwaukee, WI 53233-1429

DATE: 03/16/2010

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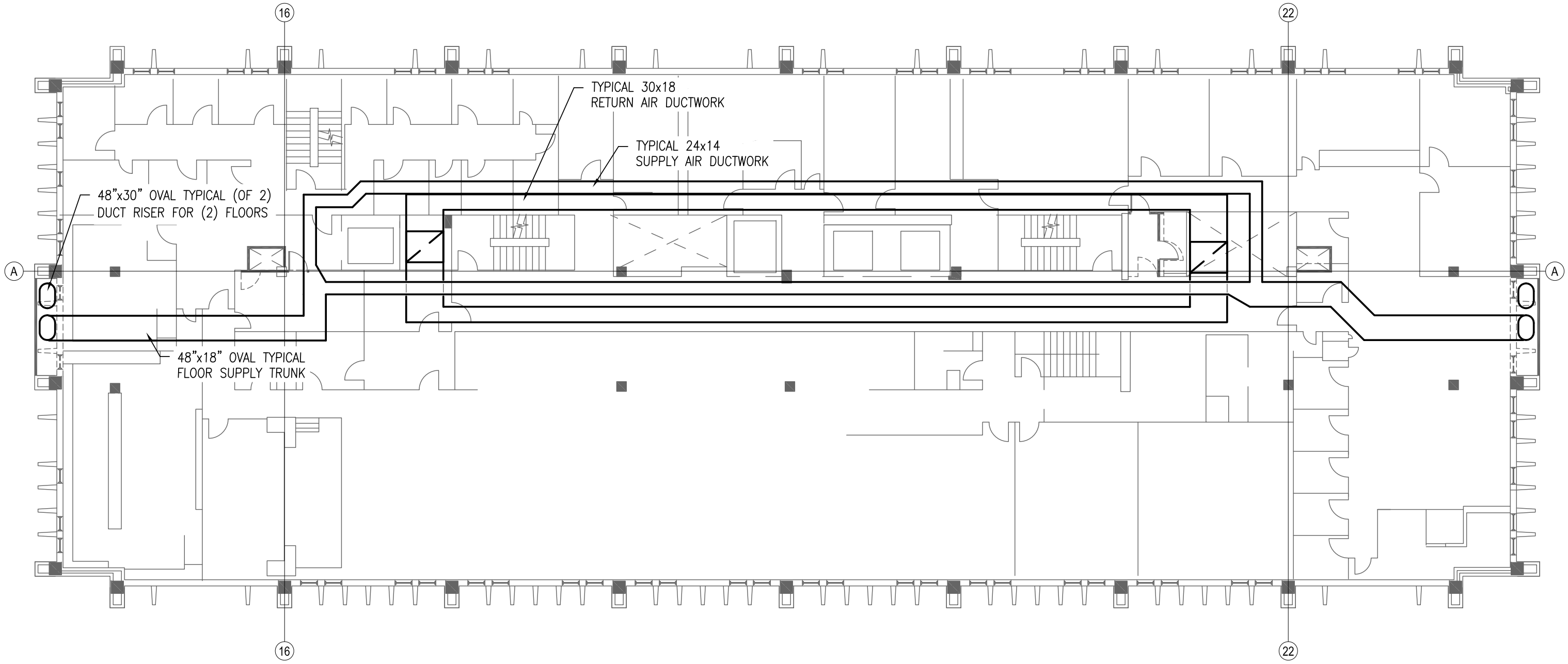

POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 4TH FLOOR PLAN

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Milwaukee, WI 53233-1429

DATE: 03/16/2010

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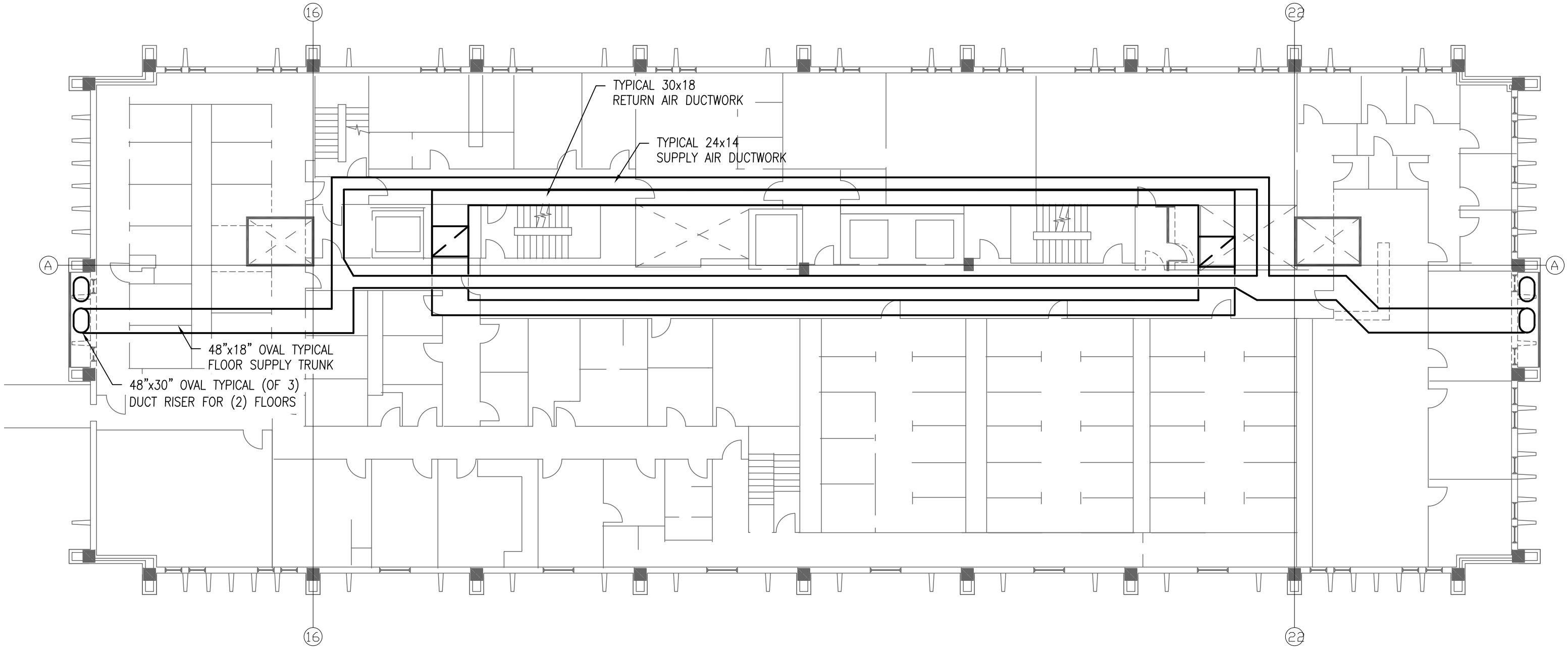
WAUKESHA, WI 53186 fx 262.549.1620



POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 5TH FLOOR PLAN

951 North James Lovell Street
Milwaukee, WI 53233-1429

DATE: 03/16/2010

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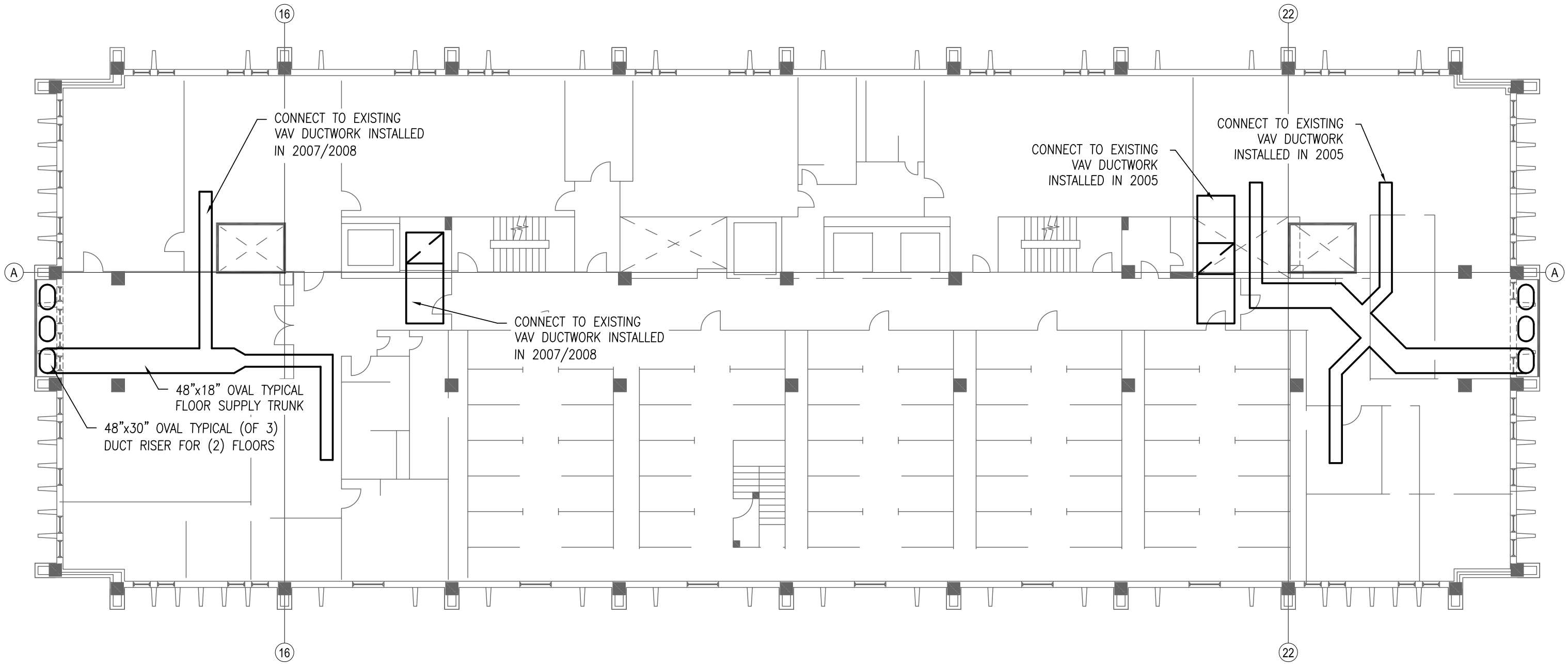

POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 6TH FLOOR PLAN

951 North James Lovell Street
Milwaukee, WI 53233-1429

DATE: 03/16/2010

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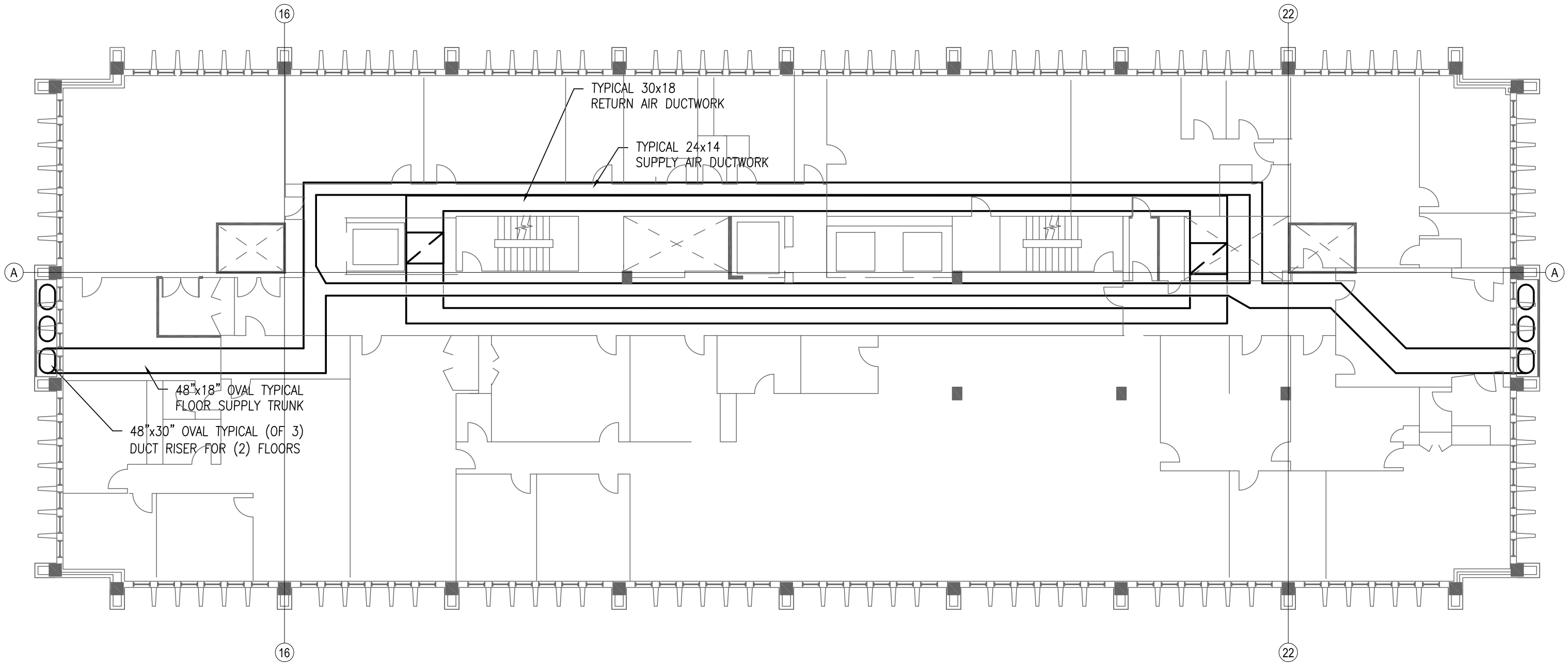
WAUKESHA, WI 53186 fx 262.549.1620



POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 7TH FLOOR PLAN

951 North James Lovell Street
Milwaukee, WI 53233-1429

DATE: 03/16/2010

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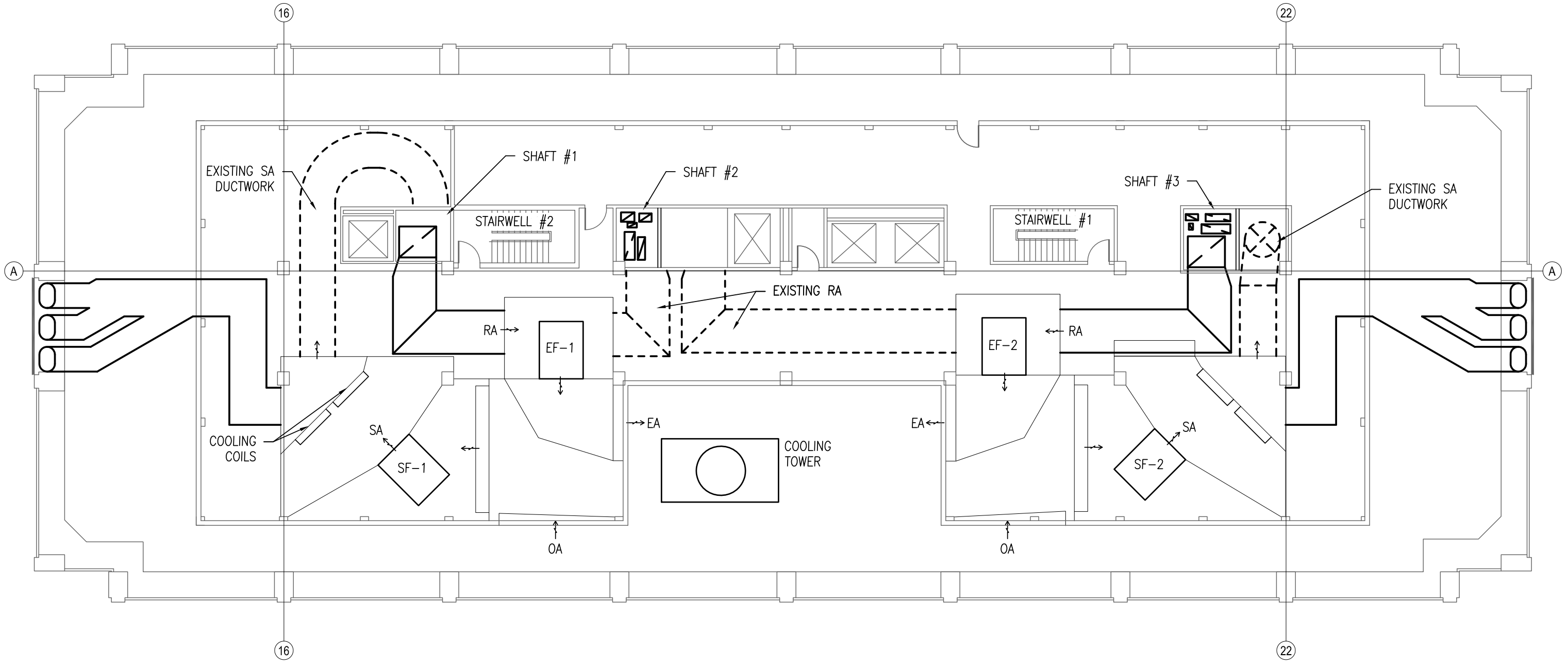
WAUKESHA, WI 53186 fx 262.549.1620



POLICE ADMINISTRATION BUILDING

HVAC UPGRADES - 8TH FLOOR PLAN

951 North James Lovell Street
Milwaukee, WI 53233-1429

DATE: 03/16/2010

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WAUKESHA, WI 53186 fx 262.549.1620

POLICE ADMINISTRATION BUILDING - MASTER PLANNING

749 WEST STATE STREET
MILWAUKEE, WI 53233

3.8.2010
REVISED 3.15.10, 3.22.10

eua eppstein uhen : architects

eppstein uhen : architects

PROGRAM SUMMARY
POLICE ADMINISTRATION BUILDING
3.8.10
eu:a 309032-13

DEPARTMENT NAME	PERSONNEL PROJECTIONS				DEPARTMENT SPACE		
	2010	2015	Total	Design		S.F.	Design
OFFICE OF THE CHIEF	17	5	22	22		10,527	10,527
OMAP / TACTICAL PLANNING & OPS	13	5	18	18		2,320	2,320
BUDGET & FINANCE	7	0	7	7		1,728	1,728
COLD CASE	14	1	15	15		1,364	1,364
IDENTIFICATION SECTION	42	4	46	27		6,878	6,878
PRISONER PROCESSING	8	0	8	4		4,827	4,827
COURT ADMINISTRATION	12	12	24	24		1,420	1,420
CRASH INVESTIGATION UNIT	2	2	4	4		657	657
HR	43	1	44	44		6,066	6,066
FACILITIES	6	4	10	10		2,034	2,034
DISTRICT 1	117	0	117	49		5,260	5,260
CIB - GENERAL	3	0	3	3		1,618	1,618
VIOLENT CRIMES DIVISION	97	2	99	14		8,742	8,742
NEIGHBORHOOD INVESTIGATIONS DIVISION	51	0	51	51		4,045	4,045
INVESTIGATIVE MANAGEMENT DIVISION	30	6	36	36		2,783	2,783
INTELLIGENCE FUSION CENTER	36	23	59	59		4,130	4,130
ORGANIZED CRIME DIVISION	57	0	57	53		5,272	5,272
SENSITIVE CRIMES DIVISION	64	0	64	64		4,528	4,528
LICENSE INVESTIGATION UNIT	7	0	7	7		731	731
HIGH TECH UNIT	4	1	5	5		1,582	1,582
TOTAL PERSONNEL COUNT	630	66	**696**	**516**	**TOTAL DEPARTMENT PERSONNEL S.F.**	76,510	76,510
					TOTAL BUILDING SUPPORT SPACE S.F.	13,656	13,656
					SUB-TOTAL BUILDING S.F.	90,166	90,166

