

**FEASIBILITY STUDY FOR A
COUNCIL CHAMBERS/AUDITORIUM
RENOVATION**

Prepared for:
The City of Takoma Park



Prepared By:
MTFA Architecture

July 27, 2007

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Table of Contents

- I. Executive Summary
- II. Introduction
- III. Program, Process, & Objectives
- IV. Existing facility
- V. Design Concept A
- VI. Design Concept B
- VII. Design Concept C
- VIII. Audiovisual Recommendations
- IX. Construction Cost Estimates

I. EXECUTIVE SUMMARY

Background

MTFA Architecture was retained by the City of Takoma Park to conduct a feasibility study for renovation of the existing City Council Chambers/Auditorium located in the City Hall building. The goal is to better facilitate multiple uses including such events as performing arts, lectures, and music, while continuing to serve its primary function as a Council Chamber.

The MTFA design team included architects, interior designer, audiovisual and acoustic consultants, lighting designer, mechanical/electrical engineers, and professional cost estimator.

To begin the study, the design team met with administration and community representatives to confirm program and objectives. Also discussed was how alternative design concepts could assist the Takoma Park Council and community in determining the best course of action. It was decided that the study's alternative design concepts should span a range of scope and budget. Three concepts were developed as follows:

Concept-A:

This is a minimal scheme that includes remodeling of the existing conference room to include a wheelchair lift, and partially raised floor for storage of a mobile Council desk. Additional priority is given to replacement of ceiling and lighting. Proposed audiovisual upgrades are modest and other changes are limited including retention of the existing fixed seating. The existing air conditioning equipment remains and HVAC work is limited to possible retrofit of sound-reducing liners at return air plenums.

Concept-B

Concept-B was developed subsequent to the more comprehensive design for Concept-C. The intent was to incorporate reasonable compromises to scope to achieve cost savings, while preserving the highest priority elements.

Like scheme A, a storable mobile Council desk is included, but there is additional remodeling of support areas. Major design elements include an extended stage configuration, and ADA ramp and restroom, new seating, lighting and ceiling treatment, replacement of the HVAC system, and additional audiovisual support.

Concept-C

This scheme maximizes flexibility and opportunities within the physical envelope. The remodeling scope includes new features such as the addition of a new "front" entrance as well as glazed openings to the atrium lobby. A new rooftop system HVAC design is proposed, and a comprehensive higher end audiovisual scope is suggested.

Estimated Construction Costs

Detailed construction cost estimates were developed as part of the study and are summarized in the following table with a breakout for mechanical (HVAC), a rough idea of accessibility (ADA) items, the allocated audiovisual (AV) package and a total contract price estimate:

CONCEPT	COMPONENTS				TOTAL
	HVAC	ADA	AV	GENERAL	
A	10,396	30,000	58,500	338,314	437,210
B	116,354	65,000	99,400	822,551	1,103,305
C	169,488	85,000	217,300	1,036,851	1,508,639

Please note that these figures represent “construction contract” estimates. **THEY ARE NOT TOTAL PROJECT COSTS** and not include soft cost costs such as bonds, financing, construction management, tests and inspections, architecture/engineering fees, or cost escalation beyond July 2008. Estimated project costs should be determined by applying a multiplier or line item budget in consultation with City management staff. The estimates do include general contractor’s overhead and profit, costs for a bond, a 6% escalation assuming construction start in summer 2008, and a “design contingency” of 15% representing possible additions to overall scope not currently anticipated. See page 9.1 for additional notes.

The concept budgets can be used as tools for determining a final project scope where certain mixing and matching of elements are possible. A definite construction logic, however, should be applied in any recombination of scope.

Limited phasing of improvements is a viable option. However, phasing of architectural modifications by and large would not be an effective strategy. Phasing could best include deferral of selected program components such as AV equipment, lighting, etc. depending on the selected design concept.

Conclusion

Straight forward improvements can significantly transform the Council Chambers/Auditorium space and provide an upgraded experience for the City Council setting as well as a wider variety of activities. A range of options, budget, and effectiveness are available to address the objectives as developed by community representatives.

The study looked at three renovation approaches with the intent to present realistic projects at three different investment levels. A requirement for each was that it achieve significant design objectives. Each concept will require a substantial commitment of resources. The direction for a renovation approach will require much discussion and certainly options can include a decision not to pursue anything at the levels illustrated.

Regardless of approach taken, a number of building items will require replacement and/or upgrades—for example, the HVAC equipment is well overdue for replacement. Such items could trigger a wasteful piecemeal or band-aid approach in the absence of longer range plans, or they can be part of a larger master plan. It is hoped that this study provides a tool for the discussion of the longer term community vision and commitment for this venue. This discussion is now timely and an important part of the stewardship process.

II. INTRODUCTION

In March of 2007, the City of Takoma Park issued a request for proposals (RFP) for architectural services related to potential renovation of the City Council Chambers. The goals for the project included the following:

The City is interested in adapting the current City Council Chamber/Auditorium at the Takoma Park Community Center ... to better accommodate multiple uses, including government meetings and performing arts. The initial phase of this study is to conduct a feasibility study and identify alternatives and cost estimates for a proposed renovation of the space. The Chamber/Auditorium would continue to be used for weekly City council meetings and other government events, and this project would incorporate physical enhancement to better enable its use for performing arts such as dance recitals, live musical performance, poetry readings, lectures, movie nights, etc. Additionally, the City has a cable access channel, and meetings and events held in the Chamber/Auditorium are cablecast live using robotic cameras. Any plans to renovate this space must accommodate this function without adding operational burdens.

Several architectural firms responded to the RFP and were reviewed and interviewed by the Takoma Park Selection Committee. The firm of MTFA Architecture was selected, confirmed by Council, and authorized to proceed with the Phase-1 feasibility study.

This report documents the study's process, presents the alternative design concepts that were developed, and provides a construction cost estimate for each alternative.

Members of the study team include:

Architecture & Project Management

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2311 Wilson Blvd Arlington, VA 22201
703-524-6616

Acoustics and Audiosvisual

Miller Beam Paganelli
12040 South Lakes Drive, Suite 104 Reston, VA 20191
703-506-0005

Mechanical and Electrical Engineering

Allen + Shariff,
7051 Deepage Dr. Columbia, MD 21045
410-381-7100

Lighting Design

C.M. Kling & Associates, Inc.
1411 King St. Alexandria, VA
22314 703-684-6270

Construction Cost Estimating

R.W. Brown & Associates
404 Pine Street SE, Ste. 202 Vienna, VA 22180
703-255-2580

III . Program, Process, & Objectives

Background

In 2003 the City of Takoma Park undertook the renovation and expansion of the City Hall to serve as a Community Center. As part of the renovation planning discussions, the use of the Council Chambers for performing arts and similar activities was identified as a desirable goal. In support of this idea, the Takoma Park Arts and Humanities Commission (as advisory body to the City Council) is overseeing the current effort to investigate options for upgrading conversion to a flexible multiuse facility.

Process

The design team's first steps included the study of original construction documents for the facility, an on-site survey of the space, and review of the preliminary program developed by the ad-hoc Auditorium Committee (comprised of members of the Arts & Humanities Commission, Recreation Department, Recreation Committee, as well as other community members).

Next, a programming meeting was organized in order to receive direct input from the community and staff. On May 23, the architects and engineers met with the group of "ambassadors", representing the differing special "interests" of potential users and administrators. Meeting participants included:

Lonni Moffet, Director of Communications
Debra Haiduven, Director of Recreation
Carey Antoszewski, Recreation Manager
Karen Mendez, Committee Member
Daryl Braithwaite, Director of Public Works
Charlie Pilzer, Member of Arts & Humanities Commission
Howard Kohn, Recreation Committee Chair
Alvaro Calabia, Video Production Manager
Paul M Falcon, Professional Set Designer

Following this meeting, and responding to "what was heard", the design team proceeded with the development of 3 conceptual design options. A draft feasibility report was produced incorporating these concepts.

A follow-up meeting was held on July 10 with the original group. At this meeting, the draft report was presented by the design team and discussed by the participants. The report was well received and the architects were authorized to proceed with a final report incorporating several comments from the committee.

The Feasibility Study will be presented by the design team to the Takoma Park City Council at a regularly scheduled meeting. There it should serve as a valuable tool in the process of deciding how best to proceed.

Objectives

Discussions at the programming meeting were lively and covered a range of topics. The group confirmed types of activities that might be better accommodated with a renovation. The list included:

- Council Meetings
- Other government and civic meetings
- Musical performances
- Poetry readings
- Lectures
- Dance recitals
- Theatrical performance
- Youth programs
- Speakers
- Movies/films
- Various programs offered by the Recreation Department such as Movie Night

Potential design elements were discussed in respect to the different uses. Typically each element was more targeted to a particular use, but in large measure most were complimentary. The following (non-ranked) priorities were established:

- Enlarging the stage and making the council desk “storable”.
- Providing wheel chair access to the stage
- Providing functional support or “green room” space for performers
- Modifying/replacing the air conditioning system to provide a quieter room
- Improving visibility of presentation screens for both audience and “on-stage” officials
- Improved amplified audio for music and spoken word
- Improved room acoustics for amplified as well as non-amplified performance
- Concealed wiring and easy setup changes
- Improved fixed chair layout
- Improved special lighting for performances
- Improved finishes and colors
- Upgraded AV equipment
-

Discussions among the group also established a list of parameters, and in some cases values, that should inform a renovation design. Selected ideas included:

- The Takoma Park community goal is for a highly functional, accessible, and technologically state of the art space within a reasonable and fiscally responsible framework.
- “Reasonable” expectations are required for a multipurpose, non-professional venue especially where budgets and existing conditions are a consideration.
- There is need for some compromise in acoustic design in order to address both the spoken word and music.
- Sophisticated flexibility features need to be balanced with ease of setup and security.
- It is most desired to have “dignified” wheelchair access to the stage (a ramp as opposed to power lift).

- A more architecturally “open” council chamber may reinforce the concept of open government and local democracy.

Finally, the programming group addressed the issues of budget and project scope. It was decided that the study would be most useful if two or three design alternatives were developed to represent a range of scope and budget.

Figure 3.1

Architects and “ambassadors”
at the programming meeting,
May 23, 2007.



Figure 3.2

Listing priorities for
the project at the
workshop.



IV . EXISTING FACILITIES

General Description

The Council Chambers is a semi-circular room with approximately 150 fixed seats on a raked floor. The existing auditorium has two entrances/exits, one at each side of the platform. The Council typically meets on a weekly basis and the seven Council members, City Clerk, and City Manager sit at a large fixed linear podium on the platform. Presenters to the Council sit at a portable table in front of the stage while a speaker's podium is provided for citizen speakers adjacent the portable table.

There is a 21" high stage at the front of the room. Technically, the stage is considered a "raised platform" (not a stage) by the building code primarily because it does not have any suspended curtains. In the case of a "stage" there are additional fire safety provisions required that are discussed further in the Concept-A narrative. Because of its common usage, the term stage will be used interchangeable with platform in the report unless a specific distinction is made.

Platform and Support Space

Most of the stage area is occupied by the large fixed City Council podium desk. There is minimal space in front of the desk to support other types of activities. Limited three or four person performances, lectures, and similar events can function acceptably, but other types of activities are not supported well.

At the rear of the stage there is a door with steps to a hallway, a small single use bathroom and a conference room. The conference room can also serve as a stage preparation room or "holding space".

No belfry space is provided in the stage area. In fact the ceiling height is lower than the general auditorium space.

Americans with Disabilities Act (ADA) Access

There is no wheel chair access to the stage. The single use restroom is undersized and not accessible. The raked audience floor is within a 5% slope and therefore is wheel chair maneuverable. There is open floor space in the back and front of the room for audience wheelchairs; however there are no spaces integrated among the fixed seats.

Seating

There are approximately 150 fixed theater seats. Upholstery is worn and color dated, but the seats are basically functional. The seats are arranged with a center isle plus isles adjacent each side wall.

Ceiling & Lighting

The existing auditorium ceiling is a very basic suspended 2x4 acoustic tile system with significant age. The existing general lighting consists of 4' x 4' florescent flush white lens fixtures with daylight color lamping. Because the space is used for video broadcasting the light levels must be adequate for the sensitivity and requirements of the camera. The existing lighting does address the need for sufficient light, but it produces excessive glare. Unfortunately, the eye will go right to these fixtures, the brightest objects in a space; one has no choice but to look at these fixtures instead of the speaker or presentation on the stage (see Figures 3.1 and 3.2).

On the stage, the existing back wall is lit but not at the required intensity to insure the contrast ratios needed for the camera. Track lighting, partially concealed behind a fascia is used to light the large podium desk, and is relatively effective at this task.

