CIVIC CENTER FACILITIES ASSESSMENT

For

The City of Rancho Palos Verdes

November 2010

Prepared by:

GONZALEZ GOODALE ARCHITECTS

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City of Rancho Palos Verdes
Civic Center Facilities Assessment
November 2010

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City of Rancho Palos Verdes
Civic Center Facilities Assessment
November 2010

Introduction

This report is the result of a commission for Civic Center Facilities Assessment, as defined by the City of Rancho Palos Verdes Request for Proposal.

As part of the City's Civic Center Baseline Study, one alternative to the development of a new City Hall is to continue to use the existing facilities for the provision of City services. An important element of this option is to develop an understanding of the costs associated with bringing the current facilities up to current building, safety, seismic, accessibility, environmental hazard and energy efficiency requirements, and maintaining them for future use as the City's primary facilities for operational and emergency services. The purpose of this effort is to develop a planning level assessment of the current facilities to determine an opinion of probable cost to renovate the buildings to current building and safety codes. If this preliminary assessment determines that it would be cost effective to renovate the current facilities, a more detailed and thorough assessment would likely be required thereafter to confirm the cost estimate and other assumptions contained in this report.

The City requested that three of the existing buildings be included in the assessment: the Administration Building, the Community Development Building and the Cable TV/Communications Center Building.

These three buildings are 1950's era military buildings. The Administration building was originally military barracks. The Community Development Building was the administration, recreation and storage building for the base. The Cable TV/Communications Center Building was originally the missile assembly and test building.

The City has requested that the buildings be analyzed for upgrades that would meet current building code requirements and be capable of meeting ASCE/SEI 41/06 and FEMA 356 criteria for the "immediate occupancy" level. This requirement is partially defined by the following quote from the regulations:

> *Buildings meeting this performance level are expected to sustain minimal or no damage to their structural elements and only minor damage to their nonstructural components. While it would be safe to reoccupy a building meeting this performance level immediately following a major earthquake, nonstructural systems may not function due to either a lack of electrical power or internal damage to equipment. Therefore, although immediate re-occupancy of the building is possible, it may be necessary to perform some cleanup and repair, and await restoration of utility service, before the building could function in a normal mode. The risk to life safety at this performance level is very low.*

Our study process was designed to reveal any and all deficiencies possessed by the existing buildings that can be discovered without destructive testing procedures. We prepared a questionnaire and distributed the documents to appropriate City staff. We met with respondents to review the goals of the questionnaire and to assure understanding of the reason for each question and responses that should be provided.

A day of interview and observation was scheduled to review all questionnaire responses and additional documentation that was provided by City staff (see Appendix for list of documents reviewed). We conducted interviews with the Finance Department, Community Development Department which includes building and safety, Public Works Department, IT consultants, and Administration representatives.

The Public Works maintenance staff led a facilities tour with focus on areas of known concerns and identification of existing conditions that are not otherwise apparent from casual observation. Knowledge of building assemblies and methods of construction common for the era of the building's original construction were applied to observed conditions. The results of the effort were a comprehensive understanding of the existing structures and operational challenges that currently exist.

Gonzalez Goodale documented observations with photographs and notations. Support documentation was studied. Research into historical building codes and military construction standards was conducted.

Analysis workshops were conducted with consulting mechanical, electrical and structural engineers. Follow-up site visits were determined necessary and were accomplished, completing knowledge and understanding of the actual existing conditions.

A draft version of the final report was then prepared and reviewed with Administrative staff. The City provided comments for consideration in the final report. The final report, responding to City comments, was then prepared and delivered to the City.

The conclusions of this report are conceptual. Findings and recommendations must be confirmed and refined with further detailed study prior to implementation any rehabilitative construction.

Executive Summary

The City of Rancho Palos Verdes requested that three of the existing buildings of the Upper Point Vicente Civic Center complex be included in the assessment; the Administration Building, the Community Development Building and the Cable TV/Communications Center Building.

These three buildings are 1950's era military buildings. The Administration Building was originally military barracks. The Community Development Building was the administration, recreation and storage building for the base. The Cable TV/Communications Center Building was originally the missile assembly and test building.

The City requested that the buildings be analyzed for upgrades that would meet current building code requirements and be capable of meeting ASCE/SEI 41/06 and FEMA 356 criteria for the "immediate occupancy" level in order to provide continuous leadership and City services in the event of a major disaster.

Our study process was designed to reveal any and all deficiencies possessed by the existing buildings that can be discovered without destructive testing procedures.

The existing buildings are, generally, serviceable for their current uses, however there are significant non-compliant elements when measured against current building codes and ASCE and FEMA criteria. These deficiencies can be summarized as follows:

Seismic design: minimally reinforced concrete masonry unit (CMU) walls and weak connections from the floor and roof diaphragms do not meet current design standards for earthquake resistance. The existing suspended ceilings and cabinet/equipment anchorage do not meet current standards.

Energy conservation: thermal properties of the building envelope, lighting controls and mechanical heating/ventilating systems do not comply with current Title 24 requirements.

Fire/Life Safety: fire alarm system is minimal in the Administration Building and non-existent in the other buildings. There are minor exiting violations. The buildings are not equipped with an automatic sprinkler system.

Disabled Access (ADA): with a few exceptions, the building interiors do not comply with accessibility requirements. Toilet facilities are not accessible (eminent upgrades to the Community Development Building's public restrooms will result in ADA compliance in those facilities in 2011) and many interior doors and passages lack proper approach clearances and width.

Basic Code requirements: The buildings are, typically, compliant with current building codes for the occupancy groups present. However, significant deficiencies include the lack of mechanical ventilation and a shortage of sanitary facilities in all buildings.

Rehabilitative construction approaches are discussed in more detail within the report. The primary features of recommended rehabilitative construction included:

Strengthen seismic resisting elements.

Add automatic fire sprinkler system and fire alarm system.

Replace/expand toilet facilities for both fixture count requirements and accessibility.

Add appropriate insulation to walls and roof to meet Title 24 requirements.

Add HVAC system of Variable Refrigerant Flow Zoning (VRFZ) type.

Replace all domestic and waste piping.

Bring natural gas to the site, serving high efficiency condensing water heater.
Alternative – Solar domestic water heater with electric backup system.

Replace all lighting systems with energy-efficient control systems.

Replace electrical distribution/devices to add grounding system.

While this study does not consider additional space needs, the requirements to upgrade and expand the toilet facilities will require additional area, either taken from existing gross area or added. Discussions with City staff concluded the operations of the Civic Center can not accept reduced area as a result of this work, so additional square footage was to accommodate the necessary expansion of toilet facilities.

Based on the strong desire to provide ongoing City services in the event of a seismic or other catastrophic event, it was determined that the Emergency Operations Center (EOC)/Community Room should be housed in new construction, while the expanded toilet facilities should be developed within the existing building's footprint. This will place the EOC/Community Room in the newest, most capable structure within the complex and provide the best likelihood of continued, uninterrupted service of this critical operation.

The remedial actions described in the report, will, by their nature, require demolitions of nearly all interior construction within the three buildings. By virtue of this rather complete

reconstruction, there should be no lingering non-compliant conditions within these three buildings.

With the exception of the inherent constraints of the structure's layout and configuration, the resulting buildings will be completely "modernized" with an expected useful life of at least 20 years.

Sustainable elements of the buildings will be greatly enhanced. The reconstruction can be accomplished with generous use of sustainable materials and methods. Regardless of the attention applied to sustainable construction practices in the reconstruction, the resulting building will not achieve the level of energy efficiency possible with new construction due, in part, to physical limitations discussed in the Conclusions section and elsewhere in this report. The opportunities for demonstrated leadership in sustainability will not be as numerous as would be possible in new construction. This not withstanding, the preservation of the existing structures is a meritorious action respecting the environmental impacts of demolition and waste handling challenges with alternative scenarios.

The work described in this report, to accomplish the goals set forth, is estimated to cost $8,588,685 for construction. (excludes "soft costs", i.e. A&E fees, legal costs, administrative costs, etc). See Appendix for detailed accounting.