TOTAL SQUARE FOOTAGE	**90,166**	**90,166**

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BUILDING SUPPORT SPACE WORKSHEET
POLICE ADMINISTRATION BUILDING

BUILDING SUPPORT	BUILDING SUPPORT PROJECTIONS				BUILDING SUPPORT SPACE				SPECIAL REQUIREMENTS/ LOCATION
Space Type	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Fitness Center	0	1	1	**1**		30 x 30	900	900	Equivalent in size to District 3
Vending Alcove	1	0	1	**1**		5 x 10	50	50	
Lockers - General Uniformed Officers - male	1	0	1	**1**		25 x 25	625	625	Near Fitness Center, approx. 100 lockers
Lockers - General Uniformed Officers - female	1	0	1	**1**		12 x 15	180	180	Near Fitness Center, approx. 25 lockers
Restroom / Showers - General Uniformed Officers - male	1	0	1	**1**		18 x 30	540	540	Near Fitness Center
Restrooms / Showers - General Uniformed Officers - female	1	0	1	**1**		12 x 15	180	180	Near Fitness Center
Lockers / Restrooms / Showers - Sergeants Only	1	0	1	**1**		15 x 25	375	375	Near Fitness Center, approx. 25 lockers
All Purpose Conference Room - Daily PR news Briefing	0	1	1	**1**		15 x 20	300	300	Any floor - except 7th
6th Floor Interrogation rooms	8	0	8	**8**		6 x 8	48	384	To remain on 6th floor
6th Floor Line Up room	1	0	1	**1**		24 x 35	840	840	To remain on 6th floor
Mail Room	1	0	1	**1**		10 x 15	150	150	Retain existing location
Fire Command Center	0	1	1	**1**		10 x 15	150	150	Basement
Restrooms - Male / Female	0	1	1	**1**		15 x 20	300	300	Basement
Restrooms - Expansion	0	1	1	**1**		10 x 20	200	200	Second Floor
Electrical Closet	0	1	1	**1**		6 x 9	54	54	Second Floor - East
Electrical Closet	0	1	1	**1**		6 x 9	54	54	Third Floor - East
HVAC Shaft Option	0	1	1	**1**		6 x 8	48	48	Third Floor
HVAC Shaft Option	0	1	1	**1**		6 x 8	48	48	Fourth Floor
Electrical Closet	0	1	1	**1**		6 x 9	54	54	Fourth Floor - East
HVAC Shaft Option	0	1	1	**1**		12 x 15	180	180	Fifth Floor
Electrical Closet	0	1	1	**1**		6 x 9	54	54	Fifth Floor - East
HVAC Shaft Option	0	1	1	**1**		12 x 15	180	180	Sixth Floor
HVAC Shaft Option	0	1	1	**1**		12 x 15	180	180	Seventh Floor
Restrooms - Expansion	0	1	1	**1**		10 x 10	100	100	Seventh Floor
Electrical Closet	0	1	1	**1**		6 x 9	54	54	Seventh Floor - East
Facilities Storage	1	0	1	**1**		52 x 100	5200	5,200	Garage / Lower Level
PROJECTED SUPPORT SPACE								**11,380**	

GENERAL NOTES

1. Orange = Requires additional HVAC
2. Yellow = Requires new plumbing. Break Alcove to receive new single basin sink. See floor plans for added fixtures in existing and new bathrooms and new shower locations on 3rd floor.
3. Green = Indicates plasmas / smart boards installed on wall - include power / data at 60" A.F.F. Also indicates video cameras added in all interrogation rooms.
4. Blue = Requires additional structural support for equipment

SUB-TOTAL	11,380
CIRCULATION S.F.	2,276
TOTAL BUILDING SUPPORT S.F. WITH CIRCULATION	**13,656**

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
OFFICE OF THE CHIEF

OFFICE OF THE CHIEF	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Chief of Police (Flynn)	1	0	1	**1**	Office	20 x 27	540	540	
Assistant Chiefs	3	0	3	**3**	Office	16 x 22	352	1,056	CIB Assistant Chief to remain with CIB Divisions
Chief of Staff (Pal)	1	0	1	**1**	Office	15 x 17	255	255	
PR Manager	1	0	1	**1**	Office	15 x 17	255	255	
Inspectors	3	0	3	**3**	Office	12 x 16	192	576	
Administrative Support - Chief Of Police	3	0	3	**3**	WS	8 x 10	80	240	
Administrative Support - Assistant Chiefs	3	0	3	**3**	WS	8 x 8	64	192	Includes (3) for Chief of Police, (3) for each Assist. Chief
Courier	1	0	1	**1**	WS	6 x 6	36	36	
Receptionist	0	1	1	**1**	WS	8 x 8	64	64	
Public Information Officers - PR Assistants	1	2	3	**3**	WS	6 x 8	48	144	Locate next to PR Manager, lock up cameras
PR AV Specialist	0	1	1	**1**	WS	6 x 8	48	48	WS at PAB - main office to remain at Academy
PR Graphic Designer	0	1	1	**1**	Office / WS	25 x 25	625	625	2 plotters, layout space, storage and misc. equip
PROJECTED PERSONNEL COUNT	17	5	22	**22**	**PERSONNEL S.F.**			**4,031**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Comp / Stat	1	0	1	**1**	Seats 60	32 x 40	1280	1,280
General Conference room	1	0	1	**1**	Seats 14	24 x 25	600	600
Chief's Private Conference	1	0	1	**1**	Seats 10-12	20 x 26	520	520
Chief's Break & Toilet (Existing plumbing to remain)	1	0	1	**1**	Private	10 x 10	100	100
Chief's private waiting area	1	0	1	**1**	Seats 3	6 x 12	72	72
Break Alcove	1	0	1	**1**	Private	10 x 12	120	120
Coat Closet	1	0	1	**1**	Alcove	2 x 8	16	16
Work / File room	1	0	1	**1**	Copy/Ptr	15 x 20	300	300
(2) Single Stall Toilet rooms	1	1	2	**1**	Private	8 x 10	80	80
General Reception / Waiting Area	1	0	1	**1**	Seats 6	15 x 20	300	300
General Storage	1	0	1	**1**	Supplies	10 x 10	100	100
Secure Storage for Chief's files	1	0	1	**1**	Private	10 x 12	120	120
PROJECTED SUPPORT SPACE								**3,488**

SUB-TOTAL	7,519
CIRCULATION S.F.	3,008
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**10,527**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
OMAP

SECONDARY - Same Floor or directly below, Medium Interaction:
Budget and Finance

ADDITIONAL NOTES:
1. 3000 Sq. Ft. of studio and AV equipment and storage space to remain at Academy for AV specialist.
2. General conference room to be outfitted with teleconferencing equipment.
3. Need to secure 7th floor. One option is to require key card access to 7th floor.
4. Work room to include layout space for collating.
5. Graphic designer could be in an office or an area with partial walls. Needs to remain directly adjacent to all equipment.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
OMAP / TACTICAL PLANNING & OPS

OMAP / TACTICAL PLANNING & OPS	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
OMAP - Captain (Gacek)	1	0	1	**1**	Office	10 x 15	150	150	
OMAP - Lieutenant	1	0	1	**1**	WS	8 x 8	64	64	
OMAP - Compstat Team	4	1	5	**5**	WS	6 x 8	48	240	Include dual monitors at (3) of the workstations
OMAP - Projects Team	4	1	5	**5**	WS	6 x 8	48	240	Collaborate often ,no high panel division, face each other
OMAP - University Interns	0	2	2	**2**	WS	6 x 6	36	72	
TP/O - Lieutenant	1	0	1	**1**	WS	8 x 8	64	64	
TP/O - Officer	1	1	2	**2**	WS	6 x 8	48	96	
TP/O - Aid	1	0	1	**1**	WS	6 x 6	36	36	
PROJECTED PERSONNEL COUNT	13	5	18	**18**	**PERSONNEL S.F.**			**962**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Work Room w/ layout space for TP/O team	0	1	1	**1**	Copy / Ptr	20 x 20	400	400
File Area (Includes PC w / scanner)	1	1	2	**1**	Common	15 x 15	225	225
Break Alcove	1	0	1	**1**	Common	7 x 10	70	70
PROJECTED SUPPORT SPACE								**695**

SUB-TOTAL	1,657
CIRCULATION S.F.	663
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**2,320**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
Office of the Chief, Comp Stat Room

SECONDARY - Same Floor or directly below, medium Interaction:

ADDITIONAL NOTES:
1. Since required to remain directly adjacent to Office of the Chief - will share break alcove & office supply closet.
2. Captain Gacek noted Tactical Planning & Ops to be located with OMAP.
3. Separate Comp Stat group from Project team - possibly with tall panels.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
BUDGET & FINANCE

BUDGET & FINANCE	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Managers - (John , Barb, Vicki)	3	0	3	**3**	Office	10 x 12	120	360	
Accounting staff (Regina, Jackie, Karen)	4	0	4	**4**	WS	6 x 8	48	192	
						x	0	0	
						x	0	0	
PROJECTED PERSONNEL COUNT	7	0	7	**7**	**PERSONNEL S.F.**			**552**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Work Area (Includes office supplies)	1	0	1	**1**	Copy / Ptr	10 x 15	150	150
Break Alcove	1	0	1	**1**	Common	7 x 10	70	70
File Area (Include in open office)	1	0	1	**1**	Common	15 x 20	300	300
Coat Closet	0	1	1	**1**	Common	2 x 6	12	12
Conference room	1	0	1	**1**	Seats 6	10 x 15	150	150
PROJECTED SUPPORT SPACE								**682**

SUB-TOTAL	1,234
CIRCULATION S.F.	494
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**1,728**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or directly below, medium Interaction:
Office of the Chief

ADDITIONAL NOTES:

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
COLD CASE

COLD CASE	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Detectives	12	0	12	**12**	WS	6 x 6	36	432	Group collaborates 90% of time so no panel division
Case Management Workstaton	0	1	1	**1**	WS	6 x 6	36	36	
Interns	2	0	2	**2**	WS	6 x 6	36	72	
PROJECTED PERSONNEL COUNT	14	1	15	**15**	**PERSONNEL S.F.**			**540**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Work Area (Plotter, copier, C/ B/W ptr, scanners)	0	1	1	**1**	Common	10 x 10	100	100
File Cabeints	1	0	1	**1**	Common	10 x 12	120	120
Quite Reading Room	0	1	1	**1**	Private	8 x 8	64	64
Open Conference Area (To seat 6-8)	1	0	1	**1**	Common	10 x 15	150	150
PROJECTED SUPPORT SPACE								**434**