Audio Visual

For broadcasting Council meetings and other events, there are four remote controlled cameras mounted from the ceiling. The broadcast "studio" is located elsewhere in the building.

There is a Mackie soundboard used at the back of the room (with no dedicated consol space), and there are loud speakers on each side of the stage opening for the audience. In addition there are speakers over the stage to serve the Council seating area. There is a modest size operable projection screen, ceiling mounted at the center of the room in front of the stage. Screen projection is via a portable cart-mounted system. Currently, Council members must leave the stage and join the audience in order to view projected exhibits. Wiring for the projection system must be strung out awkwardly over the floor.

Acoustics

The existing room acoustics reasonably accommodate most functions, but there are acoustical anomalies caused by the acoustically hard curved side/back walls. These walls cause some focusing which can reduce speech clarity and audio system performance. Except for these anomalies, the overall room reverberation is within a normal range for this type of facility due to the combined absorption of the upholstered seating, carpeted floor and acoustical tile ceiling. The air conditioning system is relatively noisy primarily due to return air inlets on each side of the platform area. Any AC system modifications should incorporate acoustic measures.

Heating Ventilating and Air Conditioning (HVAC)

The existing mechanical, electrical, and plumbing systems were installed in the early 1970's and appear to be original without modification. The overall condition of the HVAC system is in fair operating condition given the age of the existing system. Since the equipment is 36 years old, it has outlived its life expectancy by at least 11 years and should be replaced.

The Council Chamber is currently served by a single 15 ton air handler located within the Council Chamber mechanical room adjacent to the podium on the east side. The air handler is fed from the central plant with chilled and hot water for cooling and heating. It has been reported that there is inadequate cooling during well-attended summer events.

During the engineers' site visit, a de-humidifier was running within the space indicating there may be high humidity and moisture problems within the space. Additionally, it has been reported that

the HVAC system is loud and disruptive during council meetings. The unit appeared to be operating in the normal noise range typical of the type of system installed. The major noise source appears to be generated by the location of the return air grills located at the rear of the stage area and adjacent to where the Council members sit.

Currently the existing HVAC system provides outside air to the space as required by governing codes of the 1970's. Since that time, ventilation rates (outside air requirements) have increased for assembly areas such as this and will need to be evaluated given the anticipated renovations, especially in the case of increased seating capacity.

Electrical

The electrical system power (120/208 volt) and lighting is consistent with systems of that era and appear to be in working order. It was reported that the number and location of outlets is inadequate for the current uses.

During the more recent construction, a new electrical service (277/480 volt) was brought into the building. The new electrical service has ample spare capacity for future connection.

Code & Fire Protection

Existing conditions, if meeting codes at the time of construction, but not conforming to current codes, are typically grandfathered. In the event of significant remodeling, however, code upgrades may be required.

The Council Chamber/Auditorium is an "Assembly" use that must meet stringent safety requirements according to the International Building Code. The existing means of egress (exits), fire sprinklers, and fire-rated separations from the adjacent "atrium" lobby appear to conform to current codes. As previously mentioned, HVAC fresh air quantities and ADA platform access may need upgrading as part of a remodeling project depending of scope.

Hazardous Materials

Given the more recent additions and renovations of the existing facility, it is unlikely that hazardous materials such as asbestos or lead-based paint will be encountered during a future remodeling. A professional environmental survey may be advisable upon further review of city records.

Figure 4.1

Existing Council Chambers with view toward rear with curved wall and historic photo exhibit. Note the distracting lighting.



Figure 4.2

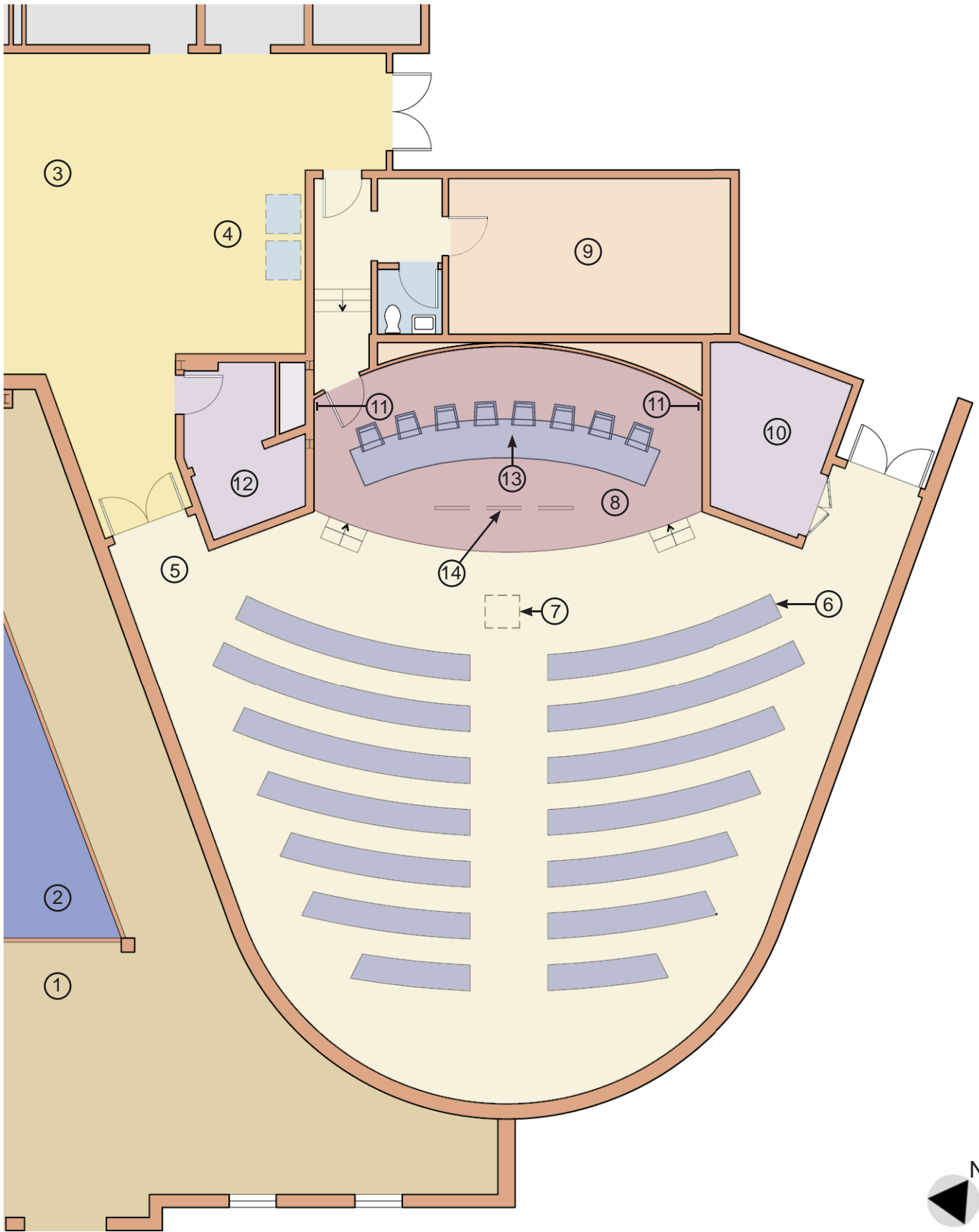
View of existing Council podium and raised platform.



**EXISTING
FACILITIES
PLAN**

EXISTING CONDITION - REFERENCE NOTES

1. ATRIUM
2. OPEN TO BELOW
3. LOBBY
4. VENDING MACHINE AREA
5. COUNCIL CHAMBER/AUDITORIUM
6. FIXED SEATS
7. MOBILE PUBLIC PODIUM OR AUDIOVISUAL
CART
8. PLATFORM 21" HIGH
9. CONFERENCE ROOM
10. MECHANICAL ROOM
11. RETURN AIR GRILL
12. STORAGE
13. FIXED COUNCIL PODIUM
14. OVERHEAD SCREEN



Scale 3/32" = 1'-0"

Existing Condition

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V. DESIGN CONCEPT A

General Description

Design Concept-A includes a minimal scope. Proposed elements reflect the priorities of the programming group as tested for cost vs. benefit with the emphasis on minimal cost. Priority is given to: expanding the stage area by providing storage for a new modular podium, wheelchair access to the platform (via lift), and a new ceiling. Also included are limited cosmetic improvements and audiovisual upgrades.

Platform and Support Space

A raised floor is constructed in a portion of the existing conference room to provide for storage of a new modular and mobile Council podium. The existing curved back wall is modified to include a new double door for access to the support area. The storage of podium frees up the existing platform area, but no expansion is provided.

ADA Access

In order to address ADA stage access, a power lift is provided in the backstage area. A lift (in lieu of ramp) is permitted because this is an existing facility, but a dignity/ "back alley" issue may remain an issue with this solution. Various layouts for a simple audience-side ramp were considered and are theoretically feasible. But such options would have severe impacts—a ramp would be required to have a minimum length of 22 feet, plus a 5 foot landing at each end, and a 5 foot by 8 foot landing at any change of direction.

In order to minimize Concept-A cost, the existing restroom is not remodeled for ADA access. Unless there is additional budget to expand and modify the bathroom, it may be best policy to eliminate it if overall building fixture count allows.

Although there is space in front of the stage and in the rear for audience wheelchairs, a more integrated arrangement is advised. Several existing chairs can be removed to provide a variety of wheelchair locations.

Seating

Although worn and dated, the existing fixed seats can continue to be used for some time. New upholstery can possibly be budgeted in a future project.

Lighting & Ceiling

Because the existing suspended ceiling and lighting so prominently detracts from the appearance of the space, it is given priority. The proposal solution is to simply remove the acoustic tiles and grid, as well as the awkward "proscenium" bulkhead above the front of the stage. A "black box" type ceiling would be created. Everything above the line of the existing ceiling would be exposed and painted black. This would include all bar-joint structure, conduit, ductwork, etc. A spray-on black acoustic material would be used on the underside of the steel deck.

This strategy will increase the perceived room volume, allow easy access and flexibility for new general and specialty light fixtures, audiovisual equipment, and should "age" well as compared to simply replacing the existing lay-in ceiling tiles.

The goal of lighting this space will be to allow the lighting to be flexible enough to respond to the many types of uses. For example, this room could be used for meetings and conferences which will require the lighting to be dimmable. This will allow fairly high light levels for note taking and low enough to allow for good resolution of the presentation on a projection screen.

Additional flexibility is required due to video broadcasting and potentially video teleconferencing. Light levels must be adequate for the sensitivity and requirements of the camera. For example walls need to be adequately illuminated to insure proper depth perception. When used for small entertainment type venues, the room will need a flexible lighting system with more complexity to the lighting on the stage area.

The lighting design of the auditorium should be broken down into two tasks, the seating areas and the stage. The general illumination for the seating areas can be accomplished with dimmable fluorescent downlight fixtures (cans) and dimmable wall wash fixtures to light the back walls. Additional accent lighting can be provided to light the area between the seating and the front of the stage where guest presenters and staff typically address the Council. General lighting of the stage shall be accomplished with dimmable fluorescent lighting fixtures. Track fixtures will be used to wash back walls and provide special effects. A minimum number of fixtures can be provided initially and additional ones added in the future. Due to relatively low ceiling heights theatrical grade fixtures are not appropriate.

Lighting will best be controlled with multi-scene pre-set dimmer systems for auditorium and stage areas. The final locations of the house and stage control console will be determined in the design phase.

Additional Architectural Elements and Finishes

Repainting of walls, doors, and trim, and new carpet is included in Concept-A. The fixed seating will require removal and reinstallation to install new carpet.

Structural Modifications

The new opening in the conference room wall will require a steel lintel. Various struts and braces will be added to the roof joists to support lighting, equipment, bulkheads, etc.

Audio Visual

The audiovisual complement to Concept-A would consist of retaining most of the existing audio and video presentation systems with only modest upgrades. There may be some noticeable

improvement, however, if selective acoustic treatment is undertaken (wall treatment and/or HVAC noise reduction).

For the base-line audio system, we suggest only modest upgrades to the existing audio system such as: improved substitute loud speakers for the audience area, an upgraded compliment of microphones, and possibly an upgraded mixing board.

For the base-line video system, the existing screen would be retained for audience presentations but would utilize a new fixed ceiling-mounted video projector. An itemized list of equipment is provided in the audiovisual section of the report.

New junction boxes (and/or use of wireless microphones) for Council podium support would be required for the proposed mobile podium. Finally, new wiring and connection boxes with concealed wiring can be installed to support the mobile projection cart.