General Building Descriptions

Administration Building

The existing Administration Building is a two-story structure containing approximately 17,530 square feet. The construction is concrete slab-on-grade, concrete masonry units (CMU) exterior bearing walls, wood-frame floor and roof system and wood framed interior non-bearing walls. A small portion of the Northwest corner of the building utilizes a concrete pan-joist floor system. A longitudinal interior-bearing wall in the East wing is also wood frame and/or wood column and beam construction. Lateral force resistance is provided by the floor and roof diaphragms and the exterior CMU walls. An interior CMU wall in the transverse direction provides additional lateral support. (The Certified Thermagraphy report discloses that the CMU walls have solid grouting in every third cell). The roof is nearly flat with a hot-mopped, mineral-surfaced capsheet roof system.

The structure was, most likely, constructed at three different times. The West wing was constructed first, with the East wing added at a latter time. There is an expansion joint between the two building sections near the east end of the center stair shaft. The new lobby and elevator were added recently. (circa 2005)

The building, characteristic of the era, has a very low floor-to-floor dimension of 10 feet, and 10 feet from the second floor to the underside of the roof structure.

The buildings, originally, had hard (gyp/plaster) ceilings attached directly to the underside of the floor or roof joists. Lay-in acoustic tile ceilings have been added in most areas.

Community Development Building

The existing Community Development Building is a single-story structure containing approximately 4,600 square feet. The construction is concrete slab-on-grade, concrete masonry units (CMU) exterior bearing walls, wood-frame roof system and wood framed interior non-bearing walls Lateral force resistance is provided by the roof diaphragm and the exterior CMU walls. Two, partial-width, interior CMU walls in the transverse direction provides additional lateral support. (The Certified Thermagraphy report discloses that the CMU walls have solid grouting in every third cell). The roof is nearly flat with a hot-mopped, mineral-surfaced capsheet roof system.

An addition (circa 1984) added two public restrooms and a meeting room to the North side entry area. The addition is of similar construction, but it has a sloped, asphalt shingle, roof structure.

The building has a low floor to roof dimension of 8'-8" at the North side and 9'-10" at the South side.

Cable TV/Communications Center Building

The existing Cable TV/Communications Center Building is a single-story structure containing approximately 1,240 square feet. The construction is concrete slab-on-grade, concrete masonry units (CMU) exterior bearing walls, Steel-web, truss-frame roof system and wood framed interior non-bearing walls. Lateral force resistance is provided by the roof diaphragm and the exterior CMU walls. The roof is nearly flat with a hot-mopped, mineral-surfaced capsheet roof system.

This building was not studied by the Thermagraphy report. We believe it is reasonable, given the apparent similar age and other visible construction similarities, to assume the same every third cells grouting conditions present in the other two buildings.

This building is of various heights; some quite high, others similarly low. This building is identified as the "Missile Assembly and Test" building on early drawings (1963). This is consistent with high-bay rooms with large roll-up doors, as are present.

Administration Building

Architectural Analysis

The general condition of the Architectural finishes is sound, but worn. Roof covering has been recently replaced and is still covered by warranty. Exterior walls are sound, paint is worn particularly near ground level.

Interior finishes are showing signs of age and are inconsistent due to various re-constructions and repairs. Ceiling system is functional, but worn from repeated access events.

Exterior windows have been recently replaced and are in excellent condition.

Asbestos and lead have been identified within the building. These hazardous materials are presently contained and do not represent health hazards, however if reconstruction is to be accomplished, proper removal and disposal of these materials will be required.

Structural System Analysis:

The existing building structural system consists of concrete slab on grade with unknown foundation profiles, concrete masonry unit (CMU) exterior walls and occasional interior cross walls, wood floor and roof joists with plywood floor and roof sheathing. The building, as it exists, is sound and is not an eminent threat to life safety, however, when analyzed with the parameters specified for “immediate occupancy” classification by ASCE Standard 41-06 and ATC-14, there are specific areas of weakness that are identified.

These are the seismic capacity of the roof and floor diaphragms, the shear resisting capacity of the existing CMU walls and the lack of any north-south shear resisting element at the expansion joint between the East and West portions of the building.

MEP System Analysis

The existing Mechanical system consists of local cooling equipment for the computer equipment rooms, electric-resistance heating for the balance of the facility. There is no forced ventilation of any kind.

Domestic water supply piping is a mixture of galvanized pipe and copper pipe. (Galvanized is original condition, copper is recently replaced/repaired sections.)

Waste and vent piping is a combination of galvanized and cast iron pipe. Based on observation and knowledge relayed from maintenance staff, they are problematic, as existing. They are well beyond reasonable expected useful life.

The electrical systems have been expanded and augmented as required, over time. The current system has a new emergency back-up generator servicing emergency functions. The main service for the Campus is 800 amps.

Data and technology systems are less than optimal. The cabling is "roped" thru the attic space in a non-organized fashion. Computer workstation hardware is suffering premature failure due to lack of air conditioning.

Fire/Life Safety Analysis

Fire Alarm System: Very minimal and is not monitored by a central station. Smoke detectors in stairs only are annunciated to intrusion alarm service provider. There are no manual fire alarm pull stations or other activating mechanisms.

Fire Suppression System: There is no fire sprinkler system in this building

Exiting System: The existing exiting system is nearly compliant with current code requirements. Doors to stair shafts are not properly maintained in fire-safe condition. Some corridors empty through non-rated spaces. Southwest stair (photo 12) is not separated from the corridor.

Disabled Access Systems: While the site has been upgraded, resulting in good compliance relative to Access requirements to the buildings, the building interior has not been upgraded to a similar extent. Toilet facilities are not compliant. Currently, the only ADA compliant toilet consists of a portable unit stationed in the public parking lot. Other public access issues such as drinking fountains, telephones, hearing disabled assistance devices, etc., are not present.

Many doorways do not comply for several reasons, including side approach clearances and force required to open.

Community Development Building

Architectural Analysis

The general condition of the Architectural finishes is sound, but worn. Roof covering has been recently replaced and is still covered by warranty. Exterior CMU walls are sound, paint is worn particularly near ground level.

The siding on the pitched addition area is warped and splintered and would need replacing as a part of an exterior reconditioning.

Interior finishes are showing signs of age and are inconsistent due to various re-constructions and repairs. Ceiling system is functional, but worn from repeated access events.

Asbestos and lead have been identified within the building. These hazardous materials are presently contained and do not represent health hazards, however if reconstruction is to be accomplished, proper removal and disposal of these materials will be required.

Structural System Analysis:

The existing building structural system consists of concrete slab on grade with unknown foundation profiles, concrete masonry unit (CMU) exterior walls and occasional interior cross walls, wood roof joists with plywood roof sheathing. The building, as it exists, is sound and is not an eminent threat to life safety, however, when analyzed with the parameters specified for “immediate occupancy” classification by ASCE Standard 41-06 and ATC-14, there are specific areas of weakness that are identified.

These are the seismic capacity of the roof diaphragms and the shear resisting capacity of the existing CMU walls.

MEP System Analysis

The existing Mechanical system consists of local cooling equipment for the computer equipment rooms. There is no forced ventilation or heating of any kind.

Domestic water supply piping is a mixture of galvanized pipe and copper pipe. (Galvanized is original condition, copper is recently replaced/repaired sections.)

Waste and vent piping is a combination of galvanized and cast iron pipe. Based on observation and knowledge relayed from maintenance staff, they are problematic, as existing. They are well beyond reasonable expected useful life.

The electrical systems have been expanded and augmented as required, over time. The current system has a new back-up generator servicing emergency functions. The main service for the campus is 800 amps.

Data and technology systems are less than optimal. The cabling is "roped" thru the attic space in a non-organized fashion. Computer workstation hardware is suffering premature failure due to lack of air conditioning.

Fire/Life Safety Analysis

Fire Alarm System: There is no fire alarm system.

Fire Suppression System: There is no fire sprinkler system in this building

Exiting System: The existing exiting system is nearly compliant with current code requirements. Due to closure of some exterior doors during previous remodels, the exit separation of the two exterior exit doors is inadequate (see Code Compliance analysis).