SUB-TOTAL	974
CIRCULATION S.F.	390
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**1,364**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
Violent Crimes

SECONDARY - Same Floor or directly below, Medium Interaction:

ADDITIONAL NOTES:
1. Chief of Staff noted to move them back to Violent Crimes Division of CIB
2. Once back with Violent Crimes they will have access to a copier & break alcove
3. Open office area needs minimum 15' pin up space.
4. Open Conference area to include existing plasma, DVD, CD's.
5. Currently 4700 Cases - located at District 6, Mezzanine at PAB and in the jail
6. W/S, work area, file cabinets, & conference table can all be in one open room.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
IDENTIFICATION SECTION

IDENTIFICATION SECTION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Captain (Moore)	1	0	1	**1**	Office	10 x 15	150	150	
Supervisors	5	0	5	**1**	Office	6 x 6	36	180	5 Supervisors in one office - all in 6x6 station w/ added files
Photo Lab	5	0	5	**1**	Lab	30 x 30	900	900	Includes 5 staff members at 3x5 Desk & all equip.
Forensic Video room	4	0	4	**1**	Office	15 x 25	375	375	Includes 4 staff members at 3x5 Desk & all equip.
Latent Print Examiners	4	1	5	**1**	Office	18 x 20	360	360	Together in private office
ID Techs	12	1	13	**13**	WS	6 x 6	36	468	Open office w/ Clerical
Clerical	4	0	4	**4**	WS	6 x 6	36	144	Open office w/ Techs
Prisoner Processing	1	0	1	**1**	WS	6 x 6	36	36	Open office w/ Clerical
Evidence Processing Lab	4	0	4	**1**	Lab	12 x 20	240	240	
Criminal Records	2	0	2	**1**	Office	20 x 30	600	600	Room includes back up for an all District Power Outage
CSI Unit	0	2	2	**2**	WS	6 x 6	36	72	*CSI Unit does not exist today.
PROJECTED PERSONNEL COUNT	42	4	46	**27**	**PERSONNEL S.F.**			**3,525**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Work Room / Area (Includes copy, 4 printers, files)	1	0	1	**1**	Copy / Ptr	12 x 15	180	180
Photo lab general storage	1	0	1	**1**	Common	10 x 20	200	200
Professional Intellinetics (within Photo lab)	1	0	1	**1**	Private	8 x 14	112	112
Evidence Documentation room (Dark room)	1	0	1	**1**	Private	14 x 24	336	336
Reception / Live Scan fingerprint	1	0	1	**1**	Public	10 x 15	150	150
Locker room	1	0	1	**1**	Common	10 x 15	150	150
Evidence Storage (Temporary, needs to be processed)	1	0	1	**1**	Private	10 x 12	120	120
Break Alcove	1	0	1	**1**	Private	7 x 10	70	70
Single Stall Toilet room	0	1	1	**1**	Private	7 x 10	70	70
PROJECTED SUPPORT SPACE								**1,388**

SUB-TOTAL	4,913
CIRCULATION S.F.	1,965
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**6,878**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or directly below, Medium Interaction:

ADDITIONAL NOTES:

1. If Evidence Processing Lab moves to allow the photo lab to expand must follow OSHA standards for proper ventilation.
2. Current Criminal Records room is on a raised floor and as it houses back up for all District fingerprint records it would most likely be costly to relocate.
3. CSI Unit is noted as potential future space. Additional programming will need to be completed if this group becomes part of ID.
4. If Live scan finger print area is relocated must include a sink.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
PRISONER PROCESSING

PRISONER PROCESSING	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Sergeants	3	0	3	1	Office	12 x 16	192	192	1-3 Sergeants depending on shifts in 6x8 W/S
Head Jailors Office	2	0	2	1	Office	14 x 18	252	252	1-2 Officers depending on the time and day in 6x8 W/S
Supervisors	2	0	2	1	Office	6 x 6	36	72	Put both in (1) office, Include files within office
Municipal Court Liaison	1	0	1	1	Office	15 x 20	300	300	
PROJECTED PERSONNEL COUNT	8	0	8	4	**PERSONNEL S.F.**			816	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Prisoner search & data rooms	6	0	6	6		10 x 10	100	600
Photo & print rooms (Adult & Juvenile)	2	0	2	2		15 x 17	255	510
Prisoner property storage room	1	0	1	1		10 x 12	120	120
Intoxometer room	1	0	1	1		10 x 10	100	100
Female lockers	1	0	1	1		10 x 12	120	120
Equipment Storage	1	0	1	1		10 x 15	150	150
Break room (Existing to remain)	1	0	1	1		16 x 16	256	256
Female bullpen	1	0	1	1		16 x 16	256	256
Male bullpen	1	0	1	1		20 x 26	520	520
PROJECTED SUPPORT SPACE								**2,632**

SUB-TOTAL	3,448
CIRCULATION S.F.	1,379
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**4,827**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
Must remain on 5th where cells are located.

SECONDARY - Same Floor or directly below, Medium Interaction:

ADDITIONAL NOTES:
1. Existing cells to remain.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
COURT ADMINISTRATION

COURT ADMINISTRATION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
CAS Officers	12	0	12	**12**	Office	6 x 6	36	432	Approx. 8 work at one shift
Municipal & Traffic Citations Unit	0	12	12	**12**	Office	6 x 6	36	432	Currently located at District 3
PROJECTED PERSONNEL COUNT	12	12	24	**24**	**PERSONNEL S.F.**			**864**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Work / files room (Part of CAS Open Office)	1	0	1	**1**	Copy / Ptr	10 x 15	150	150
PROJECTED SUPPORT SPACE								**150**

SUB-TOTAL	1,014
CIRCULATION S.F.	406
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**1,420**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or directly below, Medium Interaction:

ADDITIONAL NOTES:

1. If Municipal & Traffic Citations Unit move to PAB they can easily be grouped with CAS who would like to remain on the 2nd floor (Existing building common break room will be relocated to smaller area so this group can expand south to accommodate potential 12 from District 3
2. (1) existing CAS Officer is located in 525 A should be moved to be located with this team.
3. Will use District 1 break alcove

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
CRASH INVESTIGATION UNIT

CRASH INVESTIGATION UNIT	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Investigating officers	2	2	4	4	Open area	6 x 6	36	144	
PROJECTED PERSONNEL COUNT	2	2	4	4	PERSONNEL S.F.			144	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Work area - plotter & pc's & pin up space	1	0	1	1		15 x 15	225	225
Files area	1	0	1	1		10 x 10	100	100
PROJECTED SUPPORT SPACE								325

SUB-TOTAL	469
CIRCULATION S.F.	188
TOTAL DEPARTMENT S.F. WITH CIRCULATION	657

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or directly below, Medium Interaction:
Identification Section

ADDITIONAL NOTES:
1. Need minimal 15' of pin up space to view large plots of accident scene.
2. As they are a small group they will utilize another groups break alcove.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
HR

HR	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Managers (HR/EIP, Payroll, Medical, Background)	13	0	13	**13**	Office	10 x 12	120	1,560	
Payroll	13	0	13	**13**	WS	6 x 8	48	624	Current size is 5x5, need more surfaces & storage
Background	14	0	14	**14**	WS	2 x 4	8	112	The current call center sized desk seems to work fine
Medical	3	0	3	**3**	WS	6 x 8	48	144	
Receptionist	0	1	1	**1**	WS	6 x 8	48	48	Include transaction counter
PROJECTED PERSONNEL COUNT	43	1	44	**44**	**PERSONNEL S.F.**			**2,488**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Reception (Include 4 - 6 chairs, coat alcove)	1	0	1	**1**	Public	10 x 15	150	150
Work Room (2 copiers, ptrs, fax, office supplies)	1	0	1	**1**	Common	15 x 15	225	225
Conference room	1	0	1	**1**	Seat 12	15 x 22	330	330
Interview rooms	1	1	2	**2**	Seat 4	10 x 10	100	200
Locked storage rm - for payroll checks	0	1	1	**1**	Private	10 x 12	120	120
Break Alcove	1	0	1	**1**	Common	7 x 10	70	70
File Area	1	0	1	**1**	Common	25 x 30	750	750
PROJECTED SUPPORT SPACE								**1,845**

SUB-TOTAL	4,333
CIRCULATION S.F.	1,733
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**6,066**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly below, Medium Interaction:

ADDITIONAL NOTES:

1. During the day shift the conference room can be utilized by any other department.
2. Currently utilize a floor mounted smart board, would like it wall mounted.
3. Payroll & Medical could all be located together, separate today b/c of current space. Keep background on it's own.
4. EIP = Employment Improvement Recruitment
5. Payroll check rm to include layout & storage space

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
FACILITIES

FACILITIES	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Reception / Clerical	2	1	3	**3**	WS	8 x 8	64	192	
Managers	2	0	2	**2**	Office	10 x 12	120	240	
Assistant Managers (Paul & Dave)	2	0	2	**2**	Office	10 x 12	120	240	
Garage Supervisor	0	1	1	**1**	Office	10 x 12	120	120	
Restitution Recovery Personnel	0	2	2	**2**	WS	6 x 8	48	96	
PROJECTED PERSONNEL COUNT	6	4	10	**10**	**PERSONNEL S.F.**			**888**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Work Room	1	0	1	**1**	Copy / Ptr	10 x 15	150	150
Break Alcove	1	0	1	**1**		7 x 10	70	70
Plotter / Drawing File Storage	1	0	1	**1**		15 x 15	225	225
Shop Office	1	0	1	**1**		10 x 12	120	120
PROJECTED SUPPORT SPACE								**565**

SUB-TOTAL	1,453
CIRCULATION S.F.	581
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**2,034**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
-