Acoustics

The focusing anomalies described under *Existing Facilities* can be addressed with the addition of a band of sound absorptive treatment on the back walls. These would be installed above a wainscot height and incorporate a two-inch thick fabric-wrapped panel system such as Novawall. To contain costs the absorptive treatment would be limited to only the back one-half of the total wall area with the ability to expand this treatment at a later date.

This approach would result in an overall reduction in room reverberation, which should be acceptable for speech but would tend to flatten (acoustic or non-electronically enhanced) musical performance.

HVAC

Concept-A leaves the existing air handler as is and does not address cooling load and noise issues described under *Existing Facilities*. It is assumed that the minimal scope of Concept-A would not trigger the need to upgrade the HVAC for current code ventilation requirements, but the issue may need review by the building department.

The HVAC equipment replacement proposed in Concept-B could be included this scheme. However, rerouting of the air return ducts would require modification of the existing stage perhaps initiate a domino effect.

Electrical

The newer existing electrical service has spare capacity for the new lighting and electrical loads. New circuits will run from the electrical room in the lower level.

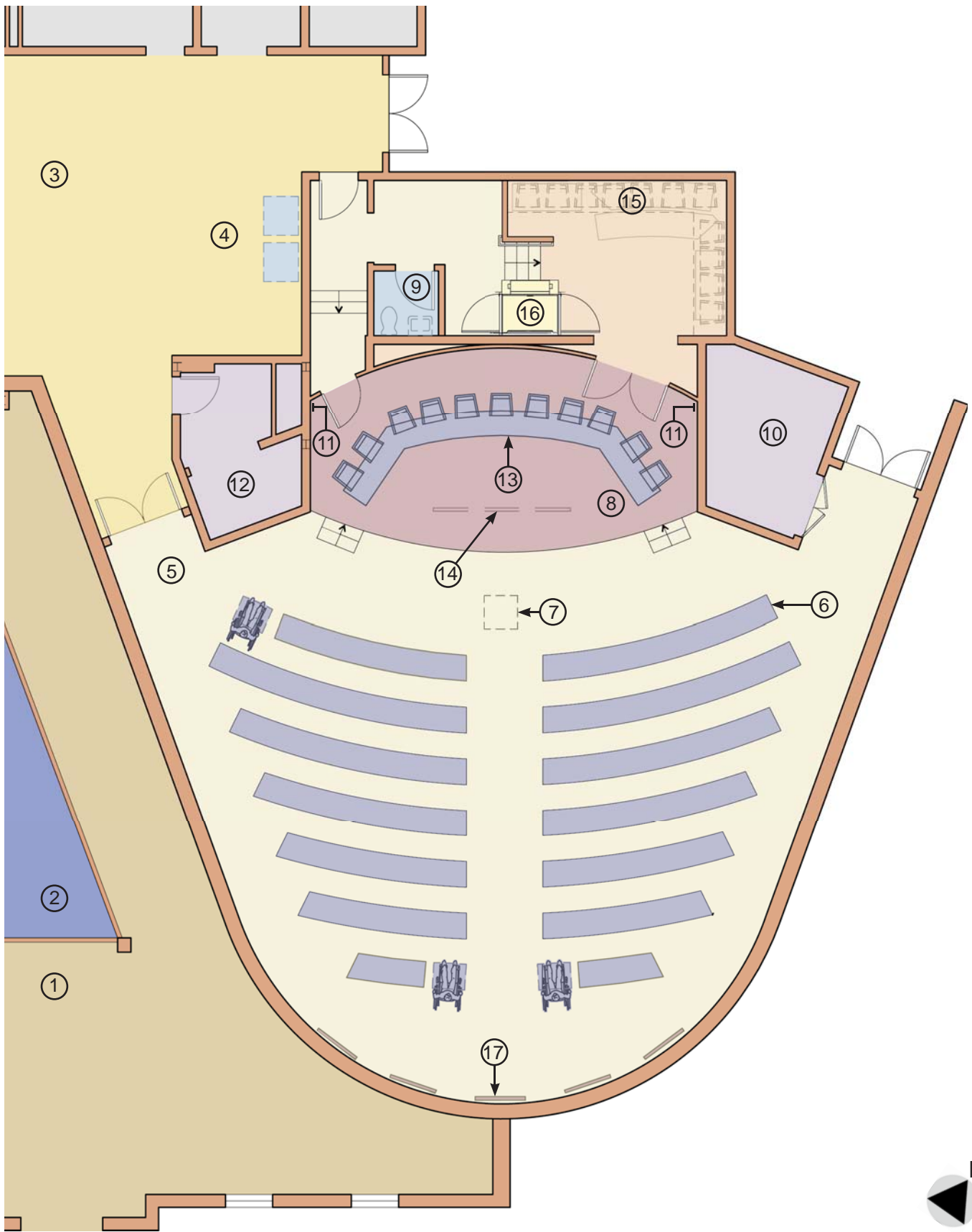
Code & Fire Protection

Concept-A will include some modifications to the existing fire sprinkler and alarm systems, primarily due to reconfiguration of the ceiling.

CONCEPT A PLAN

CONCEPT A - REFERENCE NOTES

1. ATRIUM
2. OPEN TO BELOW
3. LOBBY
4. VENDING MACHINE AREA
5. COUNCIL CHAMBER/AUDITORIUM
6. EXISTING FIXED SEATS
7. MOBILE PUBLIC PODIUM
8. PLATFORM 21" HIGH
9. EXISTING RESTROOM
10. MECHANICAL ROOM
11. RETURN AIR GRILL
12. STORAGE
13. MODULAR COUNCIL PODIUM
14. OVERHEAD ROLL DOWN SCREEN
15. STORAGE FOR COUNCIL PODIUM AND CHAIRS
16. WHEEL CHAIR LIFT
17. ACOUSTIC PANELS



Concept A

Scale 3/32" = 1'-0"

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VI. DESIGN CONCEPT B

General Description

This scheme includes additional remodeling of stage support areas. Modification of these areas, including the open corner of the adjacent lobby, begins to free up possibilities for a ramp, an ADA restroom, and more flexibility with the stage area.

Compared to the more comprehensive approach of Concept-C, space alterations in B are restricted in order to reduce structural impacts. An intermediate budget is achieved at the cost of some design compromise.

Stage and Support Space

The existing platform is removed and a new 18" high platform extends to the existing conference room back wall. The existing platform back wall is replaced with a new operable wood panel wall to serve as a backdrop for government meetings, symposiums, and the like. When the modular wall is opened and stacked, the stage extends a full 25 feet from front of stage to the rear storage doors.

The Council podium is redesigned as a modular mobile system that can be stored behind sliding doors at the rear of the enlarged stage. Council chairs, when not in use are stored on shelves above the stored podium components.

Side walls are reconfigured to provide a ramp, restroom, and access to "back stage". When the stage is configured with the shorter depth, the rear area can function as a green room.

ADA Access

The new 18" high platform allows an 18' straight-run ramp conforming to ADA standards that provides access to the stage areas. A new unisex restroom is also configured to meet accessibility standards. For audience seating, auditorium wheel chair parking spaces are provided within a new general seating configuration.

Seating

The original seating, with dated colors and unconventional center aisle arrangement, is replaced with new fixed seating. The proposed dual aisle layout is more efficient and seating capacity is increased to approximately 180. The new seating will provide more comfort for the audience and an updated color pallet. A dedicated sound mixing consol is integrated with the seating at the rear of the room.

Reviewer of the draft report pointed out that minimal-width side isles would be quite useful for support staff during meetings and performances. This could be readily accomplished with deletion of only a few seats in the design layout.

Ceiling & Lighting

Like Concept-A, the existing suspended ceiling and the stage bulkhead are removed. A “black box” type of ceiling is proposed with everything above the line of the existing ceiling—including bar-joint structure, conduit, and ductwork—exposed and painted black. A spray-on black acoustic material is applied to underside of the steel deck.

This strategy will increase the perceptive room volume and allow good access/flexibility for new general and specialty light fixtures as well as ceiling mounted audiovisual equipment. The ceiling treatment should age well, compared to an in-kind replacement of the existing lay-in tile ceiling.

New general illumination fluorescent downlights will focus light downward, and avoid lighting up the relatively low ceiling. Track lights will be provided for stage areas. Greater flexibility will be achieved through dimming and preset scene switching. This lighting strategy is more fully outlined under Concept-A.

Additional Architectural Elements

Carpet is replaced in the auditorium and stage areas. Fabric covered acoustic panels are provided on a portion of the auditorium walls. One design option would be to install vertical panels spaced around the wall. These could create a pleasing rhythm and possibly incorporate the historic photos now displayed in the auditorium.

Structural Modifications

A new transfer beam will be required where the south conference room wall is removed. There are also several existing steel support beams on this level that carry the roof and partial floor above. The intent of Concept-B is to incorporate these columns in place. Some additional retrofit may be required if the layout proves too tight. It would be relatively straight forward, however, to provide additional support in the lower level space if required. Various struts and braces will be added to the roof joists to support lighting, equipment, bulkheads, etc.

Audio Visual

The suggested audiovisual compliment for Concept-B (scheduled in the audiovisual section of the report) would include upgrades to both the audio system and the video presentation system. For the intermediate audio system, we suggest only a distributed overhead system. A separate point source system could be added later as an upgrade. Thus all sources (Council members' reinforcement, lectures, movies, etc.) would utilize the overhead system. This overhead system would also extend over the stage to cover the counsel members. The audio system would also include an upgraded compliment of microphones and an upgraded mixing board.

For the intermediate video system, a pair of fixed screens would be located on each side of the stage on the spayed walls. A fixed ceiling-mounted projector would be provided for each screen. A range of quality/size of the screens and projectors may be considered depending on final budget.

For Council meeting presentations, the system above would need to be augmented by either small LCD screens located in front of each council member, or alternatively, a pair of large LCD/plasma screens located at the front top of the stage opening facing back towards the Council members. The large screen option would simplify moving the council desks as well as reduce connections. While this presentation system would be an improvement over the existing situation, a preferable solution would be for Council and public to share common views as provided in Concept-C. It might be possible to achieve this with Concept-B by modifying the spayed walls (while maintaining a functional mechanical room), but further investigation of feasibility would be needed during the design phase.

For movies, the existing operable center screen could be retained with either a fixed or portable projector.

Acoustics

Proposed acoustic treatment includes a spay-on material at the underside of the exposed roof that is a functional substitute for the old ceiling tiles. Additional treatment is proposed for the walls to deal with the "focusing anomalies" described under *Existing Facilities*.

The wall treatment would be the addition of a band of sound absorptive material on the back walls. This would be installed above a wainscot height and incorporate a two-inch thick fabric-wrapped panel system such as Novawall. An effective coverage ratio would be approximately fifty percent.

An alternative wall treatment which might be further considered would introduce wall splays to provide sound diffusion in lieu of sound absorption. An example wall splay system would be constructed of curved dry wall constructed using alternating vertical studs (such as $\frac{3}{4}$ inch furring four-foot on center with six-inch studs in between) and then securing two layers of $\frac{1}{4}$ inch dry wall, resulting in vertical cylindrical shapes.

HVAC

The HVAC strategy for Concept-B leaves the existing mechanical room as is, but includes an upgrade replacement of the existing air handler unit that has reached the end of typical life. Although there may be a separate city budget for such replacement, the new equipment change is included in the budget for Concept-B.

It is recommended that the return air design be revised for the new system. In order to reduce noise levels (especially at the podium), the return air ducts can be routed below the new platform and a large grill integrated into the design of the platform's front face. A 2-hr rated enclosure may be required, but this is a reasonable item given that platform reconstruction is included in Concept-B. Additional acoustical treatments should be provided as recommended by the acoustical consultant during design.

Newer code standards for increased outside air will need to be investigated. It is likely that a new separate rooftop packaged unit can provide the best solution.

If suspended theatrical curtains are to be utilized with the new platform qualified as a "stage", additional mechanical equipment for emergency smoke exhaust will need to be installed. For additional discussion, refer to *Code and Fire Protection*.

Electrical

The newer existing electrical service has spare capacity for the new lighting and electrical loads. New circuits will run from the electrical room in the lower level.