Disabled Access Systems: While the site has been upgraded, resulting in good compliance relative to Access requirements to the buildings, the building interior has not been upgraded to a similar extent. Toilet facilities are not compliant. Other public access issues such as drinking fountains, telephones, hearing disabled assistance devices, etc., are not present.

Many doorways do not comply for several reasons, including side approach clearances and force required to open.

Cable TV/Communications Center Building

Architectural Analysis

The general condition of the Architectural finishes is sound, but worn. Roof covering has been recently replaced and is still covered by warranty. Exterior CMU walls are sound, paint is worn particularly near ground level.

Interior finishes are showing signs of age and are inconsistent due to various re-constructions and repairs. Ceiling system is functional, but worn from repeated access events.

Asbestos and lead have been identified within the building. These hazardous materials are presently contained and do not represent health hazards, however if reconstruction is to be accomplished, proper removal and disposal of these materials will be required.

Structural System Analysis:

The existing building structural system consists of concrete slab on grade with unknown foundation profiles, concrete masonry unit (CMU) exterior walls and occasional interior cross walls, steel-web truss roof joists and sheathing. The building, as it exists, is sound and is not an eminent threat to life safety, however, when analyzed with the parameters specified for “immediate occupancy” classification by ASCE Standard 41-06 and ATC-14, there are specific areas of weakness that are identified.

These are the seismic capacity of the roof diaphragms and the shear resisting capacity of the existing CMU walls.

MEP System Analysis

The existing Mechanical system consists of a split system, rooftop package AC unit serving a portion of the building. There is no forced ventilation or heating of any kind in the remainder of the building.

Domestic water supply piping is a mixture of galvanized pipe and copper pipe. (Galvanized is original condition, copper is recently replaced/repaired sections.)

Waste and vent piping is a combination of galvanized and cast iron pipe. Based on observation and knowledge relayed from maintenance staff, they are problematic, as existing. They are well beyond reasonable expected useful life.

The electrical systems have been expanded and augmented as required, over time. The current system has a new back-up generator servicing emergency functions. The main service for the campus is 800 amps.

Data and technology systems are less than optimal. The cabling is “roped” thru the attic space in a non-organized fashion. Computer workstation hardware is suffering premature failure due to lack of air conditioning.

Fire/Life Safety Analysis
Fire Alarm System: There is no fire alarm system.

Fire Suppression System: There is no fire sprinkler system in this building

Exiting System: The existing exiting system is compliant with current code requirements.

Disabled Access Systems: While the site has been upgraded, resulting in good compliance relative to Access requirements to the buildings, the building interior has not been upgraded to a similar extent. Staff toilet facilities are not compliant. Other public access issues such as drinking fountains, telephones, hearing disabled assistance devices, etc., are not present.

Many doorways do not comply for several reasons, including side approach clearances and force required to open.

Code Compliance Analysis

The subject structures are analyzed below for compliance with the California Building Code, 2010, edition, which will be enforced by all California cities beginning January 1, 2011.

Administration Building

Basic Building Requirements		Status
Building Occupancy Class	B (Business)	OK
Building Type	V-B (non-rated)	OK
Allowable Area	18,000 sq. ft. (base)	OK
Corridor Rating	1 hour (without sprinklers)	noncompliant
Stair Shafts	1 hour	noncompliant

Other code compliance issues:

Some exits discontinuous – corridors exit through other uses

Southwest stair (photo 12) not separated from corridor

Some stair railings not compliant with 4” max spacing

Sanitary facilities are significantly short of current code requirements (see discussion at the end of this section)

Supply water piping is too small to meet code with increased sanitary facilities.

Access requirements are not compliant in nearly all ways (except Site access)

Seismic design does not comply.

Seismic bracing of acoustic tile ceilings does not comply

Title 24 energy conservation requirements do not comply

The building lacks mechanical ventilation, violating code for this occupancy type.

Community Development Building

Basic Building Requirements		Status
Building Occupancy Class	B (Business)	OK
Building Type	V-B (non-rated)	OK
Allowable Area	18,000 sq. ft. (base)	OK
Corridor Rating	rating not required	OK

Other code compliance issues:

Separation of exits does not meet the ½ the diagonal rule.

Sanitary facilities are significantly short of current code requirements (see discussion at the end of this section).

Supply water piping is too small to meet code with increased sanitary facilities.

Access requirements are not completely met. (Door-strike clearance, assisted listening, etc.)

Seismic design does not comply.

Title 24 energy conservation requirements do not comply.

The building lacks mechanical ventilation, violating code for this occupancy type.

Cable TV/Communications Center Building

Basic Building Requirements		Status
Building Occupancy Class	B (Business)	OK
Building Type	V-B (non-rated)	OK
Allowable Area	18,000 sq. ft. (base)	OK
Corridor Rating	rating not required	OK

Other code compliance issues:

Sanitary facilities are significantly short of current code requirements (see discussion at the end of this section).

Supply water piping is too small to meet code with increased sanitary facilities.

Access requirements are not compliant in nearly all ways (except Site access).

Seismic design does not comply.

Title 24 energy conservation requirements do not comply.

The building lacks mechanical ventilation, violating code for this occupancy type.

Sanitary Facilities Requirements:

Toilet facility fixture count requirements have been radically changed in the last few years. Current building code requires significantly more fixtures in a given building than would have been required prior to the introduction of the new code in 2007.

Pending concurrence of the Building Official, the current requirements may be met in one of two ways. A central toilet facility can be developed for the entire campus considering overall occupancy counts, or each separate building can meet the requirements for its own occupants.

If the global approach were selected, the three-building campus would require toilet facilities as follows

	Total	Male	Female	Total
	Water closets	5	9	14
	Urinals	3		3
	Lavatories	3	3	6

If it is determined to design each building to stand alone, the count would be:

		Male	Female	Total
Admin				
	Water closets	4	7	11
	Urinals	2		2
	Lavatories	2	2	4
Comm				
	Water closets	3	6	9
	Urinals	2		2
	Lavatories	2	2	4
TV				
	Water closets	2	4	6
	Urinals	1		1
	Lavatories	2	2	4

Current fixture count for all buildings of this study is:

Water closets	9
Urinals	2
Lavatories	10

(The only current ADA accessible facility is the portable toilet located in the public parking lot.)

With the current site configuration, practicality suggests the Cable TV/Communications Center Building should be designed to stand on its own, while the Administrative Building and the Community Development Building could possibly share a common facility.

If all functions were combined in a single connected configuration, the centralization of sanitary facilities would be appropriate.

While this study does not consider additional space needs, the requirements to upgrade and expand the toilet facilities will require additional area, either taken from existing gross area or added. Discussions with City staff concluded the operations of the Civic Center can not accept reduced area as a result of this work, so additional square footage was to accommodate the necessary expansion of toilet facilities.

Recommended Solutions

This section contains specific remedial actions proposed to address all of the deficiencies identified earlier in the report, listed per building. At the end of this section, a discussion of a comprehensive solution, considering a more global approach is presented. The cost estimate presented in the Appendix has been prepared to be consistent with this overall solution.

Structural alternatives:

Several possible methodologies to increase the seismic capability of the existing CMU walls have been considered. A brief description of these follows.

Moment frame structures, either steel or concrete, have not been seriously considered due to the flexible nature of a moment frame and the inherent rigidity of the existing CMU walls. The walls would likely experience failure before the flexible frames could act to resist the lateral loads.

Rigid frames, either steel or concrete braced frames could work, however there would be significant concentrated loads at the column locations, requiring massive foundation underpinning to accept those loads. Braces frames have a second liability in that the locations of the braces would be difficult to configure with the existing window and door openings.

Glass Fiber Reinforcing (GFR) wrap/reinforcement may be a viable alternative that would provide equivalent strength with less weight and less thickness than “shotcret”. GFR wraps are bond-dependant for success. There is concern about achieving appropriate bond strength on the existing CMU walls due to porosity and unknown stability of the existing, ungrouted cells. We recommend including investigation of this solution, which may include on-site testing of adhesion and or bonding layers that can be added to the existing CMU walls, if it is determined that the existing buildings will be rehabilitated.