SECONDARY - Same Floor or Directly Below, Medium Interaction:

ADDITIONAL NOTES:
1. Include work room area with Recpetion / Clerical.
2. Currently Facilities general storage and shop space totals approx. 5,200 sq. ft. This includes everything from custodial storage, car equipment, welding area, city snow blowers, lawnmowers, wood shop and office furniture. This is all within lower level of PAB. See Building common page for this sq. footage.
3. Shop Office with computers that run buildings automations needs to be relocated - gets very dirty from shop dust.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
DISTRICT 1

DISTRICT 1	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Captain	1	0	1	**1**	Office	10 x 15	150	150	
Lieutenants	3	0	3	**3**	WS	8 x 8	64	192	Locate all WS in office, include (4) Security TV monitors
Sergeants	13	0	13	**7**	WS	6 x 8	48	336	Space for 7, will share desks depending on shifts
DPR	5	0	5	**3**	WS	6 x 6	36	108	(3) on first shift, (2) on 2nd shift, need privacy
CLO, DA, Specialmen, AGU	13	0	13	**13**	WS	6 x 8	48	624	Include a dry erase & bulletin boards
Probation / Parole & School Squad	4	0	4	**2**	WS	6 x 6	36	72	
Crisis Team	2	0	2	**2**	WS	6 x 6	36	72	
Clerical	8	0	8	**8**	WS	6 x 6	36	288	
Officers (locate in Assembly / Roll Call Room)	68	0	68	**10**	Desk	3 x 5	15	150	Include Podium, smart board and plasma
PROJECTED PERSONNEL COUNT	117	0	117	**49**	**PERSONNEL S.F.**			**1,992**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Clerical Open office (Locate Clerical WS here)	1	0	1	**1**	Copy / Ptr	12 x 15	180	180
Break Alcove	1	0	1	**1**		7 x 10	70	70
Reception / Waiting	1	0	1	**1**	Public	10 x 15	150	150
Assembly / Roll Call Room	1	0	1	**1**		20 x 25	500	500
Evidence Packaging	1	0	1	**1**	Secure	10 x 12	120	120
Radio Storage	1	0	1	**1**	Office	2 x 15	30	30
Lieut / Sergeants lockers	1	0	1	**1**	Secure	10 x 15	150	150
Property Storage	1	0	1	**1**	Secure	8 x 10	80	80
Locked storage room	1	0	1	**1**	Secure	8 x 10	80	80
Conference room	0	1	1	**1**	Seats 16	15 x 27	405	405
Single Stall Toilet room	0	1	1	**1**	Private	7 x 10	70	70
PROJECTED SUPPORT SPACE								**1,765**

SUB-TOTAL	3,757
CIRCULATION S.F.	1,503
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**5,260**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly Below, Medium Interaction:
Court Administration, PPS

ADDITIONAL NOTES:
1. Include wall space for radio storage in Sergeants office
2. Assembly / Roll Call room to include existing smart board, podium, plasma, 15' of pin up space, aprox. 10 pc's for officers to complete reports. Currently only have 7 pc's - they share this with other disticts.
3. Reception area to have a minimun 8' wide transaction counter.
4. Locked storage room to include weapons cabinet.
5. Reception to include seating for minimum of 8, table area for reports, and a telephone.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
CIB - GENERAL

CIB - GENERAL	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Assistant Chief Harpole	1	0	1	**1**	Office	16 x 22	352	352	
Inspector	1	0	1	**1**	Office	16 x 18	288	288	
Admin Assistant	1	0	1	**1**	WS	8 x 10	80	80	Currently in an office due to existing conditions
PROJECTED PERSONNEL COUNT	3	0	3	**3**	**PERSONNEL S.F.**			**720**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Equipment Area	1	0	1	**1**		8 x 10	80	80
Break alcove	1	0	1	**1**	Private	7 x 10	70	70
Conference room	0	1	1	**1**		12 x 18	216	216
Single Stall Toilet Room	0	1	1	**1**	Private	7 x 10	70	70
PROJECTED SUPPORT SPACE								**436**

SUB-TOTAL	1,156
CIRCULATION S.F.	462
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**1,618**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
A floor away from CIB departments

SECONDARY - Same Floor or Directly below, Medium Interaction:

ADDITIONAL NOTES:
1. Assistant Chief Harpole wants to remain with his department rather than be relocated to the 7th floor with the 3 other assistant chiefs.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
VIOLENT CRIMES DIVISION

VIOLENT CRIMES DIVISION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Captains	2	2	4	**4**	Office	10 x 15	150	600	See additional note #1 below.
Lieutenants	13	0	13	**6**	W/S	8 x 8	64	384	16 Liets on 5 shifts, share (6) W/S in (1) office,
Detectives	79	0	79	**1**	W/S	6 x 6	36	2,844	Currently share with all shifts a 3x5 desk, require their own
Officers	1	0	1	**1**	W/S	6 x 6	36	36	
Clerks	2	0	2	**2**	W/S	8 x 8	64	128	(2) currently located within interrogation area.
PROJECTED PERSONNEL COUNT	97	2	99	**14**	**PERSONNEL S.F.**			**3,992**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Single Stall Toilet room	1	1	2	**2**	Internal	8 x 10	80	160
Break Alcove	1	0	1	**1**	Internal	7 x 10	70	70
Lieutenants Lockers	1	0	1	**1**	Internal	10 x 10	100	100
Homicide briefing conference room	1	0	1	**1**	Seat 16	18 x 20	360	360
Quiet room w/ plotter	1	0	1	**1**	Internal	10 x 15	150	150
Non custodial meeting rooms (1 on 1 meetings)	0	2	2	**2**	Public	10 x 10	100	200
Non custodial meeting rooms (family meetings)	0	1	1	**1**	Public	12 x 16	192	192
Interrogation rooms	10	0	10	**0**	Internal	8 x 8	64	0
Evidence processing room	1	0	1	**1**	Internal	12 x 30	360	360
Evidence drying room	1	0	1	**1**	Internal	8 x 30	240	240
Open meeting space in large open office	1	0	1	**1**	Seat 16-20	16 x 20	320	320
Secured entry way (Like Sensitive Crimes)	1	0	1	**1**	Public	10 x 10	100	100
PROJECTED SUPPORT SPACE								**2,252**

SUB-TOTAL	6,244
CIRCULATION S.F.	2,498
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**8,742**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
-

SECONDARY - Same Floor or Directly below, medium Interaction:
Neighborhood Investigation, Cold Case

ADDITIONAL NOTES:
1. Per Liet. Stigler will be dividing Detectives into (3) groups - South, Central and North so each will have a Cpt., Liets., (1) Clerk
2 Radios located within the Lieutenants office.
3. Verify if bomb storage can be relocated.
4. Homicide conf rm to retain plasma & white boards.
5. Detectives open office will need to include 3 plasmas and (1) podium for roll call. Verify if (3) individual podiums will be needed for all 3 sections.
6. New non custodial meeting rooms to be set up with residential type furniture for private meetings for families.
7. Interrogation rooms all require video cameras and hand cuff rings.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
NEIGHBORHOOD INVESTIGATIONS DIVISION

NEIGHBORHOOD INVESTIGATIONS DIVISION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Captain	1	0	1	**1**	Office	10 x 15	150	150	
Lieutenants	5	0	5	**5**	WS	8 x 8	64	320	Locate all in one office
Detectives	40	0	40	**40**	WS	6 x 6	36	1,440	
Sergeants	2	0	2	**2**	WS	6 x 8	48	96	
Officers	3	0	3	**3**	WS	6 x 6	36	108	
PROJECTED PERSONNEL COUNT	51	0	51	**51**	**PERSONNEL S.F.**			**2,114**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Work Room	1	0	1	**1**	Shared	10 x 15	150	150
Receptionist / Waiting	0	1	1	**1**		10 x 10	100	100
General File area	1	0	1	**1**	Common	15 x 17	255	255
Break alcove	1	0	1	**1**	Common	7 x 10	70	70
Interview room	1	0	1	**1**	Shared	10 x 10	100	100
Lieutenants Lockers	0	1	1	**1**	Private	10 x 10	100	100
PROJECTED SUPPORT SPACE								**775**

SUB-TOTAL	2,889
CIRCULATION S.F.	1,156
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**4,045**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly below, Medium Interaction:

ADDITIONAL NOTES:

1. Break alcove can be shared with another CIB division that will be located adjacent to NID.
2. Store all forms and paperwork currently sitting out in open office within general file room.
3. Could share interview room with another CIB division located adjacent.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
INVESTIGATIVE MANAGEMENT DIVISION

INVESTIGATIVE MANAGEMENT DIVISION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Captain	1	0	1	**1**	Office	10 x 15	150	150	
Lieutenants	2	0	2	**2**	WS	8 x 8	64	128	
Supervisor	1	0	1	**1**	WS	6 x 6	36	36	
Assistants	19	0	19	**19**	WS	6 x 6	36	684	
Transcriptionists / Clerks	0	6	6	**6**	WS	6 x 8	48	288	
Aids	7	0	7	**7**	WS	6 x 6	36	252	
PROJECTED PERSONNEL COUNT	30	6	36	**36**	**PERSONNEL S.F.**			**1,538**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Work area	1	0	1	**1**	Copy / Ptr	10 x 10	100	100
Secure Receptionist area	0	1	1	**1**		10 x 13	130	130
General File area	1	0	1	**1**	Common	10 x 15	150	150
Break Alcove	1	0	1	**1**	Shared	7 x 10	70	70
PROJECTED SUPPORT SPACE								**450**

SUB-TOTAL	1,988
CIRCULATION S.F.	795
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**2,783**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly below, Medium Interaction:

ADDITIONAL NOTES:
1. Break alcove and interview room could be shared with another CIB division that will be located adjacent.