Code & Fire Protection

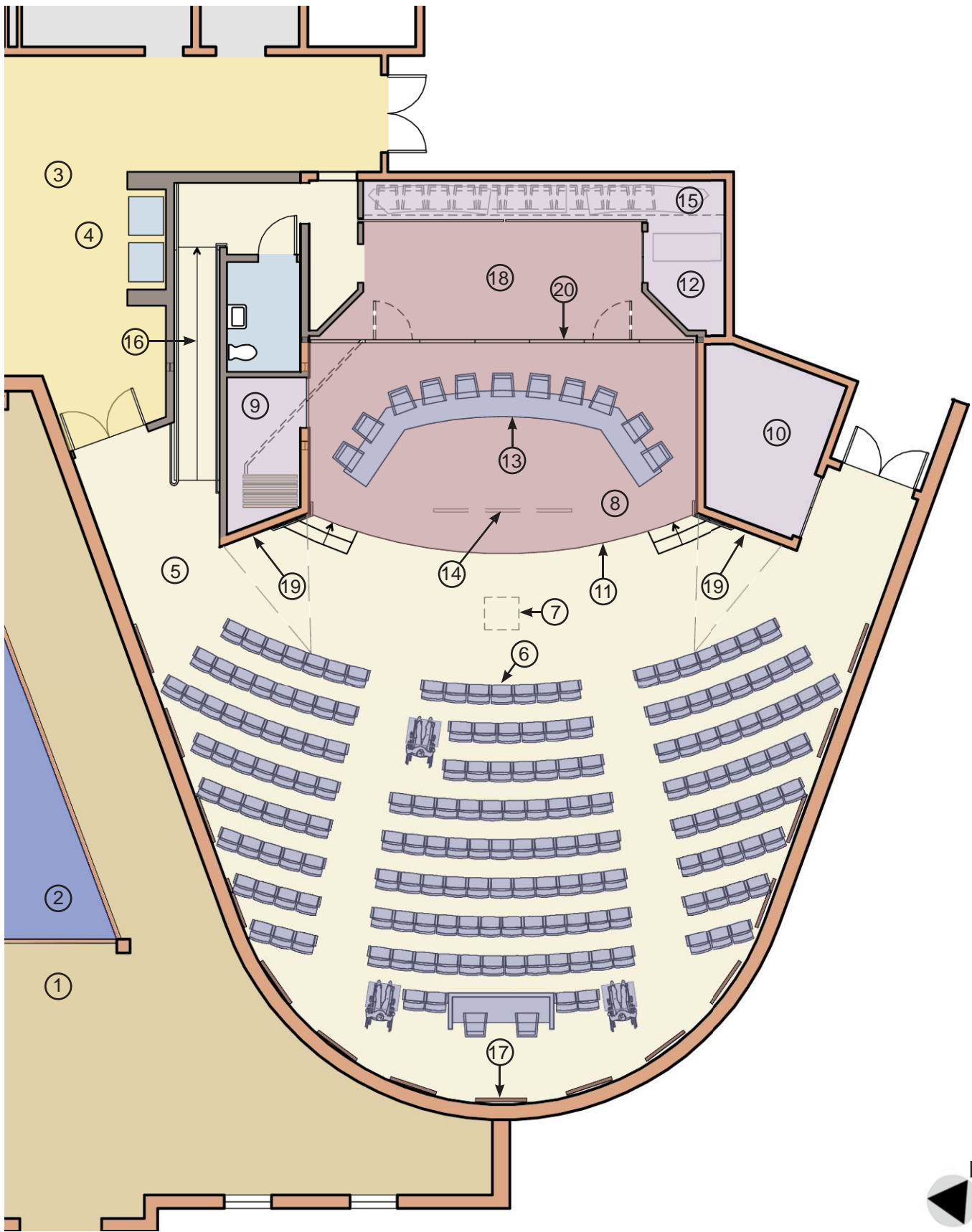
Due to ceiling changes and reconfiguration of walls, Concept-B will include modifications to the existing fire sprinkler and alarm system.

The building code makes a distinction between a “raised platform” and a “stage” based on whether suspended curtains, props, or scenes will be installed. Requirements for a “stage” that apply to this space would include installation of automatic smoke hatches over the stage area with a size equal to 20% of the total stage area, and a special powered ventilation system that would provide emergency smoke exhaust of the auditorium. These items (including any curtains) have not been included in the base concept scopes, but are noted in the cost estimate section.

**CONCEPT B
PLAN**

CONCEPT B - REFERENCE NOTES

1. ATRIUM
2. OPEN TO BELOW
3. LOBBY
4. VENDING MACHINE AREA
5. COUNCIL CHAMBER/AUDITORIUM
6. NEW FIXED SEATS
7. MOBILE PUBLIC PODIUM
8. PLATFORM 21" HIGH
9. STORAGE AND PARTITION STACKING
10. MECHANICAL ROOM
11. RETURN AIR GRILL
12. STORAGE
13. MODULAR COUNCIL PODIUM
14. OVERHEAD ROLL DOWN PROJECTION SCREEN
15. STORAGE FOR COUNCIL PODIUM AND CHAIRS
16. ADA RAMP
17. ACOUSTIC WALL PANELS
18. EXTENDED STAGE AREA OR GREEN ROOM
19. PRESENTATION SCREEN
20. STACKABLE PARTITION



Concept B

Scale 3/32" = 1'-0"

July 16, 2007

VII . DESIGN CONCEPT C

General Description

This scheme maximizes opportunities within the available physical envelope and provides the most flexibility and features. Like concepts A and B, a modular, storable Council podium desk is a central element. New HVAC equipment is installed on the roof to free up additional support space and allow greater reconfiguration including wider splayed stage side walls. Concept-C also includes a comprehensive audiovisual package.

Stage and Support Space

Similar to Concept-B, a new 18" high platform extends to the existing conference room back wall. A wood paneled stackable partition replaces the existing curved back wall and serves as a backdrop for government meetings, symposiums, and the like. When the modular wall is opened, the stage extends a full 23 feet front to back. The council desk is redesigned as a modular system that can be stored behind these "back wall" sliding partitions at the rear of the enlarged stage. If the stage is being used in short depth mode, the area behind can serve as a green room. An optional stair for direct access from the rear corridor is included in the concept design.

Relocation of HVAC equipment allows greater support spaces to the left and right of the stage area and increased spay in the side walls. The new spayed walls each provide space for a good size projection screen. Configuration of the screens allows good viewing of the same exhibit by both audience and Council.

ADA Access

This design includes a new ADA compliant ramp for access to the stage, backstage areas, and new ADA restroom. Accessibility is also included in a new proposed entrance at the rear of the auditorium. Finally, auditorium wheel chair parking space is integrated within new general fixed seating.

Seating

New fixed seating provides a more efficient arrangement with additional capacity. Like Concept-B, the unconventional center aisle is replaced with a dual aisle system and capacity increases to approximately 180. The new seating will provide more comfort for the audience and an updated color pallet. A dedicated sound mixing consol is integrated with the seating at the rear of the room.

Ceiling & Lighting

Like concepts A and B, the existing suspended ceiling and the stage bulkhead are removed. A “black box” type of ceiling is created with everything above the line of the existing ceiling—including bar-joist structure, conduit, and ductwork—is left exposed and painted black. A spray-on black acoustic material is applied to underside of the steel deck.

This strategy will increase the perceptive room volume and allow good access/flexibility for new general and specialty light fixtures as well as ceiling mounted audiovisual equipment. The ceiling treatment should age well, compared to an in-kind replacement of the existing lay-in tile ceiling.

New general illumination fluorescent downlights will focus light downward, and avoid lighting up the relatively low ceiling. Track lights will be provided for stage areas. Greater flexibility will be achieved through dimming and preset scene switching. This lighting strategy is more fully outlined under Concept-A.

Additional Architectural Elements

A new ramp and auditorium entrance is provided at the rear of the auditorium. This will minimize disruption as created with the existing reversed entry scheme. The existing entries will continue to be used on an optional basis and as emergency exits.

A series of new glazed openings are proposed for the west wall of the auditorium. These openings (with operable blinds), alternating with vertical acoustic panels, provide a rhythm of solid and light, and allow views into the Council Chamber from the atrium. The proposed design is a response to ideas expressed during the planning phase including the desire that the primary function and symbol of the auditorium space remain as the Takoma Park City Council Chambers, and the idea that the design might better reflect an accessible and open local democracy in action.

Structural Modifications

A transfer beam will be required where the south conference room wall is removed. A steel beam and 2 columns will replace an existing column where interfering with the new layout. Roof joints will require reinforcing for HVAC equipment loads. A portion of the roof over the stage will require reframing/modification due to relocation of bearing walls. Various struts and braces will be added to the roof joists to support lighting, equipment, bulkheads, etc.

Audio Visual

The Concept-C audiovisual package (itemized in the audiovisual section) includes upgrades to both the audio system and the video presentation system. For the improved audio system, we suggest both a point source system with speakers on either side of the stage similar to the existing system but utilizing upgraded speakers, combined with a distributed overhead system. The speakers on either side of the stage are for reproduction of video soundtracks (such as movies). The overhead system is for voice reinforcement of the council meetings, plays, lectures, etc. This overhead system would also extend over the stage to cover the council members. The audio system would also include: portable stage monitors, upgraded compliment of microphones, and an upgraded mixing board.

For the video system, a pair of screens would be located on each side of the stage with a ceiling-mounted projector for viewing by the audience that would replace the existing center mounted screen. The orientation of the spayed walls and screens in Concept-C is intended to provide

Council with satisfactory views of the same images viewed by the audience without the need to leave the podium. Less distraction and a more direct conversation is possible between Council and public if all participants can focus on the same display.

For movies, a large operable center screen could be provided with either a fixed or portable projector.

Acoustics

Proposed acoustic treatment is similar to Concepts-B and includes a spray-on material at the underside of the exposed roof deck and some treatment to the walls.

The proposed wall treatment would be the addition of a band of sound absorptive material on the back walls. This would be installed above a wainscot height and incorporate a two-inch thick fabric-wrapped panel system such as Novawall. An effective coverage ratio would be approximately fifty percent.

HVAC

The Concept-C HVAC scope includes removal of the existing air handler unit and capping of existing chilled and hot water connections below floor. This will allow the existing mechanical room to be utilized for other uses.

Three new 7.5 ton packaged rooftop units with gas fire heat are proposed for roof top installation. The 7.5 ton units will increase overall system capacity and incorporate the additional outside air ventilation requirements required by current building code. Two of the units will serve the auditorium and the third will serve the stage area. When a council meeting is taking place without an audience, only the unit serving the podium can be utilized. This gives more flexibility of operation and reduction of potential noise.

Installation details should be coordinated with the acoustical consultant to further reduce the potential for noise.

Electrical

The newer existing electrical service has spare capacity for the new lighting and electrical loads. The new rooftop equipment can be connected to the existing 480 volt service and new circuits will run from the electrical room in the lower level.

Code & Fire Protection

The proposed renovation will comply with current life safety codes with some modification to the existing alarm and sprinkler system required. The work will primarily involve relocating sprinkler heads due to the new wall and ceiling configurations. The proposed new glazed openings in the auditorium west wall will require additional sprinkler and/or fire-rated protection separation from the atrium space.