We have based this report on the addition of pneumatically applied concrete (“shotcret”) reinforcing, as that method is well proven and understood. Costs are predictable and success is certain.

Administration Building

The Administration Building can be upgraded to achieve compliance with current building codes and the “immediate occupancy” criteria of ASCE/SEI 41/06 and FEMA 356.

The following remedial actions should be considered as the most successful method of reaching this goal:

Strengthen seismic resisting elements by:

1. Re-sheathing and nailing the plywood diaphragms of both the second floor and the roof.
2. Improving connection of the diaphragms to the shear-resisting walls (all perimeter walls and interior CMU cross wall)
3. Strengthen existing shear-resisting walls by adding "shotcret" layer to the exterior of all CMU walls, with drilled/epoxied ties into existing grouted cells of the existing CMU walls. This additive layer will be from the roof level to the tops of foundations at all existing walls.
4. Add shear-resisting wall at the existing expansion joint to provide lateral resistance to the West end of the East wing (presently without any shear-resisting element.)

Code Non-Compliant Elements

1. Replace stair handrails
2. Add automatic fire sprinkler system and fire alarm system. This will correct the existing non-compliant exit issues and the non-compliant stair shaft and corridor ratings.
3. Replace/expand toilet facilities for both fixture count requirements and accessibility.
4. Add appropriate insulation to walls and roof to meet Title 24 requirements

HVAC system

1. Installation of Variable Refrigerant Flow Zoning (VRFZ) system. This system consists of outdoor condensing units feeding a cassette type fan coil above the ceiling, for each zone. Small ducts will be fed from new openings in the exterior walls to each fan coil, providing mechanical ventilation.

   Some systems are available with outdoor equipment specifically designed to marine environments.

   This system is proposed because it is a reasonably efficient HVAC system that is compatible with the very limited attic space, but still provides good zone control and energy efficiency.

Plumbing system

1. Replace all domestic and waste piping

2. Bring natural gas to the site, serving high efficiency condensing water heater.

   Alternative – Solar domestic water heater with electric backup system.

Electrical system

1. Replace all lighting with energy-efficient control systems
2. Replace electrical distribution/devices to add grounding system

The rehabilitation process will require:

- Removal/replacement of all floor coverings to access the structure to replace the diaphragm sheathing.
- Removal/replacement of roof covering to access the structure to replace the diaphragm sheathing.
- Removal/replacement of most interior wall finishes for replacement of electrical distribution system and plumbing.
- Removal/replacement of all acoustic tile ceilings.
- Reconfiguration of some interior spaces to allow the addition of shear-resisting wall at the West end of the East wing.
- Reconfiguration/consumption of some interior spaces to allow expansion of toilet facilities.

The effective cumulative result of the required work will be to reduce the retained portion of the existing buildings to partial "shell" components, only. Reconstruction of virtually all interior partitions, finishes, casework and fixtures will be required.

The exterior of the building will have a different appearance due to the addition of "shotcret" shear element to all exterior walls.

The "shotcret" would be placed directly on the existing CMU walls and an exoinsulation/rainscreen decorative finish can be installed external to the "shotcret", providing esthetic options.

Significant square footage will be lost to the toilet facility expansion if it is accomplished within the existing building. However, as discussed in the Sanitary Facilities section, the EOC/Community Room could be housed in new construction to further ensure that these

facilities would be available after a seismic event or other catastrophe, but would also allow expanded toilet facilities to be developed within the building's existing footprint without significantly impacting existing office space needs.

Community Development Building

The Community Development Building can be upgraded to achieve compliance with current building codes and the "immediate occupancy" criteria of ASCE/SEI 41/06 and FEMA 356.

The following remedial actions should be considered as the most successful method of reaching this goal:

Strengthen seismic resisting elements by:

1. Re-sheathing and nailing the plywood diaphragm of the roof.
2. Improving connection of the diaphragms to the shear-resisting walls (all perimeter walls and interior CMU cross wall).
3. Add shear-resisting elements to clerestory roof section.
4. Strengthen existing shear-resisting walls by adding "shotcret" layer to the exterior of all CMU walls, with drilled/epoxied ties into existing grouted cells of the existing CMU walls. This additive layer will be from the roof level to the tops of foundations at all existing walls.

Code Non-Compliant Elements

1. Add automatic fire sprinkler system and fire alarm system. This will correct the existing non-compliant exit separation issue.

2. Replace/expand toilet facilities for fixture count requirements.
3. Add appropriate insulation to walls and roof to meet Title 24 requirements.

HVAC System

1. Installation of Variable Refrigerant Flow Zoning (VRFZ) system. This system consists of outdoor condensing units feeding a cassette type fan coil above the ceiling, for each zone. Small ducts will be fed from new openings in the exterior walls to each fan coil, providing mechanical ventilation.

   Some systems are available with outdoor equipment specifically designed to marine environments.

This system is proposed because it is a reasonably efficient HVAC system that is compatible with the very limited attic space, but still provides good zone control and energy efficiency.

Plumbing System

1. Replace all domestic and waste piping

2. Bring natural gas to the site, serving high efficiency condensing water heater.

   Alternative – Solar domestic water heater with electric backup system.

Electrical System

1. Replace all lighting with energy-efficient control systems
2. Replace electrical distribution/devices to add grounding system.

The rehabilitation process will require:

- Removal/replacement of roof covering to access the structure to replace the diaphragm sheathing.
- Removal/replacement of most interior wall finishes for replacement of electrical distribution system and plumbing.
- Removal/replacement of all acoustic tile ceilings.
- Reconfiguration/consumption of some interior spaces to allow expansion of toilet facilities.

The effective cumulative result of the required work will be to reduce the retained portion of the existing buildings to partial "shell" components, only. Reconstruction of virtually all interior partitions, finishes, casework and fixtures will be required.

The exterior of the building will have a different appearance due to the addition of "shotcret" shear element to all exterior walls.
The "shotcret" would be placed directly on the existing CMU walls and an exoinsulation/rainscreen decorative finish can be installed external to the "shotcret", providing esthetic options.

Significant square footage will be lost to the toilet facility expansion if it is accomplished within the existing building.

Cable TV/Communications Center Building

The Cable TV/Communications Center Building can be upgraded to achieve compliance with current building codes and the "immediate occupancy" criteria of ASCE/SEI 41/06 and FEMA 356.

The following remedial actions should be considered as the most successful method of reaching this goal:

Strengthen seismic resisting elements by:

1. Re-sheathing and nailing the plywood diaphragms of the roof.
2. Improving connection of the diaphragms to the shear-resisting walls (all perimeter walls and interior CMU cross wall).
3. Strengthen existing shear-resisting walls by adding "shotcret" layer to the exterior of all CMU walls, with drilled/epoxied ties into existing grouted cells of the existing CMU walls. This additive layer will be from the roof level to the tops of foundations at all existing walls.

Code Non-Compliant Elements

1. Add automatic fire sprinkler system and fire alarm system. This will correct the existing non-compliant exit separation issue
2. Replace/expand toilet facilities for fixture count requirements.
3. Add appropriate insulation to walls and roof to meet Title 24 requirements.

HVAC System

1. Add one or two rooftop gas/electric units or heat pumps with economizer and power exhaust. Considering the local conditions, the buildings can be ventilated and cooled, most of the year outside air, only, using air-side economizers. Units should have copper fins and tubes to resist salt-air corrosion.

Plumbing System

1. Replace all domestic and waste piping.

2. Bring natural gas to the site, serving high efficiency condensing water heater.

   Alternative #1 – Solar domestic water heater with electric backup system.

   Alternative #2 – Electric, instantaneous heaters for domestic hot water. This option may prove viable given the smaller demand as compared to the other two buildings.

Electrical System

1. Replace all lighting with energy-efficient control systems.
2. Replace electrical distribution/devices to add grounding system.

The rehabilitation process will require:

- Removal/replacement of roof covering to access the structure to replace the diaphragm sheathing.
- Removal/replacement of most interior wall finishes for replacement of electrical distribution system and plumbing.
- Removal/replacement of all acoustic tile ceilings.
- Reconfiguration of some interior spaces to allow expansion of toilet facilities.