INTELLIGENCE FUSION CENTER	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Captain (Rowe)	1	0	1	**1**	Office	10 x 15	150	150	
Lieutenants	2	0	2	**2**	WS	8 x 8	64	128	
Detectives - Investigative Task Force Ops room	6	6	12	**12**	WS	3 x 4	12	144	Must be in own room
Detectives - Real Time Unit	8	8	16	**16**	WS	3 x 4	12	192	
Sergeants - @ Real Time stations	1	1	2	**2**	WS	6 x 6	36	72	
Deputy Director - Crime Analysis Area	1	0	1	**1**	WS	6 x 6	36	36	
Crime Analysis Area	3	3	6	**6**	WS	3 x 4	12	72	
Health & Fire	0	2	2	**2**	WS	6 x 6	36	72	
Real Time Unit - Control Desk	1	0	1	**1**	WS	3 x 7	21	21	
Financial Crimes Task Force	5	2	7	**7**	WS	6 x 6	36	252	IRS Group
Analyst	0	1	1	**1**	WS	6 x 6	36	36	
Admin Assistants	4	0	4	**4**	WS	6 x 6	36	144	
Investigator	2	0	2	**2**	WS	6 x 6	36	72	
Aid	2	0	2	**2**	WS	6 x 6	36	72	
PROJECTED PERSONNEL COUNT	36	23	59	**59**	**PERSONNEL S.F.**			**1,463**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Equipment area	0	1	1	**1**	Copy / Ptr	5 x 15	75	75
Secure Public Receptionist area w/ seating	0	1	1	**1**		12 x 15	180	180
General Employee entry w/ coat closet	0	1	1	**1**	Common	10 x 10	100	100
Break Alcove	0	1	1	**1**	Shared	7 x 10	70	70
SKIF Room (Additional HVAC & power requirements)	0	1	1	**1**	Secure	10 x 16	160	160
Conference room (LCD, SB, Power in floor)	0	1	1	**1**		16 x 22	352	352
Plasma Wall / w rear projection room	0	1	1	**1**		15 x 30	450	450
Lieutenant Locker room	0	1	1	**1**	Private	10 x 10	100	100
PROJECTED SUPPORT SPACE								**1,487**

SUB-TOTAL	2,950
CIRCULATION S.F.	1,180
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**4,130**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly below, Medium Interaction:
High Tech Crime Unit

ADDITIONAL NOTES:
1. All information reflects plans for new Fusion Center.
2. SKIF must include secured continually changing combination entry into server room. Clarify what special HVAC requirements are needed.
3. Media wall will require (3) Smart boards and (6) LCD screens.
4. Additional equipment is a plotter, copier, (2) FS ptrs, (2) fax machines, (2) desk ptrs, a shredder and a scanner.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
ORGANIZED CRIME DIVISION

ORGANIZED CRIME DIVISION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Captain	1	0	1	1	Office	15 x 16	240	240	
Lieutenants	5	0	5	1	WS	20 x 20	400	400	Indicates existing workstation size
Detectives	34	0	34	34	WS	3 x 6	18	612	Indicates existing workstation size
Officers	11	0	11	11	WS	6 x 6	36	396	Indicates existing workstation size
Supervisor	1	0	1	1	WS	6 x 6	36	36	
Admin Assistants	4	0	4	4	WS	6 x 6	36	144	
Investigator	1	0	1	1	WS	6 x 6	36	36	
PROJECTED PERSONNEL COUNT	57	0	57	53	**PERSONNEL S.F.**			**1,864**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Lockers (Includes 16)	1	0	1	1		9 x 12	108	108
Secure Receptionist area	1	0	1	1		8 x 11	88	88
Records	1	0	1	1	Secure	7 x 23	161	161
Equipment room (radios, surveillance, video equip.)	1	0	1	1	Secure	10 x 14	140	140
Break Alcove (Existing)	2	0	2	2	Shared	10 x 12	120	240
Drug Vault	1	0	1	1	Secure	8 x 10	80	80
Int. Drug Storage(shotgun safe, narcotics)	1	0	1	1	Secure	6 x 8	48	48
Conference	1	0	1	1	Common	17 x 26	442	442
Equipment Alcove	1	0	1	1	Common	12 x 15	180	180
Files, typewriter, printers	1	0	1	1	Common	7 x 17	119	119
Testing Room	1	0	1	1	Secure	12 x 14	168	168
General Storage	1	0	1	1	Secure	6 x 8	48	48
Quiet Room	1	0	1	1	Secure	8 x 10	80	80
PROJECTED SUPPORT SPACE								**1,902**

SUB-TOTAL	3,766
CIRCULATION S.F.	1,506
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**5,272**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly below, Medium Interaction:

ADDITIONAL NOTES:

1. Currently located on 6th floor in newest space in the building. They did note they do not want to move.
2. Testing Room to remain on outside wall.
3. All furniture sizes listed are not shown as new standards developed by EUA. The furniture in this department is new within the last 3 years and would resued.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
SENSITIVE CRIMES DIVISION

SENSITIVE CRIMES DIVISION	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Captain	1	0	1	**1**	Office	10 x 15	150	150	
Lieutenants	4	0	4	**4**	WS	8 x 8	64	256	
Detectives	20	0	20	**20**	WS	6 x 6	36	720	
Sergeants	2	0	2	**2**	WS	6 x 8	48	96	
Officers	32	0	32	**32**	WS	6 x 6	36	1,152	
Admin Assistants	4	0	4	**4**	WS	6 x 6	36	144	
Investigator	0	0	0	**0**	WS	6 x 6	36	0	
Aid	1	0	1	**1**	WS	6 x 6	36	36	
PROJECTED PERSONNEL COUNT	64	0	64	**64**	**PERSONNEL S.F.**			**2,554**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Work Area	1	0	1	**1**	Copy / Ptr	8 x 15	120	120
Secure Receptionist area	1	0	1	**1**		8 x 10	80	80
Male/ Female Single Stall Toilets (Existing to remain)	2	0	2	**2**	Common	7 x 10	70	140
Locked Storage	1	0	1	**1**	Shared	10 x 10	100	100
Break Alcove (Existing to remain)	1	0	1	**1**	Shared	10 x 12	120	120
Lockers	1	0	1	**1**	Private	8 x 15	120	120
PROJECTED SUPPORT SPACE								**680**

SUB-TOTAL	3,234
CIRCULATION S.F.	1,294
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**4,528**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or Directly below, Medium Interaction:

ADDITIONAL NOTES:
1. Currently located on west end of the 6th floor and do not want to move.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
LICENSE INVESTIGATION UNIT

LICENSE INVESTIGATION UNIT	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.	
Investigating officers - License Division	5	0	5	**5**	WS	6 x 6	36	180	1 of 5 is a Sergeant, divide off with taller panels
Investigating officers - Noise Division	2	0	2	**2**	WS	6 x 6	36	72	
PROJECTED PERSONNEL COUNT	7	0	7	**7**	**PERSONNEL S.F.**			**252**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	Design	Space Type	Size	S.F.	Total S.F.
Equip. area (ptrs, 3 typewriters, fax	1	0	1	**1**	Shared	10 x 10	100	100
File area	1	0	1	**1**	Shared	10 x 10	100	100
Break Alcove	1	0	1	**1**	Shared	7 x 10	70	70
PROJECTED SUPPORT SPACE								**270**

SUB-TOTAL	522
CIRCULATION S.F.	209
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**731**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:

SECONDARY - Same Floor or directly below, Medium Interaction:
Identification Section

ADDITIONAL NOTES:
1. Unable to determine future growth, however did comment that if civilian gun law is passed more staff would need to be added, totals were unknown.

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DEPARTMENT PROGRAM WORKSHEET
POLICE ADMINISTRATION BUILDING
HIGH TECH UNIT

HIGH TECH UNIT	PERSONNEL PROJECTIONS				PERSONNEL SPACE				SPECIAL REQUIREMENTS
Staff Position or Title	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.	
Detectives	4	1	5	**5**	WS	6 x 6	36	180	All require dual monitors
PROJECTED PERSONNEL COUNT	4	1	5	**5**	**PERSONNEL S.F.**			**180**	

DEPARTMENT SUPPORT	SUPPORT PROJECTIONS				SUPPORT SPACE			
Room Description	2010	2015	Total	**Design**	Space Type	Size	S.F.	Total S.F.
Equip. area	1	0	1	**1**	Shared	10 x 10	100	100
File area	1	0	1	**1**	Shared	10 x 10	100	100
Break Alcove	1	0	1	**1**	Shared	7 x 10	70	70
Computer Lab	1	0	1	**1**	Secure	20 x 25	500	500
Computer Lab Storage	1	0	1	**1**	Secure	10 x 18	180	180
PROJECTED SUPPORT SPACE								**950**

SUB-TOTAL	1,130
CIRCULATION S.F.	452
TOTAL DEPARTMENT S.F. WITH CIRCULATION	**1,582**

ADJACENCIES

PRIMARY - Directly Adjacent, Most Frequent Interaction:
-

SECONDARY - Same Floor or directly below, Medium Interaction:
Fusion Center

ADDITIONAL NOTES:
1. Captain Rowe noted this group can remain separate from IFC but if space allows for it, locate both groups together.
2. If Computer lab moves special HVAC is required for server. Electrical strips must run entire perimeter of room at worksurface height.