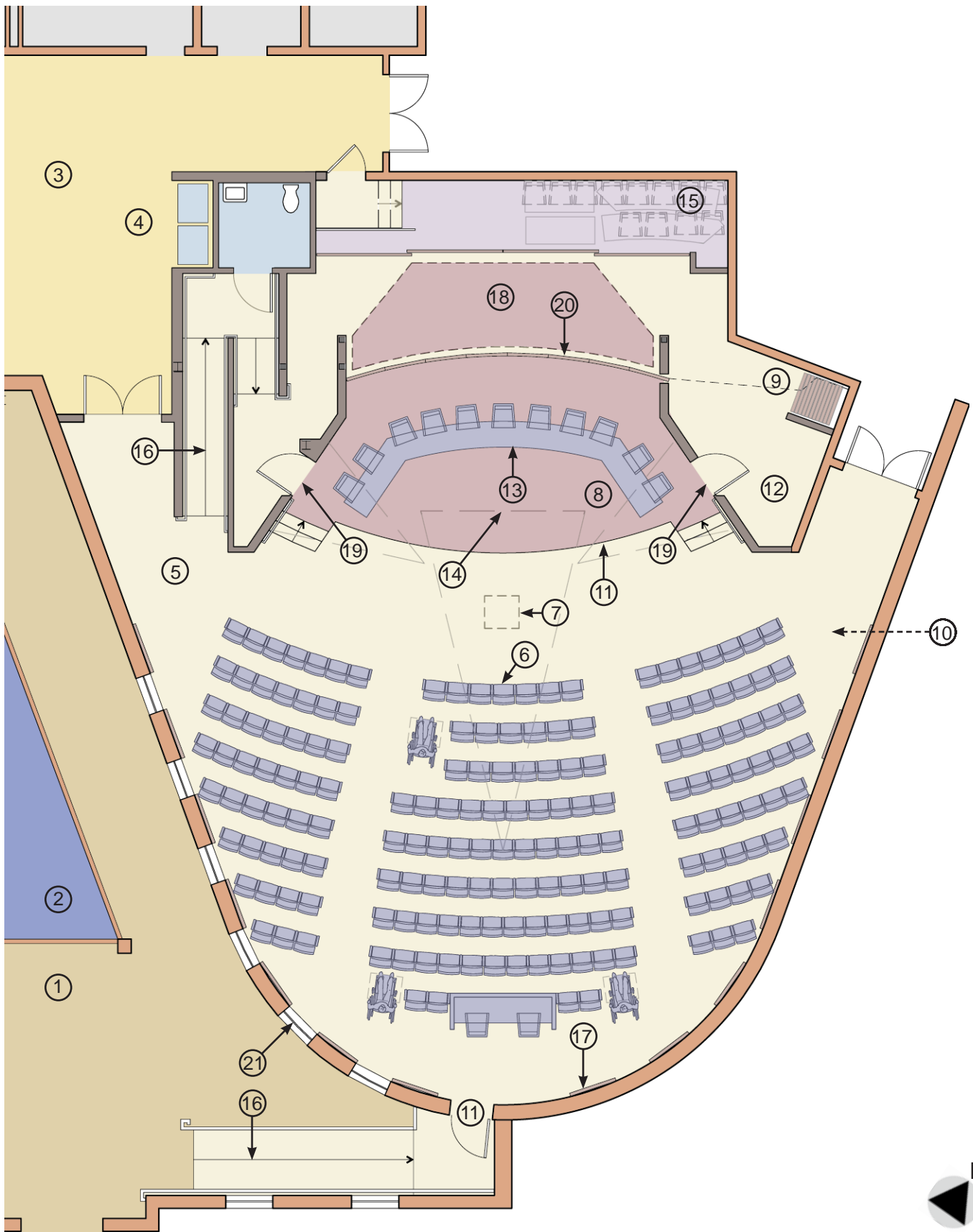
As discussed under Concept-B, the building code makes a distinction between a "raised platform" and a "stage" based on whether suspended curtains, props, or scenes will be installed. Requirements for a "stage" that apply to this space would include installation of automatic smoke hatches over the stage area with size equal to 20% of the total stage area, and a separate powered ventilation system that would provide emergency smoke exhaust of the auditorium.

These items, including any curtains themselves, are an option that has not been included in the base concept scopes.

CONCEPT C PLAN

CONCEPT C - REFERENCE NOTES

1. ATRIUM
2. OPEN TO BELOW
3. LOBBY
4. VENDING MACHINE AREA
5. COUNCIL CHAMBER/AUDITORIUM
6. NEW FIXED SEATS
7. MOBILE PUBLIC PODIUM
8. PLATFORM 21" HIGH
9. STORAGE AND PARTITION STACKING
10. HVAC UNITS ON ROOF
11. NEW ENTRANCE
12. STORAGE
13. MODULAR COUNCIL PODIUM
14. OVERHEAD ROLL DOWN PROJECTION SCREEN
15. STORAGE FOR COUNCIL PODIUM AND CHAIRS
16. ADA RAMP
17. ACOUSTIC WALL PANELS
18. EXTENDED STAGE AREA OR GREEN ROOM
19. PRESENTATION SCREEN
20. STACKABLE PARTITION
21. NEW GLAZED WALL OPENINGS (WITH OPERABLE SHADES)



Scale 3/32" = 1'-0"

Concept C

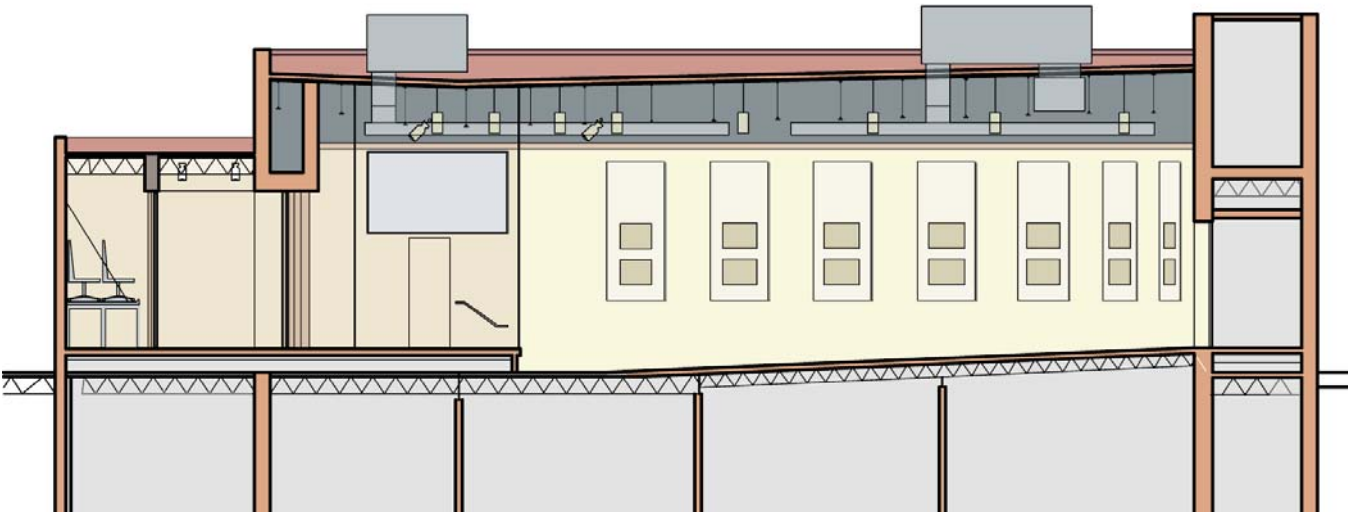
July 16, 2007



Scale 3/32" = 1'-0"

Concept C

July 16, 2007



Scale 3/32" = 1'-0"

Concept C

July 16, 2007

VIII. Audiovisual Recommendations

Following are three audiovisual equipment lists representing a recommended scope for concepts A, B, and C. These “packages” represent different scopes and budgets and progress from a modest package for Concept-A to a deluxe package for Concept-C, although these scopes do not need to be tied to a particular concept. For a general description of each refer to the respective Concept section.

Listed AV material prices listed are “retail” and are reflective of the typical handling, overhead, and profit charged by a subcontractor. A separate installation figure is included for the aggregate.

For the overall concept estimates, the AV work is assumed to part of the general construction so that an additional markup for general contractor’s overhead, general conditions, and profit is included.

Equipment Racks/Miscellaneous:

2	Equipment Rack	Middle Atlantic ERK-4025	\$800	\$1,600
2	Power Sequencer for Above	Furman PS-8R	\$400	\$800

Total Base Equipment Cost :	\$46,455
Estimated Base Installation Cost:	\$12,000
Estimated Base Total Installed Cost:	\$58,455



MILLER, BEAM & PAGANELLI, INC.
 CONSULTANTS IN ACOUSTICS, VIBRATION & AUDIOVISUAL SYSTEM DESIGN

Takmoa Park Project - Feasibility Study
 AV Budget
 June 25, 2007
 Design Concept "B"

<u>Qty.</u>	<u>Item</u>	<u>Product Used for Basis of Design</u>	<u>List Price</u>	<u>Extended Price</u>
Video Display Equipment:				
2	9' H X 12' W (180" Diagonal) Electric Projection Screen w/ 12" of Black Drop - For Sides	Hurley Screen Co Custom Screen	\$4,500	\$9,000
2	Video Projector for Above (LCD , 1024 X 768 Pixels, 6500 Lumens - for Sides	Sanyo PLC-XF60A	\$8,300	\$16,600
4	Spare Bulbs for Above	Misc	\$500	\$2,000
2	Lens for Above	TBD	\$3,000	\$6,000
2	Fixed Ceiling Mount for Video Projectors	Chief RPA Series	\$400	\$800
2	47" LCD Display for Stage	Vizio GV47LF	\$1,700	\$3,400
2	Ceiling / Wall Mount for Above	Misc.	\$500	\$1,000
1	8 X 2 Video Switcher / Scaler	Analog Way NTX-8022A	\$9,950	\$9,950
1	Combination DVD / VCR	Panasonic PV-D4745JK	\$120	\$120
1	1 X 6 RGBHV Distribution Amplifier	Extron 60-490-01	\$1,350	\$1,350
1	Custom AV I/O Plate On Stage	Custom	\$500	\$500

Audio Equipment:

1	16 Input Digital Audio Mixer	Yamaha LS-9-16	\$6,500	\$6,500
1	4 X 8 Digital Signal Processor	Ashly 4.24C	\$1,600	\$1,600
2	Lavaliere Wireless Microphone Transmitter and Recevier	Sennheiser EW-172G2	\$700	\$1,400
2	Microphone Capsule for Above	Sennheiser MKE-2	\$350	\$700
2	Handheld Wireless Microphone System	Sennhesier EW-135G2	\$800	\$1,600
1	Remote Antenna Kit / Power Supply for Above	Sennhesier EW-ANT4RG2	\$1,180	\$1,180
12	Ceiling Speaker	JBL Control 26 CT	\$125	\$1,500
1	4 Channel Power Amplifier for Above	Lab Gruppen C 10:4X	\$1,595	\$1,595
11	Lectern Gooseneck Microphone	AKG CK80 w/ GN30	\$400	\$4,400
1	Single Channel Infra-red Assistive Listening System w/ 5 Receivers and Charger	Sennhesier SI1015-4000 Single	\$2,700	\$2,700

Remote Control Equipment:

1	Control System Processor with Ethernet Interface	Crestron AV-2E	\$3,500	\$3,500
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1	Lectern Mount 6" Touch Panel - For Dais / Lectern	Crestron TPS-2000L	\$1,800	\$1,800
1	6" Touch Panel for Control Room	Crestron TPS-2000L	\$1,800	\$1,800

Video Recording Equipment:

LOT	Existing Cameras, Recording Deck, and Preview Monitor:	Customer Furnished Equipment	\$0	\$0
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Equipment Racks/Miscellaneous:

2	Equipment Rack	Middle Atlantic ERK-4025	\$800	\$1,600
2	Power Sequencer for Above	Furman PS-8R	\$400	\$800

Total Base Equipment Cost :	\$83,395
Estimated Base Installation Cost:	\$16,000
Estimated Base Total Installed Cost:	\$99,395

2	Dual 18" Subwoofer	Bag End Systems D18E-IF6	\$2,020	\$4,040
1	Crossover / Processor for Above	Bag End Systems Infra-MXB	\$980	\$980
1	4 Channel Power Amplifier for Subs and LF Stereo	Lab Gruppen FP 2400Q	\$2,595	\$2,595
1	4 Channel Power Amplifier for Fills and HF Stereo	Lab Gruppen C 10:4X	\$1,595	\$1,595
12	Ceiling Speaker	JBL Control 26 CT	\$125	\$1,500
1	4 Channel Power Amplifier for Above	Lab Gruppen C 10:4X	\$1,595	\$1,595
11	Lectern Gooseneck Microphone	AKG CK80 w/ GN30	\$400	\$4,400
4	Stage Wedge Monitor Speaker	SLS 1290	\$1,100	\$4,400
1	4 Channel Power Amplifier for Above	Lab Gruppen C 28:4	\$3,095	\$3,095
4	Surround Sound Side and Rear Speaker	SLS 8190-T-WT	\$600	\$2,400
1	4 Channel Power Amplifier for Above	Lab Gruppen C 28:4	\$3,095	\$3,095
1	Surround Sound Preamplifier / Processor	Denon A7100	\$1,200	\$1,200
1	Single Channel Infra-red Assistive Listening System w/ 5 Receivers and Charger	Sennhesier SI1015-4000 Single	\$2,700	\$2,700
LOT	Microphones and Stands for Live Band Performance	Misc.	\$7,500	\$7,500

Remote Control Equipment:

1	Control System Processor with Ethernet Interface	Crestron AV-2E	\$3,500	\$3,500
1	Lectern Mount 6" Touch Panel - For Dais / Lectern	Crestron TPS-2000L	\$1,800	\$1,800
1	6" Touch Panel for Control Room	Crestron TPS-2000L	\$1,800	\$1,800

Video Recording Equipment:

LOT	Existing Cameras, Recording Deck, and Preview Monitors	Customer Furnished Equipment	\$0	\$0
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Equipment Racks/Miscellaneous:

2	Equipment Rack	Middle Atlantic ERK-4025	\$800	\$1,600
2	Power Sequencer for Above	Furman PS-8R	\$400	\$800

Total Base Equipment Cost :	\$177,318
Estimated Base Installation Cost:	\$40,000
Estimated Base Total Installed Cost:	\$217,318

IX. CONSTRUCTION COST ESTIMATES

Design Hybrids & Project Phasing

Concept alternates A, B, and C were developed as coherent and distinct sets of project scope. However, a limited amount of mixing and matching is also possible, so that they may be used as tools for determining a final desired project scope. Recombination will need to be selective and should follow design/construction logistics.