The effective cumulative result of the required work will be to reduce the retained portion of the existing buildings to partial "shell" components, only. Reconstruction of virtually all interior partitions, finishes, casework and fixtures will be required.

The exterior of the building will have a different appearance due to the addition of "shotcret" shear element to all exterior walls

The "shotcret" would be placed directly on the existing CMU walls and an exoinsulation/rainscreen decorative finish can be installed external to the "shotcret", providing esthetic options.

Significant square footage will be lost to the toilet facility expansion if it is accomplished within the existing building.

Proposed Comprehensive Solution:

Rehabilitative construction of the three existing Civic Center buildings presents logistical challenges. Several assumptions have been made to allow preparation of a meaningful estimate of the costs of such work. They include:

- The work will be accomplished at one time, allowing for the shortest, overall time lapse from start of the project to the conclusion.

- Site concerns, such as the existing transite water main and the existing main sewer, each with known historical failures, are not included as they would be a common cost to any planned site development

- Interim housing will be required. It is assumed this will be provided by the installation of rented, portable structures on a portion of the site that will be removed from the construction activities for the duration of the work. Alternatives, such as renting existing commercially available office space in the vicinity could also be considered.

Site preparation for the project will include providing water, sewer and electrical service to the portable building site. The existing data/communications equipment will be relocated to the portable village along with furniture and equipment to allow continued, functional housing for all departments currently within the three existing structures.

While this study does not consider additional space needs, the requirements to upgrade the toilet facilities will require additional area, either taken from existing gross area or added. Discussions with City staff concluded the operations of the Civic Center can not accept reduced area as a result of this work, so additional square footage will be added to accommodate the necessary expansion of toilet facilities.

Based on the strong desire to provide ongoing city services in the event of a seismic or other catastrophic event, it was determined that the Emergency Operations Center (EOC) should be housed in new construction, while the expanded toilet facilities should be developed within the existing building's footprint. This will place the EOC in the newest, most capable structure within the complex and provide the best likelihood of continued, uninterrupted service of this critical operation. (The anticipated required square footage for the expanded toilet facilities is very similar to the square footage required for the EOC/Community Room)

The expanded toilet facilities will be accomplished by:

1. Upgrading/reconfiguring the existing toilet facility within the Cable TV/Communications Center Building to provide two, unisex, single occupancy toilet rooms, each complying with accessibility requirements.

2. Maintaining/upgrading the existing toilet facilities within the Community Development Building.

3. Adding new, accessible toilet facilities within the existing Administration building to meet the overall toilet fixture requirements.

The remedial actions described in the report, will, by their nature, require demolitions of nearly all interior construction within the three buildings. Certain elements of the existing buildings, which are presently serviceable, or even fairly new replacements of older components, will not be reusable in an economic manner.

By virtue of this rather complete reconstruction, there should be no lingering non-compliant conditions within these three buildings. The reconstruction, replacement of walls, ceilings,

doors, etc. will result in all existing accessibility-related deficiencies being corrected. The process will require removal and proper disposal of all hazardous materials within the structures since the work could not legally be accomplished with these products left in place.

With the exception of the inherent constraints of the structure's layout and configuration, the resulting buildings will be completely "modernized" with an expected useful life similar to new construction.

Sustainable elements of the buildings will be greatly enhanced. New thermal insulation, new, efficient lighting and control systems, HVAC systems compliant with current Title 24, are among a few of the improvements planned. The reconstruction can be accomplished with generous use of sustainable materials and methods. Regardless of the attention applied to sustainable construction practices in the reconstruction, the resulting building will not achieve the level of energy efficiency possible with new construction due, in part, to physical limitations discussed in the Conclusions section and elsewhere in this report. This not withstanding, the preservation of the existing structures is a meritorious action respecting the environmental impacts of demolition and waste handling challenges with alternative scenarios.

An alternative consideration may be to accomplish all of the reconditioning presented for the Administration Building and the Community Development Building but not the Cable TV/Communications Center Building. The Cable TV Building, by its shape and size is considered less likely to suffer significant damage during a seismic event than are the other two structures. If the City determines that the seismic performance level of the Cable TV Building would be acceptable at a reduced level, it would save the costs of any reconstruction of that building and reduce the cost, to some extent, of the temporary housing and relocation/moving expenses.

Conclusions

The effort expended by the City staff, in support of our study, has been exceptional. There was never resistance expressed regarding finding data, participating in discussions, and otherwise cooperating with the effort with willingness, openness and obviously deep knowledge of their respective areas of responsibility

Because of this condition, we believe the study has been comprehensive and credible.

While other sections in this report are presented as objective, factual findings, this section will editorialize, to some degree, on the possible conclusions we believe should be considered.

This study shows three buildings being used, successfully, if not ideally, for the purposes intended. Short of the likely lack of performance in the aftermath of a major seismic event, they could continue to serve, much as they have been, for considerable time to come. The records of maintenance costs, repairs and replacements, in our opinion, do not indicate dramatic cost expenditures. However, this is attributable in large part to the fact that they are minimal in nature and basic design.

The hidden costs are in efficiency of the operations and functionality of the structures. When buildings are pressed into service other than the use they were designed to accommodate, there is almost always significant inefficiency encountered. An example of this is where individuals or several individuals occupy an existing room, because it is there, when they would be more appropriately officed in cubicles or other less space-consumptive ways. Also, often people who should have ready, quick access to other workers, don't because the existing space configurations aren't conducive to good adjacency planning.

Other contributors are kitchen and break areas located where they are disruptive to others, toilet facilities too far away, or too small to adequately serve the building's population and work equipment arranged as they fit into the existing space, rather than as they can best be used.

Some of these concerns, such as lack of appropriate conference space, can be resolved with major reconfiguration of an existing space, however, the basic module (proportion) of the building can still cause far less than optimal space arrangements.

With the possible exception of the Cable TV/Communication Center Building (which we don't really understand functionally enough to offer an opinion), we are convinced your City offices are suffering from virtually all of the deficiencies discussed above. Our professional opinion is that the current functions of the Administration Building and the Community Development Building could be arranged for much better personal interaction and functionality in space designed specifically for those uses.

Given this scenario, any considerations of rehabilitation of the existing buildings should be weighed in light of the alternatives of new construction.

Additionally, any configuration that includes reuse of existing buildings will be less energy efficient than a completely new construction solution. This is true for several reasons; first the limited floor-to-floor dimensions in the existing construction will not allow the most efficient HVAC systems and will complicate data/signal-wiring installations. Future additions and/or reconfigurations of equipment layout and placement will be more difficult to accomplish. Also, the orientation and existing glazing layout will not allow maximum utilization of daylighting contributions.

While we believe the existing buildings can be reconditioned to nearly “like-new” status, they will forever suffer from these and other physical limitations. Modern buildings would not be designed with the proportions that exist, or the construction technology that is used, unless it was being designed as a barracks for a mid-century military installation.

Finally, potential value should be given to reuse of these existing buildings for other City and/or Community services. While many of the limitations already discussed will still be present in the existing structures, they may not be as significant for other uses. The reuse of these structures for other applications would be a bonus asset if the current uses were housed in new, likely more appropriate, facilities.

Appendix

Reference Documents

The following documentation, provided by the City of Rancho Palos Verdes has been analyzed and incorporated, as appropriate, into this report

City Hall Building Evaluation undated. A description of informal inspection finding by the City of Rancho Palos Verdes Department of Building and Safety.

Certified Thermography Report for the City of Rancho Palos Verdes prepared by CaliforniaIR. Spring 2010

Seismic Hazard Evaluation for the City of Rancho Palos Verdes Civic Center Buildings. Prepared by Breiholz Qazi Engineering, Inc. October 25, 2000.

Report of Phase I Environmental Site Assessment prepared by Professional Service Industries, Inc. September 8, 2010

Hazardous Materials Survey prepared by Professional Service Industries, Inc. September 10, 2010

Appraisal Report prepared by Booth, Crosbie and Pike September 27, 1977

Analysis of current and recent pasts maintenance and repair costs. Prepared in cooperation with the City's accounting, maintenance and IT department staff.