LOADING DOCK

License Investigation Unit
705 SF

Facilities
414 SF

Freight Elevator

Property Annex

E3

E4

Facilities
2,123 SF

Lockers
415 SF

Additional Lieutenant / Sergeant Lockers

New Elevator From Basement to 7th Floor

RESERVED PARKING

GARAGE DOOR

Facilities
4,541 SF

Additional Officer Lockers

Officer Lockers / Toilets
2,017 SF

Facilities
482 SF

Facilities
464 SF

Facilities
239 SF

DOWN TO SECOND LEVEL PARKING /
ADDITIONAL FACILITY STORAGE

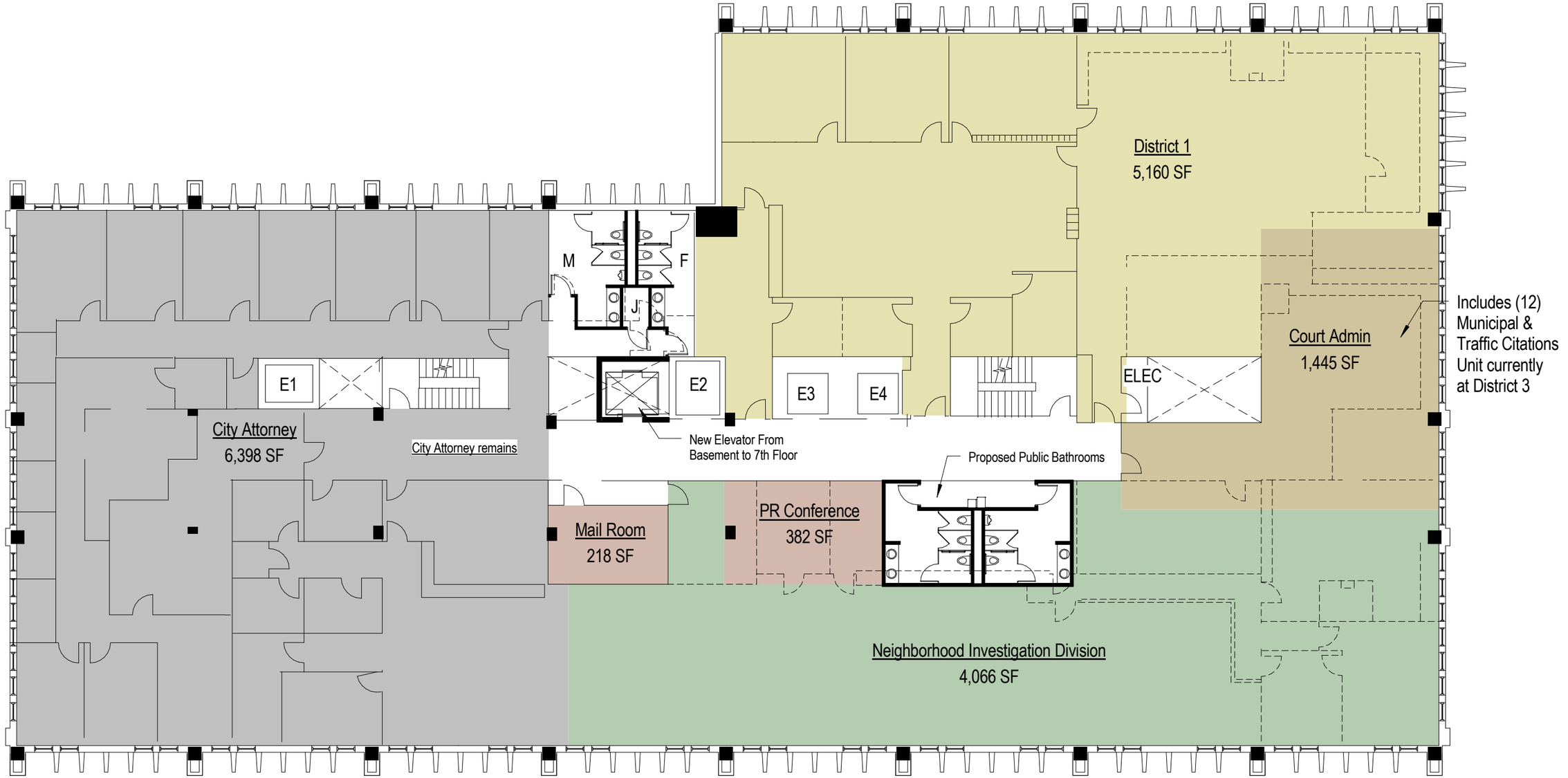
GARAGE DOOR

POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LOWER LEVEL

eppstein uhen : architects

03/18/10 309032-13



POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LEVEL 2

eppstein uhen : architects

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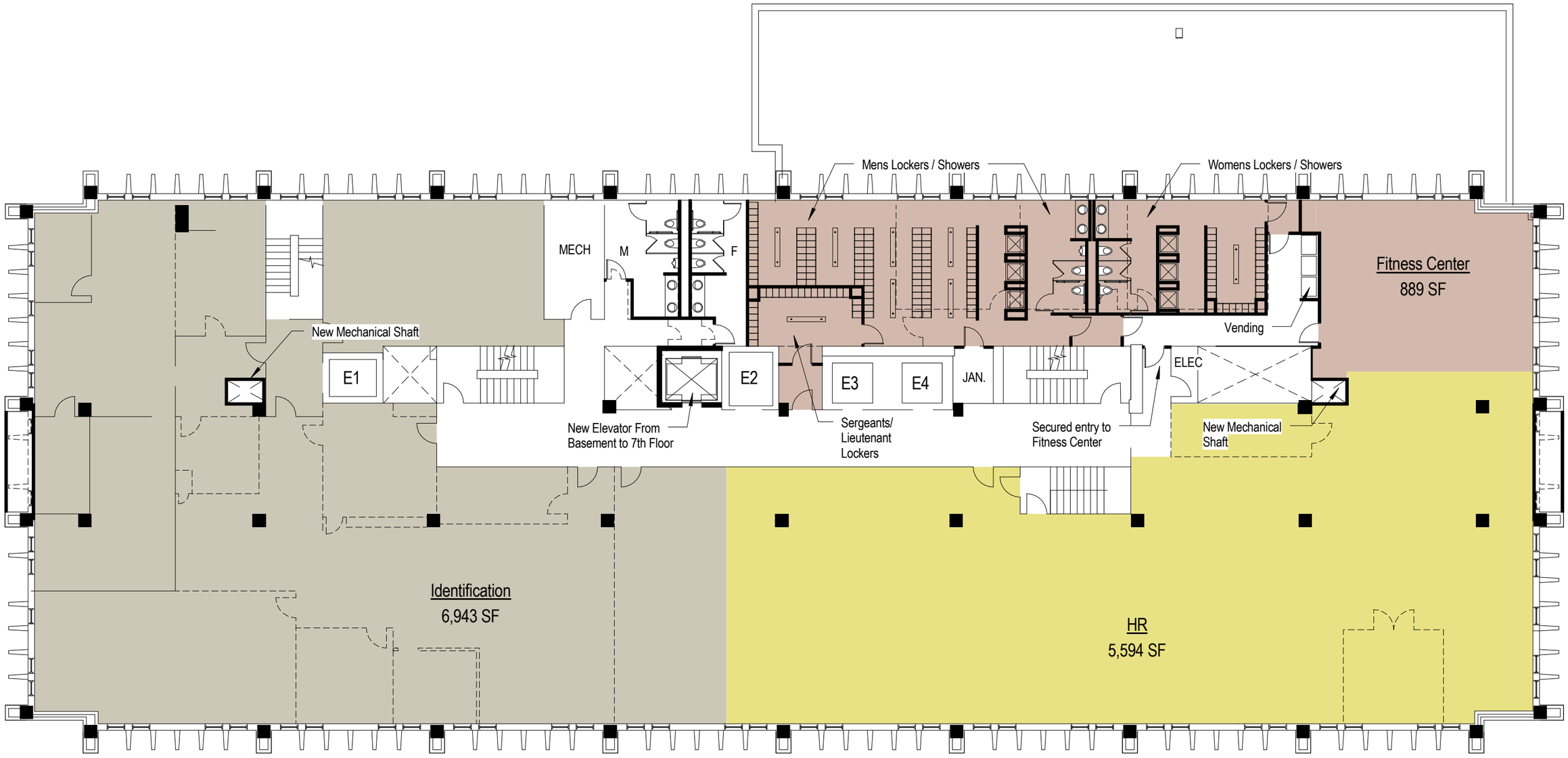

POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LEVEL 3

eppstein uhen : architects

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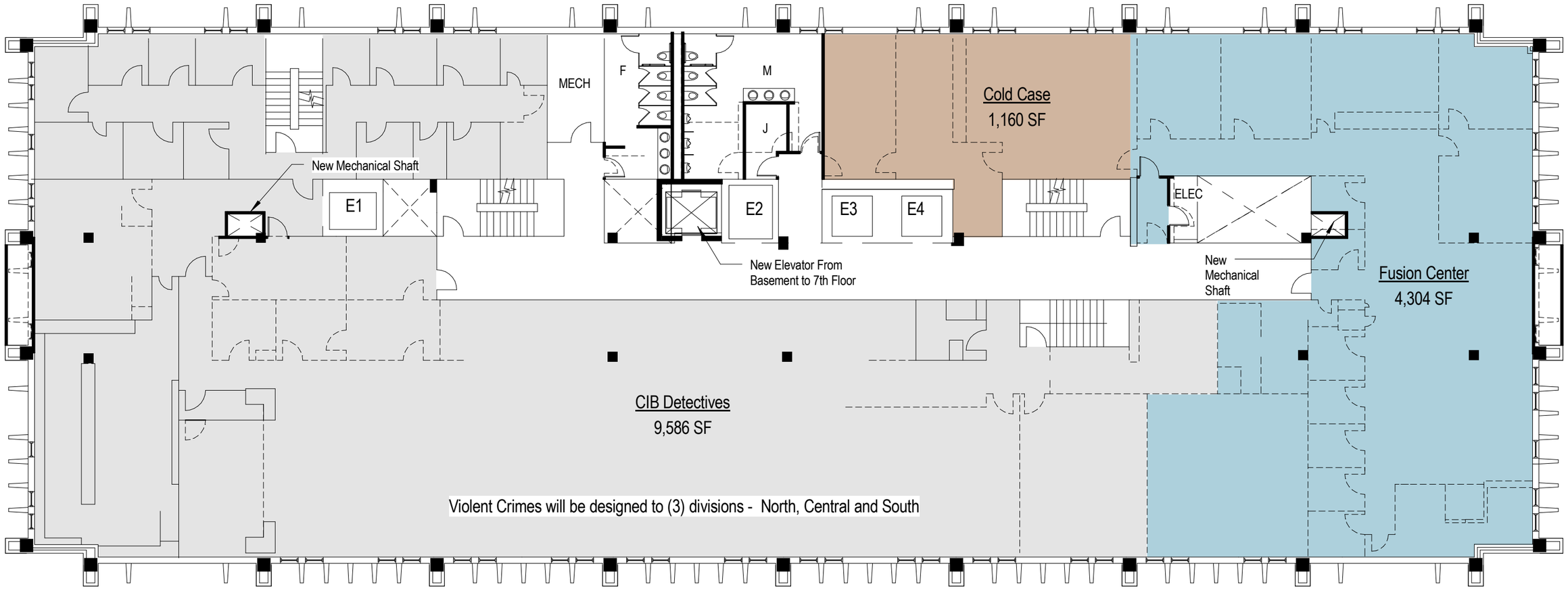

POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LEVEL 4

eppstein uhen : architects

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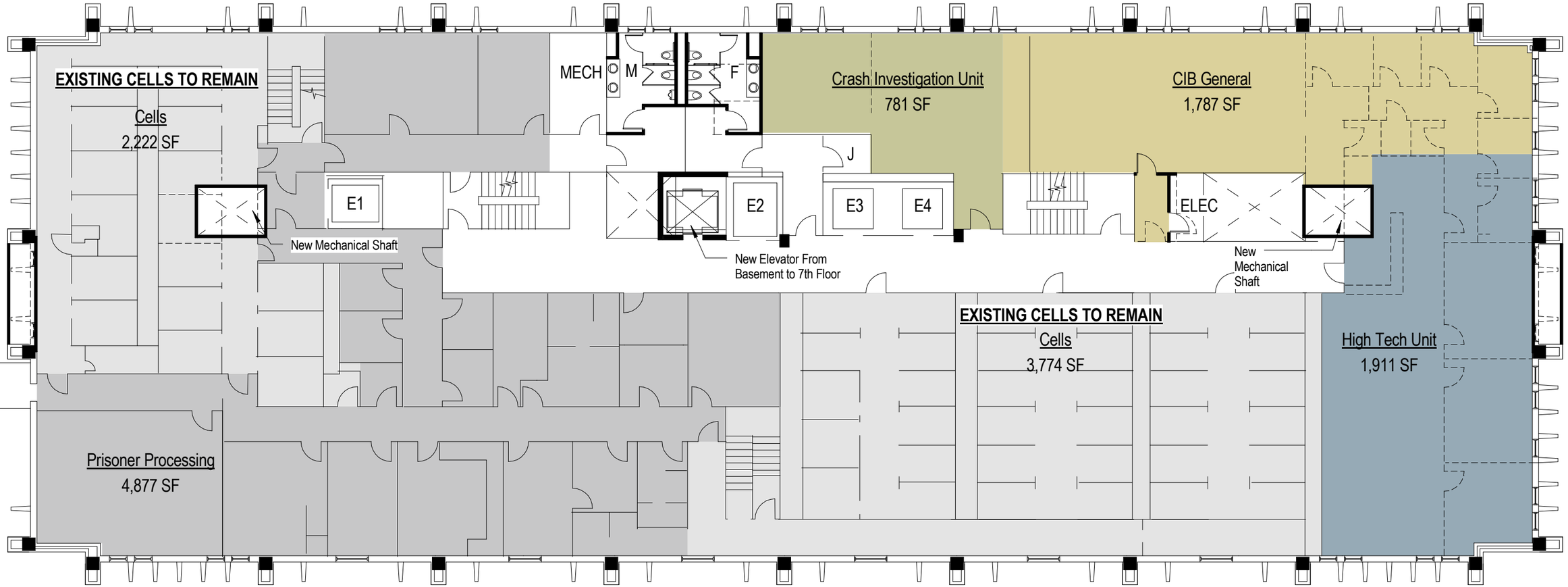

POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LEVEL 5

eppstein uhen : architects

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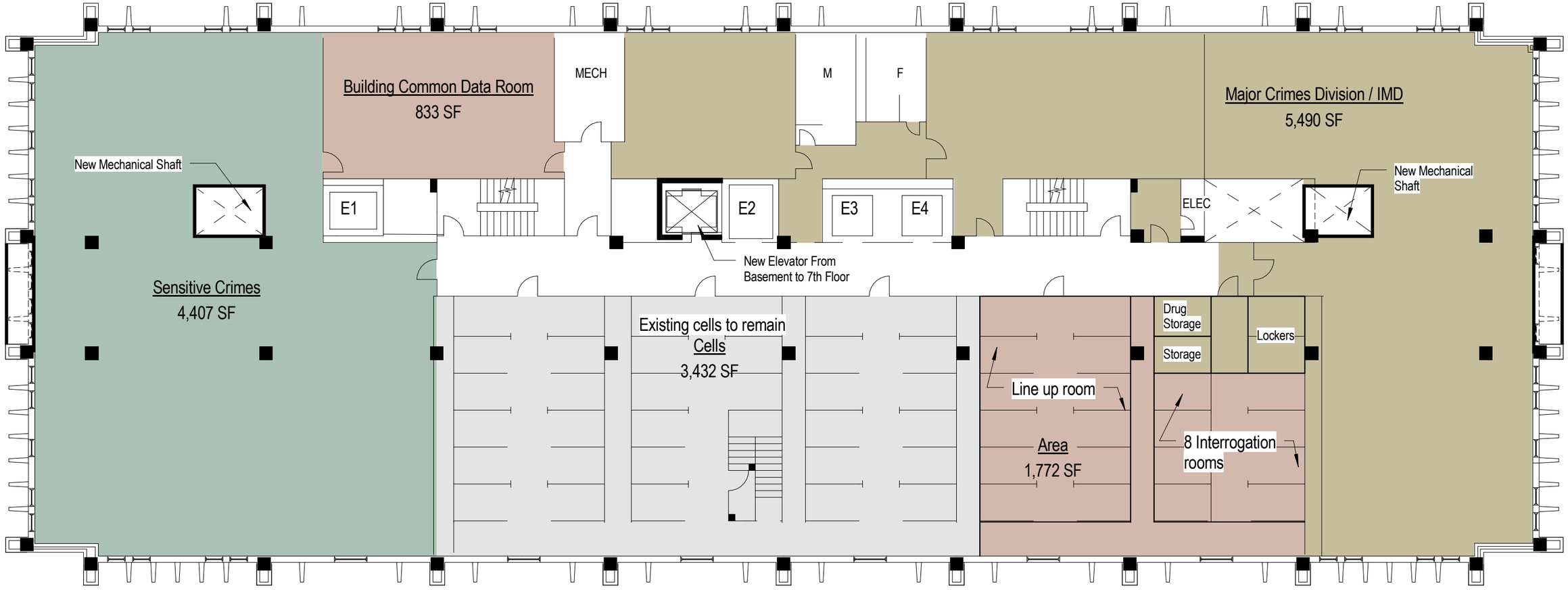
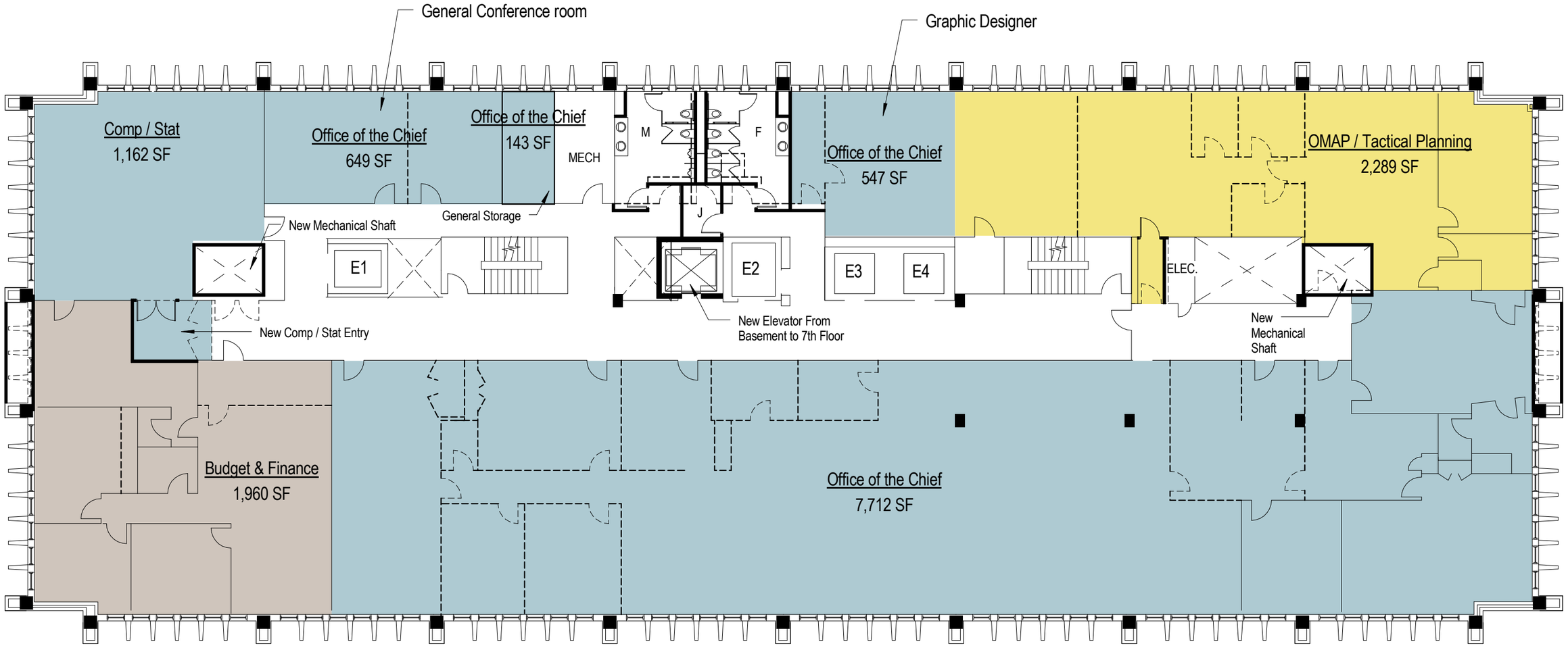


POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LEVEL 6

eppstein uhen : architects

03/18/10 309032-13



POLICE ADMINISTRATION BUILDING - MASTER PLANNING

PROPOSED LEVEL 7

eppstein uhen : architects

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