Limited phasing of improvements is also a viable option. Phasing of architectural modifications by and large would not be a cost effective strategy, however, it is reasonable to defer selected program components (such as AV equipment, lighting, etc.) for later phases.

Cost Estimates

Detailed construction cost estimates were developed as part of the study and are summarized in the following table with a breakout for mechanical (HVAC), a rough idea of accessibility (ADA) items, the allocated audiovisual (AV) package and a total contract price estimate:

CONCEPT	COMPONENTS				TOTAL
	HVAC	ADA	AV	GENERAL	
A	10,396	30,000	58,500	338,314	437,210
B	116,354	65,000	99,400	822,551	1,103,305
C	169,488	85,000	217,300	1,036,851	1,508,639

Please note that these figures represent “construction contract” estimates. **THEY ARE NOT TOTAL PROJECT COSTS** and not include soft cost costs such as bonds, financing, construction management, tests and inspections, architecture/engineering fees, or cost escalation beyond July 2008. Estimated project costs should be determined by applying a multiplier or line item budget in consultation with City management staff. The estimates do include general contractor’s overhead and profit, costs for a bond, a 6% escalation assuming construction start in summer 2008, and a “design contingency” of 15% representing possible additions to overall scope not currently anticipated. See page 9.1 for additional notes.

The line items estimates follow:

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 1
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates		7/26/07

NOTES

- 1 Unit costs include subcontractors' overhead and profit, except mechanical and electrical, which are noted as separate line items at the end of their respective sections.
- 2 Unit prices, provided by suppliers, subcontractors, and past experience, reflect standard construction methods and materials. Sales tax and labor burden are included in the unit prices of each item. Labor prices are based on open shop conditions but do not reflect overtime. Total estimate considers a competitive bidding process and responsive bids from at least 3 qualified bidders.
- 3 This estimate is based on drawings dated July 2007.
- 4 The total cost is based on a construction start of Summer 2008.
- 5 Exclusions:
 - Architectural and Engineering Fees
 - Hazardous material abatement (if required)
 - Furnishings or equipment not itemized in the estimate
 - Council Chairs - refurbish or replacement
 - Art Work

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 2
Architect: MTFA Architecture, Inc.	RWB Job # 07-59-A2	
Estimated by: R.W. Brown & Associates		7/26/07

Project Recapitulation

<i>Page</i>	Item	Total Cost	Gross Area	Unit Cost (\$/SF)
<hr/>				
3	Option A			
	Building	\$ 437,210	3,406 SF	\$ 128.36
10	Option B			
	Building	\$ 1,103,305	3,406 SF	\$ 323.93
18	Option C			
	Building	\$ 1,508,639	3,406 SF	\$ 442.94

Alternate:

Stage Curtain and Smoke Evacuation

Systems - Add: \$ 60,000

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 3
Architect: MTF Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

Recapitulation

Item	Building Cost	\$/SF (Bldg Only)
DIV 1/GENERAL REQUIREMENTS	53,530	15.72
DIV 2/SITE WORK	13,864	4.07
DIV 3/CONCRETE	4,023	1.18
DIV 4/MASONRY	1,500	0.44
DIV 5/METALS	9,884	2.90
DIV 6/WOOD & PLASTICS	48,714	14.30
DIV 7/THERMAL & MOISTURE PROTECTION	-	-
DIV 8/DOORS & WINDOWS	2,042	0.60
DIV 9/FINISHES	32,195	9.45
DIV 10/SPECIALTIES	16,500	4.84
DIV 11/EQUIPMENT	58,500	17.18
DIV 12/FURNISHINGS	3,600	1.06
DIV 13/SPECIAL CONSTRUCTION	-	-
DIV 14/CONVEYING	12,000	3.52
DIV 15/PLUMBING	-	-
DIV 15/HVAC	10,396	3.05
DIV 15/FIRE PROTECTION	5,527	1.62
DIV 16/ELECTRICAL	48,904	14.36
<hr/>		
SUBTOTAL	321,178	94.30
GENERAL CONTRACTOR'S OH&P @	32,118	9.43
<hr/>		
SUBTOTAL	353,296	103.73
BOND @	5,299	1.56
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SUBTOTAL	358,595	105.28
DESIGN CONTINGENCY @	53,789	15.79
<hr/>		
SUBTOTAL	412,384	121.08
ESCALATION @	24,826	7.29
<hr/>		
TOTAL	\$ 437,210	\$ 128.36

GROSS AREA: 3,406 SF

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 4
Architect: MTF Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

DIVISION 2/SITE WORK - BUILDING

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
INTERIOR DEMOLITION					
REMOVE DRYWALL PARTITIONS	126	SF	2.25	284	
REMOVE MASONRY PARTITIONS	54	SF	3.50	189	
REMOVE DOORS & FRAMES	1	EA	60.00	60	
REMOVE SUSPENDED CEILINGS	2,682	SF	1.60	4,291	
REMOVE SEATS	150	EA	8.00	1,200	
MISCELLANEOUS DEMOLITION	1	LS	5,000.00	5,000	
SAWCUT	48	LF	5.00	240	
LOAD & HAUL DEBRIS	40	CY	65.00	2,600	
					13,864
HAZMAT ABATEMENT					NOT INCLUDED (IF REQUIRED)
TOTAL DIVISION 2/SITE WORK - BUILDING					13,864

DIVISION 3/CONCRETE

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
CONCRETE					
FLASH PATCH FLOORS	2,682	SF	1.50	4,023	
TOTAL DIVISION 3/CONCRETE					4,023

DIVISION 4/MASONRY

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
UNIT MASONRY					
PATCH MASONRY PARTITION	1	LS	1,500.00	1,500	
TOTAL DIVISION 4/MASONRY					1,500

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 5
Architect: MFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

DIVISION 5/METALS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
STRUCTURAL METALS					
ROOFTOP MECHANICAL DUNNAGE	1	LS	3,500.00	3,500	
STRUCTURAL LINTELS	0.20	TON	6,000.00	1,200	
RAISED FLOOR STRUCTURE	216	SF	24.00	5,184	
					9,884
TOTAL DIVISION 5/METALS					9,884

DIVISION 6/WOOD & PLASTICS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ROUGH CARPENTRY					
INTERIOR BLOCKING	200	BF	2.50	500	
PLYWOOD SHELVES FOR COUNCIL SEATS	72	SF	22.00	1,584	
ROUGH HARDWARE	1	LS	250.00	250	
					2,334
FINISH CARPENTRY & MILLWORK					
INTERIOR WOOD TRIM	100	LF	15.00	1,500	
WOOD STEPS	3	TR	160.00	480	
MODIFY WOOD PANELED PARTITION	1	LS	4,000.00	4,000	
CONTROL CONSOLE	8	LF	550.00	4,400	
COUNCIL DESK - DEMOUNTABLE	30	LF	1,200.00	36,000	
					46,380
TOTAL DIVISION 6/WOOD & PLASTICS					48,714

DIVISION 8/DOORS & WINDOWS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
WOOD & HOLLOW METAL DOORS & FRAMES					
HOLLOW METAL FRAMES - DOUBLE	1	EA	172.00	172	
SOLID CORE WOOD DOORS	2	EA	535.00	1,070	
HARDWARE - PER LEAF	2	EA	400.00	800	
					2,042
TOTAL DIVISION 8/DOORS & WINDOWS					2,042

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 6
Architect: MTF Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

DIVISION 9/FINISHES

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
DRYWALL & PLASTER					
METAL STUD FRAMING - 3-5/8"	127	SF	1.50	191	
GYPSUM WALLBOARD - 5/8"	254	SF	1.16	295	
TAPE & SPACKLE	254	SF	0.65	165	
SOUND INSULATION	127	SF	1.18	150	
					800
RESILIENT FLOORS					
CARPET	400	SY	36.00	14,400	
RESILIENT BASE	95	LF	1.65	157	
					14,557
PAINTING					
PAINT WALLS	2,609	SF	0.75	1,957	
PAINT DOORS & FRAMES	2	EA	65.00	130	
PAINT EXPOSED CEILING - BLACK ACOUSTIC MATERIAL	2,682	SF	5.50	14,751	
					16,838
TOTAL DIVISION 9/FINISHES					32,195

DIVISION 10/SPECIALTIES

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
MISCELLANEOUS SPECIALTIES					
GRAPHICS/SIGNAGE	1	LS	500.00	500	
ACOUSTIC WALL PANELS	1,000	SF	16.00	16,000	
TOTAL DIVISION 10/SPECIALTIES					16,500

DIVISION 11/EQUIPMENT

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
AUDIO VISUAL EQUIPMENT = ALLOW	1	LS	58,500.00	58,500	
TOTAL DIVISION 11/EQUIPMENT					58,500

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 7
Architect: MTF Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

DIV 12/FURNISHINGS

NONE PROPOSED

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
REINSTALL SEATS	150	EA	24.00	3,600	
TOTAL DIV 12/FURNISHINGS					3,600

DIV 14/CONVEYING

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
LIFT	1	EA	12,000.00	12,000	
TOTAL DIV 14/CONVEYING					12,000

DIVISION 15/MECHANICAL - HVAC

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
HVAC DEMOLITION					
REMOVE EQUIPMENT & DISTRIBUTION	3,406	SF	0.25	852	852
HVAC EQUIPMENT & DISTRIBUTION					
MODIFICATIONS TO DISTRIBUTION	3,406	SF	2.00	6,812	6,812
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	1,000.00	1,000	1,000
SUBTOTAL					8,664
SUBCONTRACTOR'S OH & P @ 20%					1,733
TOTAL DIVISION 15/MECHANICAL - HVAC					10,396

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 8
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

DIVISION 15/MECHANICAL - FIRE PROTECTION

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
SPRINKLER SYSTEM					
MODIFY/RELOCATE HEADS	3,406	SF	1.00	3,406	3,406
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	1,200.00	1,200	1,200
SUBTOTAL					4,606
SUBCONTRACTOR'S OH & P @ 20%					921
TOTAL DIVISION 15/MECHANICAL - FIRE PROTECTION					5,527

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 9
Architect: MTF Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option A	7/26/07

DIVISION 16/ELECTRICAL

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ELECTRICAL DEMOLITION					
REMOVE EQUIPMENT	3,406	SF	0.50	1,703	
					1,703
EQUIPMENT					
SERVICE EQUIPMENT MOPDIFICATIONS	1	LS	500.00	500	
MISCELLANEOUS EQUIPMENT	1	LS	1,000.00	1,000	
BRANCH CONDUIT & WIRE	200	LF	6.00	1,200	
					2,700
DEVICES & CONNECTIONS					
DUPLEX RECEPTACLES	20	EA	40.00	800	
SWITCHES - 1 POLE	6	EA	40.00	240	
FLOOR BOXES	10	EA	140.00	1,400	
MISCELLANEOUS DEVICES	5	EA	60.00	300	
MOTOR CONNECTIONS	2	EA	235.00	470	
BRANCH CONDUIT & WIRE	645	LF	6.00	3,870	
					7,080
LIGHT FIXTURES					
INTERIOR LIGHT FIXTURES	40	EA	225.00	9,000	
TRACK FIXTURES	12	EA	180.00	2,160	
LIGHT TRACK	30	LF	36.00	1,080	
DIMMING CONTROLS	1	LS	2,500.00	2,500	
EXIT FIXTURES	2	EA	200.00	400	
BRANCH CONDUIT & WIRE	1,275	LF	6.00	7,650	
					22,790
COMMUNICATIONS					
TELEPHONE/DATA OUTLETS	15	EA	72.00	1,080	
COMMUNICATIONS CONDUIT & WIRE	375	LF	6.00	2,250	
					3,330
FIRE ALARM					
ALARMS & DEVICES	6	EA	225.00	1,350	
FIRE ALARM CONDUIT & WIRE	300	LF	6.00	1,800	
					3,150
SUBTOTAL					40,753
SUBCONTRACTOR'S OH & P @ 20%					8,151
TOTAL DIVISION 16/ELECTRICAL					48,904

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 10
Architect: MFA Architecture, Inc.	RWB Job # 07-59-A2	
Estimated by: R.W. Brown & Associates	Option B	7/26/07