Current and recent utility service invoices from California Water Service Company and Southern California Edison

Alta Land Survey prepared by KDM Meridian December 5, 2007

Date Nov-10

González Goodale Architects

Project **Rancho Palos Verdes**
Civic Center Facilities Assessment
Total Project Cost Summary

SUMMARY — Opinion of Probable Construction Cost

Division	Description				
1.0	GENERAL CONDITIONS				$452,635
2.0	DEMOLITION, Haz Mat Removal				$312,040
3.0	CONCRETE - Retaining Walls, Slabs, Foundations				$750,600
4.0	MASONRY - Concrete Masonry Walls, Masonry Retaining Walls				$44,800
5.0	METALS - Structural Columns, Railings				$12,000
6.0	CARPENTRY - Wood Framing				$123,112
7.0	THERMAL & MOISTURE PROTECTION - Roof & Wall Insulation, Roofing.				$388,440
8.0	DOORS & WINDOWS - Interior & Exterior Doors				$105,795
9.0	FINISHES - Exterior Finish System, Interior Stud Walls, Interior Floor, Wall & Ceiling Finishes,				$348,157
10.0	Lumpsum Component Pricing				$1,194,500
12.0	FURNISHINGS - Casework				$73,430
15.0	MECHANICAL - Plumbing Systems, HVAC Systems				$556,800
16.0	ELECTRICAL - Lighting, Power, Service and Distribution				$616,680
	TOTAL OF ITEMS 1.0 THROUGH 16.0				**$4,978,989**
	CONTRACTOR OVERHEAD & PROFIT		15%		$746,848
		sub total			$5,725,838
	Design Contingencies		10%		$572,584
	TOTAL General Contractor Contract				**$6,298,422**
	ADDITIONAL COSTS				
	Temp. Housing Rental	14	Mos @	$30,000	$420,000
	Utilities for Temp Housing		lump sum		$250,000
	Moving Costs		lump sum		$500,000
	TOTAL Construction Costs				**$7,468,422**
	CONSTRUCTION CONTINGENCY			15%	$1,120,263
	TOTAL Construction Budget				**$8,588,685**

Date Nov-10

Project **Rancho Palos Verdes**
Administrative Building

Proj No

González Goodale Architects

Opinion of Probable Construction Cost

SUMMARY

Division	Description		
1.0	GENERAL CONDITIONS		$314,121
2.0	SITEWORK - Demolition, Haz Mat removal		$231,065
3.0	CONCRETE - Retaining Walls, Slabs, Foundations		$495,000
4.0	MASONRY - Concrete Masonry Walls, Masonry Retaining Walls		$44,800
5.0	METALS - Structural Columns, Railings		$12,000
6.0	CARPENTRY - Wood Framing		$80,600
7.0	THERMAL & MOISTURE PROTECTION - Roof & Wall		$224,100
8.0	DOORS & WINDOWS - Interior & Exterior Doors		$69,997
9.0	FINISHES - Exterior Finish System, Interior Stud Walls, Interior Floor,		$159,196
10.0	Lumpsum Component Pricing - ECC and Toilets		$906,500
11.0	EQUIPMENT - Not Used		
12.0	FURNISHINGS - Casework		$48,953
13.0	SPECIAL CONSTRUCTION - Not Used		
14.0	CONVEYING SYSTEMS - Not Used		
15.0	MECHANICAL - Plumbing Systems, HVAC Systems		$410,000
16.0	ELECTRICAL - Lighting, Power, Service and Distribution		$459,000
	TOTAL OF ITEMS 1.0 THROUGH 16.0		**$3,455,331**
			$3,455,331
	CONTRACTOR OVERHEAD & PROFIT	15%	$518,300
	TOTAL		**$3,973,631**

Date Nov-10

Project **Rancho Palos Verdes Administrative Building**

Proj No

González GOODALE Architects

Opinion of Probable Construction Cost

DETAIL		Qty/ Unit		Unit Cost	Total Cost
Division 1 - General Conditions		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	General Conditions	10%	ls	3,141,210.40	314,121
		Subtotal, Division 1			**$314,121**
Division 2 - Sitework		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	Demolition				
02.1202 06	Demolition - Ceiling Tile	17,000	sf	0.83	14,110
02.1208 03	Demolition - Walls	14,000	sf	0.76	10,640
02.1209 07	Demolition - Floor covering	14,000	sf	0.65	9,100
02.1301 01	Demolition - Doors interior	70	ea	39.18	2,743
02.1301 07	Demolition - Base Cabinets	35	lf	19.47	681
02.1301 08	Demolition - Wall Cabinets	30	lf	21.89	657
02.1301 10	Demolition - Counter top	35	lf	25.25	884
02.1401 03	Demolition - exisrting plumbing fixtures	15	ea	150.00	2,250
	Haz Mat Removal		ls		190,000
		Subtotal, Division 2			**$231,065**
Division 3 - Concrete		**Qty/ Unit**		**Unit Cost**	**Total Cost**
03.0501 01	Insulated Shotcret wall reinforc	13,500	sf	36.00	486,000
	Foundation for new CMU wall	30	lf	300.00	9,000
		Subtotal, Division 3			**$495,000**
Division 4 - Masonry		**Qty/ Unit**		**Unit Cost**	**Total Cost**
04.2001 06	new CMU shear wall at exp. Jt.	640	sf	70.00	44,800
		Subtotal, Division 4			**$44,800**
Division 5 - Metals		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	Replace stair railing		ls		12,000
		Subtotal, Division 5			**$12,000**
Division 6 - Carpentry		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	Roof/floor sheathing	17,000	sf	1.80	30,600
	Strenghten shear connections		ls		50,000
		Subtotal, Division 6			**$80,600**
Division 7 - Thermal and Moisture Protection		**Qty/ Unit**		**Unit Cost**	**Total Cost**
07.2004 05	Batts, 6", fiberglass, R19	8,600	sf	1.00	8,600
07.3001 04	Shingles, composition asphalt, 325#, 'A'		sq	122.72	
07.3006 05	Built Up Roofing	85	sq	300.00	25,500
	Rainscreen wall over shotcret	9,500	sq	20.00	190,000
		Subtotal, Division 7			**$224,100**

Division 8 - Doors and Windows	Qty/ Unit	Unit Cost	Total Cost
Interior Doors			
08.1002 05 hollow metal frames, 16 gage	70 ea	170.00	11,900
08.2010 05 interior door, wood, paint grade	70 ea	400.00	28,000
08.7001 05 hardware, per door	70 ea	429.95	30,097
	Subtotal, Division 8		**$69,997**

Division 9 - Finishes	Qty/ Unit	Unit Cost	Total Cost
Interior Finishes			
09.2010 07 Gypsum board, metal studs, tape, texture	14,000 sf	2.27	31,780
09.5002 05 T-Bar, 2x4	17,000 sf	3.25	55,250
09.7003 01 Base, top set, vinyl, 6"	1,500 lf	1.76	2,640
09.8003 12 Paint, interior, prime + 2 finish	28,000 sf	0.33	9,240
09.8004 06 Paint, Door & trim, 3 coats	70 ea	36.90	2,583
12.4003 03 Carpet	1,800 sy	25.46	45,828
Exterior Finishes			
09.8002 06 Paint, exterior, prime + 2 finish	9,500 sf	1.25	11,875
	Subtotal, Division 9		**$159,196**

Lumpsum component prices	Qty/ Unit	Unit Cost	Total Cost
new Toilet rooms(complete)	740 sf	725.00	536,500
new EOC in new Construction	740 sf	500.00	370,000
	Subtotal, Division 10		**$906,500**

Division 12 - Furnishings	Qty/ Unit	Unit Cost	Total Cost
Casework			
12.3007 01 Base Cabinet	120 lf	255.66	30,679
12.3007 03 Full Height Cabinet	60 lf	304.57	18,274
	Subtotal, Division 12		**$48,953**

Division 15 - Mechanical	Qty/ Unit	Unit Cost	Total Cost
New HVAC system	17000 ea	12.00	204,000
Replace all existing galvanized pipe	ls		70,000
Fire Sprinkler system throughout	17000 ea	8.00	136,000
	Subtotal, Division 15		**$410,000**