Recapitulation

Item	Building Cost	\$/SF (Bldg Only)
DIV 1/GENERAL REQUIREMENTS	135,083	39.66
DIV 2/SITE WORK	29,872	8.77
DIV 3/CONCRETE	5,109	1.50
DIV 4/MASONRY	2,000	0.59
DIV 5/METALS	50,740	14.90
DIV 6/WOOD & PLASTICS	101,694	29.86
DIV 7/THERMAL & MOISTURE PROTECTION	2,000	0.59
DIV 8/DOORS & WINDOWS	3,132	0.92
DIV 9/FINISHES	49,651	14.58
DIV 10/SPECIALTIES	53,670	15.76
DIV 11/EQUIPMENT	99,400	29.18
DIV 12/FURNISHINGS	35,600	10.45
DIV 13/SPECIAL CONSTRUCTION	-	-
DIV 14/CONVEYING	-	-
DIV 15/PLUMBING	11,292	3.32
DIV 15/HVAC	116,354	34.16
DIV 15/FIRE PROTECTION	7,571	2.22
DIV 16/ELECTRICAL	107,329	31.51
<hr/>		
SUBTOTAL	810,497	237.96
GENERAL CONTRACTOR'S OH&P @	10%	81,050 23.80
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SUBTOTAL	891,546	261.76
BOND @	1.5%	13,373 3.93
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SUBTOTAL	904,920	265.68
DESIGN CONTINGENCY @	15%	135,738 39.85
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SUBTOTAL	1,040,658	305.54
ESCALATION @	6.02%	62,648 18.39
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TOTAL	\$ 1,103,305	\$ 323.93

GROSS AREA: 3,406 SF

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 11
Architect: MTF A Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 2/SITE WORK - BUILDING

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
INTERIOR DEMOLITION					
REMOVE DRYWALL PARTITIONS	1,378	SF	2.25	3,101	
REMOVE MASONRY PARTITIONS	960	SF	3.50	3,360	
REMOVE DOORS & FRAMES	9	EA	60.00	540	
REMOVE SUSPENDED CEILINGS	3,587	SF	1.60	5,739	
REMOVE SEATS	150	EA	16.00	2,400	
REMOVE SPECIAL WOOD PARTITION	385	SF	2.50	963	
REMOVE RAISED FLOOR	480	LF	7.00	3,360	
MISCELLANEOUS DEMOLITION	1	LS	4,000.00	4,000	
SAWCUT	112	LF	5.00	560	
LOAD & HAUL DEBRIS	90	CY	65.00	5,850	
					29,872

HAZMAT ABATEMENT

NOT INCLUDED (IF REQUIRED)

TOTAL DIVISION 2/SITE WORK - BUILDING

29,872

DIVISION 3/CONCRETE

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
CONCRETE					
FLASH PATCH FLOORS	3,406	SF	1.50	5,109	
					5,109

TOTAL DIVISION 3/CONCRETE

5,109

DIVISION 4/MASONRY

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
UNIT MASONRY					
PATCH MASONRY PARTITION	1	LS	2,000.00	2,000	
					2,000

TOTAL DIVISION 4/MASONRY

2,000

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 12
Architect: MTF A Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 5/METALS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
STRUCTURAL METALS					
STRUCTURAL LINTELS	2.20	TON	6,000.00	13,200	
RAISED FLOOR STRUCTURE	1,096	SF	24.00	26,304	
RAISED RAMP STRUCTURE	72	SF	30.00	2,160	
					41,664
MISCELLANEOUS METALS					
RAILINGS	57	LF	120.00	6,840	
FOLDING PARTITION SUPPORT	43	LF	52.00	2,236	
					9,076
TOTAL DIVISION 5/METALS					50,740

DIVISION 6/WOOD & PLASTICS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ROUGH CARPENTRY					
INTERIOR BLOCKING	500	BF	2.50	1,250	
PLYWOOD SHELVES FOR COUNCIL SEATS	72	SF	22.00	1,584	
ROUGH HARDWARE	1	LS	250.00	250	
					3,084
FINISH CARPENTRY & MILLWORK					
INTERIOR WOOD TRIM	150	LF	15.00	2,250	
WOOD STEPS	4	TR	160.00	640	
NEW WOOD paneled PARTITION	528	SF	60.00	31,680	
DAIS FRONT TRIM	64	SF	60.00	3,840	
CONTROL CONSOLE	8	LF	550.00	4,400	
COUNCIL DESK - DEMOUNTABLE	30	LF	1,200.00	36,000	
COUNCIL PODIUM	180	SF	40.00	7,200	
MOVEABLE WALL	360	SF	35.00	12,600	
					98,610
TOTAL DIVISION 6/WOOD & PLASTICS					101,694

DIVISION 7/THERMAL & MOISTURE PROTECTION

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ROOFING & SHEET METAL					
ROOFING & FLASHING REPAIRS - ALLOW	1	LS	2,000.00	2,000	
TOTAL DIVISION 7/THERMAL & MOISTURE PROTECTION					2,000

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 13
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 8/DOORS & WINDOWS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
WOOD & HOLLOW METAL DOORS & FRAMES					
HOLLOW METAL FRAMES - SINGLE	1	EA	155.00	155	
HOLLOW METAL FRAMES - DOUBLE	1	EA	172.00	172	
SOLID CORE WOOD DOORS	3	EA	535.00	1,605	
HARDWARE - PER LEAF	3	EA	400.00	1,200	
TOTAL DIVISION 8/DOORS & WINDOWS					3,132

DIVISION 9/FINISHES

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
DRYWALL & PLASTER					
METAL STUD FRAMING - 3-5/8"	1,260	SF	1.50	1,890	
GYPSTUM WALLBOARD - 5/8"	2,520	SF	1.16	2,923	
TAPE & SPACKLE	2,520	SF	0.65	1,638	
SOUND INSULATION	1,260	SF	1.18	1,487	
					7,938
ACOUSTIC CEILINGS					
SUSPENDED ACOUSTIC CEILING	384	SF	5.00	1,920	
					1,920
CERAMIC TILE					
CERAMIC FLOOR TILE	42	SF	14.00	588	
CERAMIC BASE	26	LF	12.50	325	
CERAMIC WALL TILE	156	SF	13.00	2,028	
MARBLE THRESHOLDS	1	EA	40.00	40	
					2,981
RESILIENT FLOORS					
CARPET	400	SY	36.00	14,400	
RESILIENT BASE	190	LF	1.65	314	
					14,714
PAINTING					
PAINT WALLS	2,900	SF	0.75	2,175	
PAINT DOORS & FRAMES	3	EA	65.00	195	
PAINT EXPOSED CEILING - BLACK					
ACOUSTIC MATERIAL	3,587	SF	5.50	19,729	
					22,099
TOTAL DIVISION 9/FINISHES					49,651

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 14
Architect: MTF A Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 10/SPECIALTIES

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
TOILET ACCESSORIES					
TOILET TISSUE DISPENSER	1	EA	68.00	68	
WASTE RECEPT/TOWEL DISPENSER	1	EA	550.00	550	
MIRROR - 18 X 36	1	EA	103.00	103	
SOAP DISPENSER	1	EA	67.00	67	
GRAB BARS	2	EA	91.00	182	
					970
MISCELLANEOUS SPECIALTIES					
GRAPHICS/SIGNAGE	1	LS	500.00	500	
ACOUSTIC WALL PANELS	1,600	SF	16.00	25,600	
FOLDING PARTITIONS	312	SF	75.00	23,400	
FOLDING PARTITION DOORS	2	EA	1,600.00	3,200	
					52,700
TOTAL DIVISION 10/SPECIALTIES					53,670

DIVISION 11/EQUIPMENT

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
AUDIO VISUAL EQUIPMENT = ALLOW	1	LS	99,400.00	99,400	
TOTAL DIVISION 11/EQUIPMENT					99,400

DIV 12/FURNISHINGS

NOT INCLUDED

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
THEATER SEATS	178	EA	200.00	35,600	
TOTAL DIV 12/FURNISHINGS					35,600

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 15
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 15/MECHANICAL - PLUMBING

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
PLUMBING DEMOLITION					
REMOVE FIXTURES & PIPING	2	EA	150.00	300	
					300
FIXTURES					
WATER CLOSET	1	EA	1,350.00	1,350	
LAVATORIES - WALL HUNG	1	EA	1,260.00	1,260	
MISCELLANEOUS	1	EA	1,500.00	1,500	
					4,110
ROUGHING					
SUPPLY, WASTE & VENT TO FIXTURES	2	EA	2,000.00	4,000	
					4,000
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	1,000.00	1,000	
					1,000
SUBTOTAL					9,410
SUBCONTRACTOR'S OH & P @ 20%					1,882
TOTAL DIVISION 15/MECHANICAL - PLUMBING					11,292

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 16
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 15/MECHANICAL - HVAC

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
HVAC DEMOLITION					
REMOVE EQUIPMENT & DISTRIBUTION	3,406	SF	1.50	5,109	5,109
HVAC EQUIPMENT & DISTRIBUTION					
HVAC EQUIPMENT & DISTRIBUTION	3,406	SF	22.00	74,932	74,932
CONTROLS & INSTRUMENTATION					
AUTOMATIC TEMPERATURE CONTROLS	3,406	SF	3.00	10,218	10,218
SYSTEM TESTING & BALANCING					
SYSTEM TESTING & BALANCING	3,406	SF	0.50	1,703	1,703
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	5,000.00	5,000	5,000
SUBTOTAL					96,962
SUBCONTRACTOR'S OH & P @ 20%					19,392
TOTAL DIVISION 15/MECHANICAL - HVAC					116,354

DIVISION 15/MECHANICAL - FIRE PROTECTION

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
SPRINKLER SYSTEM					
MODIFY/RELOCATE HEADS	3,406	SF	1.50	5,109	5,109
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	1,200.00	1,200	1,200
SUBTOTAL					6,309
SUBCONTRACTOR'S OH & P @ 20%					1,262
TOTAL DIVISION 15/MECHANICAL - FIRE PROTECTION					7,571

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 17
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option B	7/26/07

DIVISION 16/ELECTRICAL

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ELECTRICAL DEMOLITION					
ELECTRICAL DEMOLITION	3,406	SF	0.75	2,555	2,555
EQUIPMENT					
SERVICE EQUIPMENT MODIFICATIONS	1	LS	5,000.00	5,000	
PANEL	1	EA	3,500.00	3,500	
MISCELLANEOUS EQUIPMENT	1	LS	2,000.00	2,000	
BRANCH CONDUIT & WIRE	200	LF	6.00	1,200	
FEEDER CONDUIT & WIRE	60	LF	25.00	1,500	13,200
DEVICES & CONNECTIONS					
DUPLEX RECEPTACLES	20	EA	40.00	800	
DUPLEX RECEPTACLES - GFI	1	EA	52.00	52	
QUAD RECEPTACLES	2	EA	80.00	160	
FLOOR BOXES	15	EA	140.00	2,100	
MISCELLANEOUS DEVICES	10	EA	60.00	600	
SWITCHES - 1 POLE	8	EA	40.00	320	
MOTOR CONNECTIONS	6	EA	235.00	1,410	
BRANCH CONDUIT & WIRE	930	LF	6.00	5,580	11,022
LIGHT FIXTURES					
INTERIOR LIGHT FIXTURES	80	EA	250.00	20,000	
TRACK FIXTURES	30	EA	180.00	5,400	
LIGHT TRACK	84	LF	36.00	3,024	
DIMMING CONTROLS	1	LS	5,000.00	5,000	
EXIT FIXTURES	5	EA	200.00	1,000	
BRANCH CONDUIT & WIRE	3,000	LF	6.00	18,000	52,424
COMMUNICATIONS					
TELEPHONE/DATA OUTLETS	20	EA	72.00	1,440	
EMPTY CONDUIT	400	LF	4.00	1,600	
COMMUNICATIONS CONDUIT & WIRE	500	LF	6.00	3,000	6,040
FIRE ALARM					
ALARMS & DEVICES	8	EA	225.00	1,800	
FIRE ALARM CONDUIT & WIRE	400	LF	6.00	2,400	4,200
SUBTOTAL					89,441
SUBCONTRACTOR'S OH & P @ 20%					17,888
TOTAL DIVISION 16/ELECTRICAL					107,329

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 18
Architect: MFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

Recapitulation

Item		Building Cost	\$/SF (Bldg Only)
DIV 1/GENERAL REQUIREMENTS	20%	184,710	54.23
DIV 2/SITE WORK		31,836	9.35
DIV 3/CONCRETE		7,609	2.23
DIV 4/MASONRY		2,500	0.73
DIV 5/METALS		82,212	24.14
DIV 6/WOOD & PLASTICS		103,764	30.47
DIV 7/THERMAL & MOISTURE PROTECTION		4,500	1.32
DIV 8/DOORS & WINDOWS		18,402	5.40
DIV 9/FINISHES		53,965	15.84
DIV 10/SPECIALTIES		50,470	14.82
DIV 11/EQUIPMENT		217,300	63.80
DIV 12/FURNISHINGS		39,200	11.51
DIV 13/SPECIAL CONSTRUCTION		-	-
DIV 14/CONVEYING		-	-
DIV 15/PLUMBING		11,292	3.32
DIV 15/HVAC		169,488	49.76
DIV 15/FIRE PROTECTION		9,731	2.86
DIV 16/ELECTRICAL		121,280	35.61
<hr/>			
SUBTOTAL		1,108,259	325.38
GENERAL CONTRACTOR'S OH&P @	10%	110,826	32.54
<hr/>			
SUBTOTAL		1,219,084	357.92
BOND @	1.5%	18,286	5.37
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SUBTOTAL		1,237,371	363.29
DESIGN CONTINGENCY @	15%	185,606	54.49
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SUBTOTAL		1,422,976	417.79
ESCALATION @	6.02%	85,663	25.15
<hr/>			
TOTAL		\$ 1,508,639	\$ 442.94

GROSS AREA: 3,406 SF

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 19
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 2/SITE WORK - BUILDING

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
INTERIOR DEMOLITION					
REMOVE DRYWALL PARTITIONS	738	SF	2.25	1,661	
REMOVE MASONRY PARTITIONS	1,124	SF	3.50	3,934	
REMOVE DOORS & FRAMES	6	EA	60.00	360	
REMOVE SUSPENDED CEILINGS	3,587	SF	1.60	5,739	
REMOVE SEATS	150	EA	16.00	2,400	
REMOVE SPECIAL WOOD PARTITION	385	SF	2.50	963	
REMOVE RAISED FLOOR	480	LF	7.00	3,360	
MISCELLANEOUS DEMOLITION	1	LS	5,000.00	5,000	
SAWCUT	124	LF	5.00	620	
LOAD & HAUL DEBRIS	120	CY	65.00	7,800	
					31,836

HAZMAT ABATEMENT

NOT INCLUDED (IF REQUIRED)

TOTAL DIVISION 2/SITE WORK - BUILDING **31,836**

DIVISION 3/CONCRETE

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
CONCRETE					
FLASH PATCH FLOORS	3,406	SF	1.50	5,109	
FOUNDATION WORK IN STORAGE SPACE	1	LS	2,500.00	2,500	
					7,609

TOTAL DIVISION 3/CONCRETE **7,609**

DIVISION 4/MASONRY

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
UNIT MASONRY					
PATCH MASONRY PARTITION	1	LS	2,500.00	2,500	
					2,500

TOTAL DIVISION 4/MASONRY **2,500**

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 20
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 5/METALS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
STRUCTURAL METALS					
ROOFTOP MECHANICAL DUNNAGE	1	LS	4,000.00	4,000	
ADDITIONAL ROOF STEEL STRUCTURE	1	LS	5,000.00	5,000	
REFRAME ROOF - EXTEND JOISTS	5	EA	3,500.00	17,500	
STRUCTURAL LINTELS	2.20	TON	6,000.00	13,200	
RAISED FLOOR STRUCTURE	1,179	SF	24.00	28,296	
RAISED RAMP STRUCTURE	112	SF	30.00	3,360	
					71,356
MISCELLANEOUS METALS					
RAILINGS	74	LF	120.00	8,880	
FOLDING PARTITION SUPPORT	38	LF	52.00	1,976	
					10,856
TOTAL DIVISION 5/METALS					82,212

DIVISION 6/WOOD & PLASTICS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ROUGH CARPENTRY					
INTERIOR BLOCKING	600	BF	2.50	1,500	
PLYWOOD SHELVES FOR COUNCIL SEATS	72	SF	22.00	1,584	
ROUGH HARDWARE	1	LS	250.00	250	
					3,334
FINISH CARPENTRY & MILLWORK					
INTERIOR WOOD TRIM	250	LF	15.00	3,750	
WOOD STEPS	6	TR	160.00	960	
NEW WOOD PANELED PARTITION	528	SF	60.00	31,680	
DAIS FRONT TRIM	64	SF	60.00	3,840	
CONTROL CONSOLE	8	LF	550.00	4,400	
COUNCIL DESK - DEMOUNTABLE	30	LF	1,200.00	36,000	
COUNCIL PODIUM	180	SF	40.00	7,200	
MOVEABLE WALL	360	SF	35.00	12,600	
					100,430
TOTAL DIVISION 6/WOOD & PLASTICS					103,764

DIVISION 7/THERMAL & MOISTURE PROTECTION

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ROOFING & SHEET METAL					
ROOFING & FLASHING REPAIRS - ALLOW	1	LS	4,500.00	4,500	
TOTAL DIVISION 7/THERMAL & MOISTURE PROTECTION					4,500

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 21
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 8/DOORS & WINDOWS

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
WOOD & HOLLOW METAL DOORS & FRAMES					
HOLLOW METAL FRAMES - SINGLE	4	EA	155.00	620	
HOLLOW METAL FRAMES - DOUBLE	1	EA	172.00	172	
SOLID CORE WOOD DOORS	6	EA	535.00	3,210	
HARDWARE - PER LEAF	6	EA	400.00	2,400	
					6,402
WINDOWS					
FIXED WINDOWS @ ATRIUM	6	EA	2,000.00	12,000	
					12,000
TOTAL DIVISION 8/DOORS & WINDOWS					18,402

DIVISION 9/FINISHES

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
DRYWALL & PLASTER					
METAL STUD FRAMING - 3-5/8"	1,875	SF	1.50	2,813	
GYPSUM WALLBOARD - 5/8"	3,750	SF	1.16	4,350	
TAPE & SPACKLE	3,750	SF	0.65	2,438	
SOUND INSULATION	1,875	SF	1.18	2,213	
					11,813
ACOUSTIC CEILINGS					
SUSPENDED ACOUSTIC CEILING	384	SF	5.00	1,920	
					1,920
CERAMIC TILE					
CERAMIC FLOOR TILE	42	SF	14.00	588	
CERAMIC BASE	26	LF	12.50	325	
CERAMIC WALL TILE	156	SF	13.00	2,028	
MARBLE THRESHOLDS	1	EA	40.00	40	
					2,981
RESILIENT FLOORS					
CARPET	400	SY	36.00	14,400	
RESILIENT BASE	220	LF	1.65	363	
					14,763
PAINTING					
PAIN T WALLS	3,160	SF	0.75	2,370	
PAIN T DOORS & FRAMES	6	EA	65.00	390	
PAIN T EXPOSED CEILING - BLACK ACOUSTIC MATERIAL	3,587	SF	5.50	19,729	
					22,489
TOTAL DIVISION 9/FINISHES					53,965

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 22
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 10/SPECIALTIES

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
TOILET ACCESSORIES					
TOILET TISSUE DISPENSER	1	EA	68.00	68	
WASTE RECEPT/TOWEL DISPENSER	1	EA	550.00	550	
MIRROR - 18 X 36	1	EA	103.00	103	
SOAP DISPENSER	1	EA	67.00	67	
GRAB BARS	2	EA	91.00	182	
					970
MISCELLANEOUS SPECIALTIES					
GRAPHICS/SIGNAGE	1	LS	500.00	500	
ACOUSTIC WALL PANELS	1,600	SF	16.00	25,600	
FOLDING PARTITIONS	312	SF	75.00	23,400	
					49,500
TOTAL DIVISION 10/SPECIALTIES					50,470

DIVISION 11/EQUIPMENT

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
AUDIO VISUAL EQUIPMENT = ALLOW	1	LS	217,300.00	217,300	
TOTAL DIVISION 11/EQUIPMENT					217,300

DIV 12/FURNISHINGS

NOT INCLUDED

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
THEATER SEATS	178	EA	200.00	35,600	
BLACKOUT SHADES	150	SF	24.00	3,600	
TOTAL DIV 12/FURNISHINGS					39,200

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 23
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 15/MECHANICAL - PLUMBING

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
PLUMBING DEMOLITION					
REMOVE FIXTURES & PIPING	2	EA	150.00	300	
					300
FIXTURES					
WATER CLOSET	1	EA	1,350.00	1,350	
LAVATORIES - WALL HUNG	1	EA	1,260.00	1,260	
MISCELLANEOUS	1	EA	1,500.00	1,500	
					4,110
ROUGHING					
SUPPLY, WASTE & VENT TO FIXTURES	2	EA	2,000.00	4,000	
					4,000
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	1,000.00	1,000	
					1,000
SUBTOTAL					9,410
SUBCONTRACTOR'S OH & P @ 20%					1,882
TOTAL DIVISION 15/MECHANICAL - PLUMBING					11,292

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 24
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 15/MECHANICAL - HVAC

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
HVAC DEMOLITION					
REMOVE EQUIPMENT & DISTRIBUTION	3,406	SF	1.50	5,109	
					5,109
HVAC EQUIPMENT & DISTRIBUTION					
HVAC EQUIPMENT & DISTRIBUTION	3,406	SF	34.00	115,804	
					115,804
CONTROLS & INSTRUMENTATION					
AUTOMATIC TEMPERATURE CONTROLS	3,406	SF	4.00	13,624	
					13,624
SYSTEM TESTING & BALANCING					
SYSTEM TESTING & BALANCING	3,406	SF	0.50	1,703	
					1,703
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	5,000.00	5,000	
					5,000
SUBTOTAL					141,240
SUBCONTRACTOR'S OH & P @ 20%					28,248
TOTAL DIVISION 15/MECHANICAL - HVAC					169,488

DIVISION 15/MECHANICAL - FIRE PROTECTION

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
SPRINKLER SYSTEM					
MODIFY/RELOCATE HEADS	3,406	SF	1.50	5,109	
NEW HEADS @ ATRIUM WINDOWS	6	EA	300.00	1,800	
					6,909
GENERAL					
PERMIT, TEST & WARRANTY	1	LS	1,200.00	1,200	
					1,200
SUBTOTAL					8,109
SUBCONTRACTOR'S OH & P @ 20%					1,622
TOTAL DIVISION 15/MECHANICAL - FIRE PROTECTION					9,731

Concept Cost Estimate

Project: Council Chambers Renovation - Takoma Park, Maryland		Page 25
Architect: MTFA Architecture, Inc.		RWB Job # 07-59-A2
Estimated by: R.W. Brown & Associates	Option C	7/26/07

DIVISION 16/ELECTRICAL

Item	Quantity	Unit	Unit Price	Total Cost	Group Total
ELECTRICAL DEMOLITION					
ELECTRICAL DEMOLITION	3,406	SF	0.75	2,555	2,555
EQUIPMENT					
SERVICE EQUIPMENT MODIFICATIONS	1	LS	5,000.00	5,000	
PANEL	1	EA	3,500.00	3,500	
MISCELLANEOUS EQUIPMENT	1	LS	2,000.00	2,000	
BRANCH CONDUIT & WIRE	200	LF	6.00	1,200	
FEEDER CONDUIT & WIRE	60	LF	25.00	1,500	
					13,200
DEVICES & CONNECTIONS					
DUPLEX RECEPTACLES	20	EA	40.00	800	
DUPLEX RECEPTACLES - GFI	1	EA	52.00	52	
QUAD RECEPTACLES	2	EA	80.00	160	
FLOOR BOXES	20	EA	140.00	2,800	
MISCELLANEOUS DEVICES	12	EA	60.00	720	
SWITCHES - 1 POLE	8	EA	40.00	320	
MOTOR CONNECTIONS	6	EA	235.00	1,410	
BRANCH CONDUIT & WIRE	1,035	LF	6.00	6,210	
					12,472
LIGHT FIXTURES					
INTERIOR LIGHT FIXTURES	85	EA	250.00	21,250	
TRACK FIXTURES	40	EA	180.00	7,200	
LIGHT TRACK	110	LF	36.00	3,960	
DIMMING CONTROLS	1	LS	7,500.00	7,500	
EXIT FIXTURES	5	EA	200.00	1,000	
BRANCH CONDUIT & WIRE	3,615	LF	6.00	21,690	
					62,600
COMMUNICATIONS					
TELEPHONE/DATA OUTLETS	20	EA	72.00	1,440	
EMPTY CONDUIT	400	LF	4.00	1,600	
COMMUNICATIONS CONDUIT & WIRE	500	LF	6.00	3,000	
					6,040
FIRE ALARM					
ALARMS & DEVICES	8	EA	225.00	1,800	
FIRE ALARM CONDUIT & WIRE	400	LF	6.00	2,400	
					4,200
SUBTOTAL					101,067
SUBCONTRACTOR'S OH & P @ 20%					20,213
TOTAL DIVISION 16/ELECTRICAL					121,280