Division 16 - Electrical	Qty/ Unit	Unit Cost	Total Cost
New main service	17000 sf	6.00	102,000
New lighting and power system	17000 sf	14.00	238,000
Alarm/data/communications	17000 sf	7.00	119,000
	Subtotal, Division 16		**$459,000**

Date Nov-10

Project **Rancho Palos Verdes**
Community Development Building

Proj No

González GOODALE Architects

Opinion of Probable Construction Cost

SUMMARY

Division	Description		
1.0	GENERAL CONDITIONS		$78,220
2.0	SITEWORK - Demolition, Haz Mat Removal		$53,055
3.0	CONCRETE - Retaining Walls, Slabs, Foundations		$162,000
4.0	MASONRY - Not Used		
5.0	METALS - Not Used		
6.0	CARPENTRY - Wood Framing		$28,280
7.0	THERMAL & MOISTURE PROTECTION - Roof & Wall		$107,500
8.0	DOORS & WINDOWS - Interior & Exterior Doors		$27,999
9.0	FINISHES - Exterior Finish System, Interior Stud Walls, Interior Floor,		$147,687
10.0	Lumpsum Component Pricing - Not Used		
11.0	EQUIPMENT - Not Used		
12.0	FURNISHINGS - Casework		$24,477
13.0	SPECIAL CONSTRUCTION - Not Used		
14.0	CONVEYING SYSTEMS - Not Used		
15.0	MECHANICAL - Plumbing Systems, HVAC Systems		$107,000
16.0	ELECTRICAL - Lighting, Power, Service and Distribution		$124,200
	TOTAL OF ITEMS 1.0 THROUGH 16.0		**$860,418**
			$860,418
	CONTRACTOR OVERHEAD & PROFIT	15%	$129,063
	TOTAL		**$989,481**

Date Nov-10

Project **Rancho Palos Verdes**
Community Development Building

Proj No

González GOODALE Architects

Opinion of Probable Construction Cost

DETAIL		Qty/ Unit		Unit Cost	Total Cost
Division 1 - General Conditions		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	General Conditions	10%	ls	782,198.08	78,220
		Subtotal, Division 1			**$78,220**
Division 2 - Sitework		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	Demolition				
02.1202 06	Demolition - Ceiling Tile	4,600	sf	0.83	3,818
02.1208 03	Demolition - Walls	3,000	sf	0.76	2,280
02.1209 07	Demolition - Floor covering	4,600	sf	0.65	2,990
02.1301 01	Demolition - Doors interior	16	ea	39.18	627
02.1301 07	Demolition - Base Cabinets	60	lf	19.47	1,168
02.1301 08	Demolition - Wall Cabinets	30	lf	21.89	657
02.1301 10	Demolition - Counter top	60	lf	25.25	1,515
	Haz Mat Removal		ls		40,000
		Subtotal, Division 2			**$53,055**
Division 3 - Concrete		**Qty/ Unit**		**Unit Cost**	**Total Cost**
03.0501 01	Insulated Shotcret wall reinforc	4,500	sf	36.00	162,000
		Subtotal, Division 3			**$162,000**
Division 6 - Carpentry		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	Roof/floor sheathing	4,600	sf	1.80	8,280
	Strenghten shear connections		ls		20,000
		Subtotal, Division 6			**$28,280**
Division 7 - Thermal and Moisture Protection		**Qty/ Unit**		**Unit Cost**	**Total Cost**
07.2004 05	Batts, 6", fiberglass, R19	4,600	sf	1.00	4,600
07.3001 04	Shingles, composition asphalt, 325#, 'A'	6	sq	150.00	900
07.3006 05	Built Up Roofing	40	sq	300.00	12,000
	Rainscreen wall over shotcret	4,500	sq	20.00	90,000
		Subtotal, Division 7			**$107,500**
Division 8 - Doors and Windows		**Qty/ Unit**		**Unit Cost**	**Total Cost**
	Interior Doors				
08.1002 05	hollow metal frames, 16 gage	16	ea	170.00	2,720
08.2010 05	interior door, wood, paint grade	16	ea	400.00	6,400
08.7001 05	hardware, per door	16	ea	429.95	6,879
	Windows				
08.5002 07	Window, aluminum, casement, insulated glass	600	sf	20.00	12,000
08.8001 18	Job glazing, 1/4", float, tempered, bronze/grey		sf	13.82	
		Subtotal, Division 8			**$27,999**

Division 9 - Finishes		Qty/	Unit	Unit Cost	Total Cost
	Interior Finishes				
09.2010 07	Gypsum board, metal studs, tape, texture	3,000	sf	2.27	6,810
09.5002 05	T-Bar, 2x4	4,600	sf	3.25	14,950
09.7003 01	Base, top set, vinyl, 6"	350	lf	1.76	616
09.8003 12	Paint, interior, prime + 2 finish	6,000	sf	0.33	1,980
09.8004 06	Paint, Door & trim, 3 coats	16	ea	36.90	590
12.4003 03	Carpet	4,600	sy	25.46	117,116
	Exterior Finishes				
09.8002 06	Paint, exterior, prime + 2 finish	4,500	sf	1.25	5,625
	Subtotal, Division 9				**$147,687**

Division 12 - Furnishings		Qty/	Unit	Unit Cost	Total Cost
	Casework				
12.3007 01	Base Cabinet	60	lf	255.66	15,340
12.3007 03	Full Height Cabinet	30	lf	304.57	9,137
	Subtotal, Division 12				**$24,477**

Division 15 - Mechanical		Qty/	Unit	Unit Cost	Total Cost
	New HVAC system	4600	ea	12.00	55,200
	Replace all existing galvanized pipe		ls		15,000
	Fire Sprinkler system throughout	4600	ea	8.00	36,800
	Subtotal, Division 15				**$107,000**

Division 16 - Electrical		Qty/	Unit	Unit Cost	Total Cost
	New main service	4600	sf	6.00	27,600
	New lighting and power system	4600	sf	14.00	64,400
	Alarm/data/communications	4600	sf	7.00	32,200
	Subtotal, Division 16				**$124,200**

Date Nov-10

Project **Rancho Palos Verdes**
Cable TV/Communications Center Building

Proj No

González GOODALE Architects

Opinion of Probable Construction Cost

SUMMARY

Division	Description		
1.0	GENERAL CONDITIONS		$60,295
2.0	SITEWORK - Demolition, Haz Mat Removal		$27,920
3.0	CONCRETE - Retaining Walls, Slabs, Foundations		$93,600
4.0	MASONRY - Not Used		
5.0	METALS - Not Used		
6.0	CARPENTRY - Wood Framing		$14,232
7.0	THERMAL & MOISTURE PROTECTION - Roof & Wall		$56,840
8.0	DOORS & WINDOWS - Interior & Exterior Doors		$7,800
9.0	FINISHES - Exterior Finish System, Interior Stud Walls, Interior Floor,		$41,274
10.0	Lumpsum Component Pricing		$288,000
11.0	EQUIPMENT - Not Used		
12.0	FURNISHINGS - Not Used		
13.0	SPECIAL CONSTRUCTION - Not Used		
14.0	CONVEYING SYSTEMS - Not Used		
15.0	MECHANICAL - Plumbing Systems, HVAC Systems		$39,800
16.0	ELECTRICAL - Lighting, Power, Service and Distribution		$33,480
	TOTAL OF ITEMS 1.0 THROUGH 16.0		**$663,240**
			$663,240
	CONTRACTOR OVERHEAD & PROFIT	15%	$99,486
	TOTAL		**$762,726**

Date Nov-10

Project **Rancho Palos Verdes**
Cable TV/Communications Center Building

Proj No

González GOODALE Architects

Opinion of Probable Construction Cost

DETAIL		Qty/	Unit	Unit Cost	Total Cost
Division 1 - General Conditions		**Qty/**	**Unit**	**Unit Cost**	**Total Cost**
	General Conditions	10%	ls	602,945.61	60,295
		Subtotal, Division 1			**$60,295**
Division 2 - Sitework		**Qty/**	**Unit**	**Unit Cost**	**Total Cost**
	Demolition				
02.1202 06	Demolition - Ceiling Tile	400	sf	0.83	332
02.1208 03	Demolition - Walls	800	sf	0.76	608
02.1209 07	Demolition - Floor covering	1,240	sf	0.65	806
02.1301 01	Demolition - Doors interior	7	ea	39.18	274
02.1401 03	Demolition - exisrting plumbing fixtures	6	ea	150.00	900
	Haz Mat Removal		ls		25,000
		Subtotal, Division 2			**$27,920**
Division 3 - Concrete		**Qty/**	**Unit**	**Unit Cost**	**Total Cost**
03.0501 01	Insulated Shotcret wall reinforc	2,600	sf	36.00	93,600
		Subtotal, Division 3			**$93,600**
Division 6 - Carpentry		**Qty/**	**Unit**	**Unit Cost**	**Total Cost**
	Roof/floor sheathing	1,240	sf	1.80	2,232
	Strenghten shear connections		ls		12,000
		Subtotal, Division 6			**$14,232**
Division 7 - Thermal and Moisture Protection		**Qty/**	**Unit**	**Unit Cost**	**Total Cost**
07.2004 05	Batts, 6", fiberglass, R19	1,240	sf	1.00	1,240
07.3001 04	Shingles, composition asphalt, 325#, 'A'		sq	150.00	
07.3006 05	Built Up Roofing	12	sq	300.00	3,600
	Rainscreen wall over shotcret	2,600	sq	20.00	52,000
		Subtotal, Division 7			**$56,840**
Division 8 - Doors and Windows		**Qty/**	**Unit**	**Unit Cost**	**Total Cost**
	Interior Doors				
08.1002 05	hollow metal frames, 16 gage	7	ea	170.00	1,190
08.2010 05	interior door, wood, paint grade	7	ea	400.00	2,800
08.7001 05	hardware, per door	7	ea	429.95	3,010
	Windows				
08.5002 07	Window, aluminum, casement, insulated glass	40	sf	20.00	800
		Subtotal, Division 8			**$7,800**

Division 9 - Finishes		Qty/	Unit	Unit Cost	Total Cost
	Interior Finishes				
09.2010 07	Gypsum board, metal studs, tape, texture	800	sf	2.27	1,816
09.5002 05	T-Bar, 2x4	400	sf	3.25	1,300
09.7003 01	Base, top set, vinyl, 6"	100	lf	1.76	176
09.8003 12	Paint, interior, prime + 2 finish	1,600	sf	0.33	528
09.8004 06	Paint, Door & trim, 3 coats	7	ea	36.90	258
12.4003 03	Carpet	1,240	sy	25.46	31,570
	Exterior Finishes				
09.8002 06	Paint, exterior, prime + 2 finish	4,500	sf	1.25	5,625
		Subtotal, Division 9			**$41,274**

Lumpsum component prices	Qty/	Unit	Unit Cost	Total Cost
Rehab/expand toilet facilities	360	sf	800.00	288,000
	Subtotal, Division 10			**$288,000**

Division 15 - Mechanical	Qty/	Unit	Unit Cost	Total Cost
New HVAC system	1240	ea	12.00	14,880
Replace all existing galvanized pipe		ls		15,000
Fire Sprinkler system throughout	1240	ea	8.00	9,920
	Subtotal, Division 15			**$39,800**

Division 16 - Electrical	Qty/	Unit	Unit Cost	Total Cost
New main service	1240	sf	6.00	7,440
New lighting and power system	1240	sf	14.00	17,360
Alarm/data/communications	1240	sf	7.00	8,680
	Subtotal, Division 16			**$33,480**

Administration Building Entry 1.

Covered Walk 2.

Community Development Building 3.

Worn Siding 4.

North Side 5.

Deteriorated Bird Screen 6.

Cable TV Building 7.

New Emergency Panels 8.

New Generator 9.

Cable TV Studio 10.

Leaking Plumbing 11.

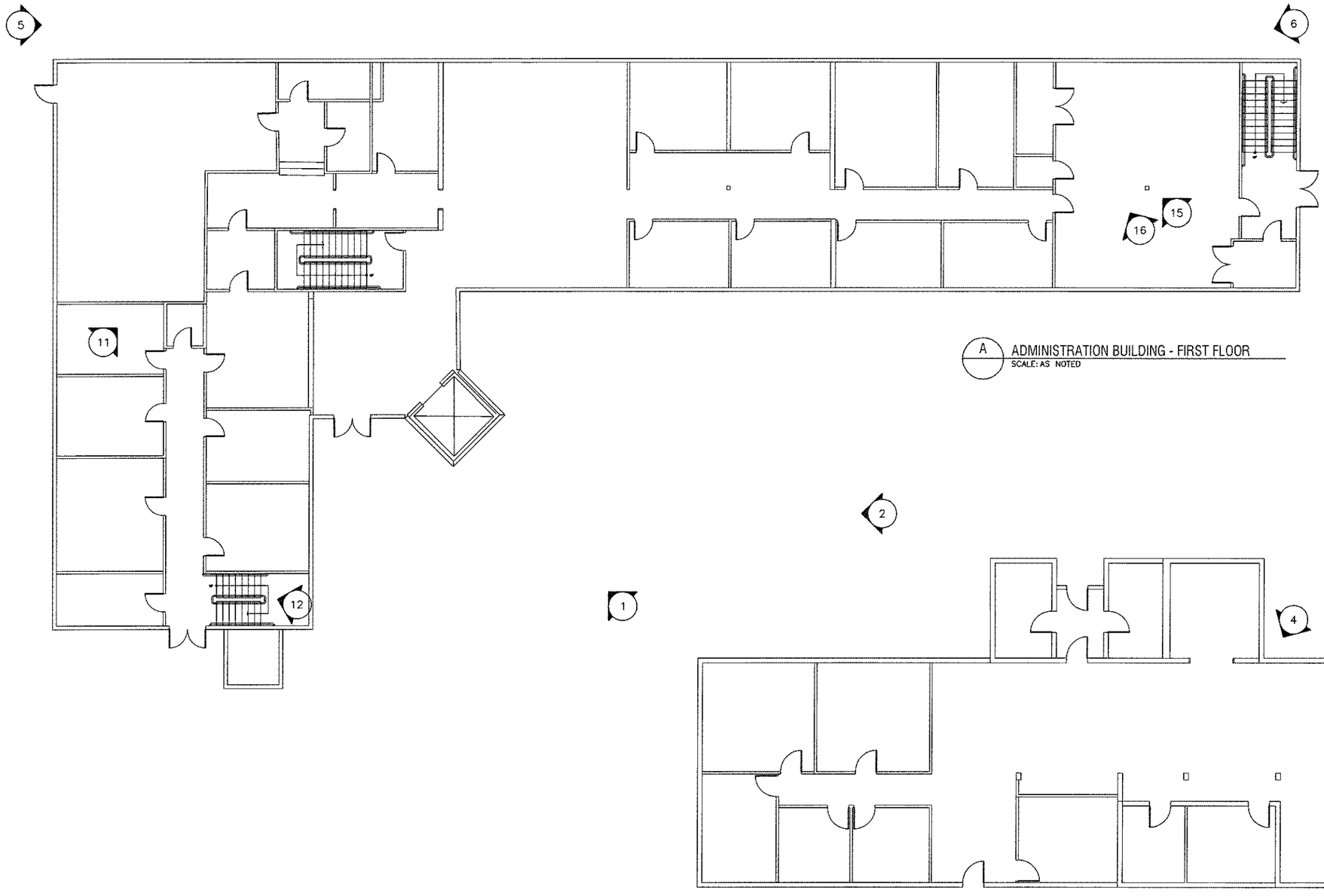
Non-Compliant Railing 12.

New Main Distribution Panel 13.

Un-grouted Bond Beam 14.

Data/Communications Cables 15.

Space Above Ceiling 16.



A ADMINISTRATION BUILDING - FIRST FLOOR
SCALE: AS NOTED

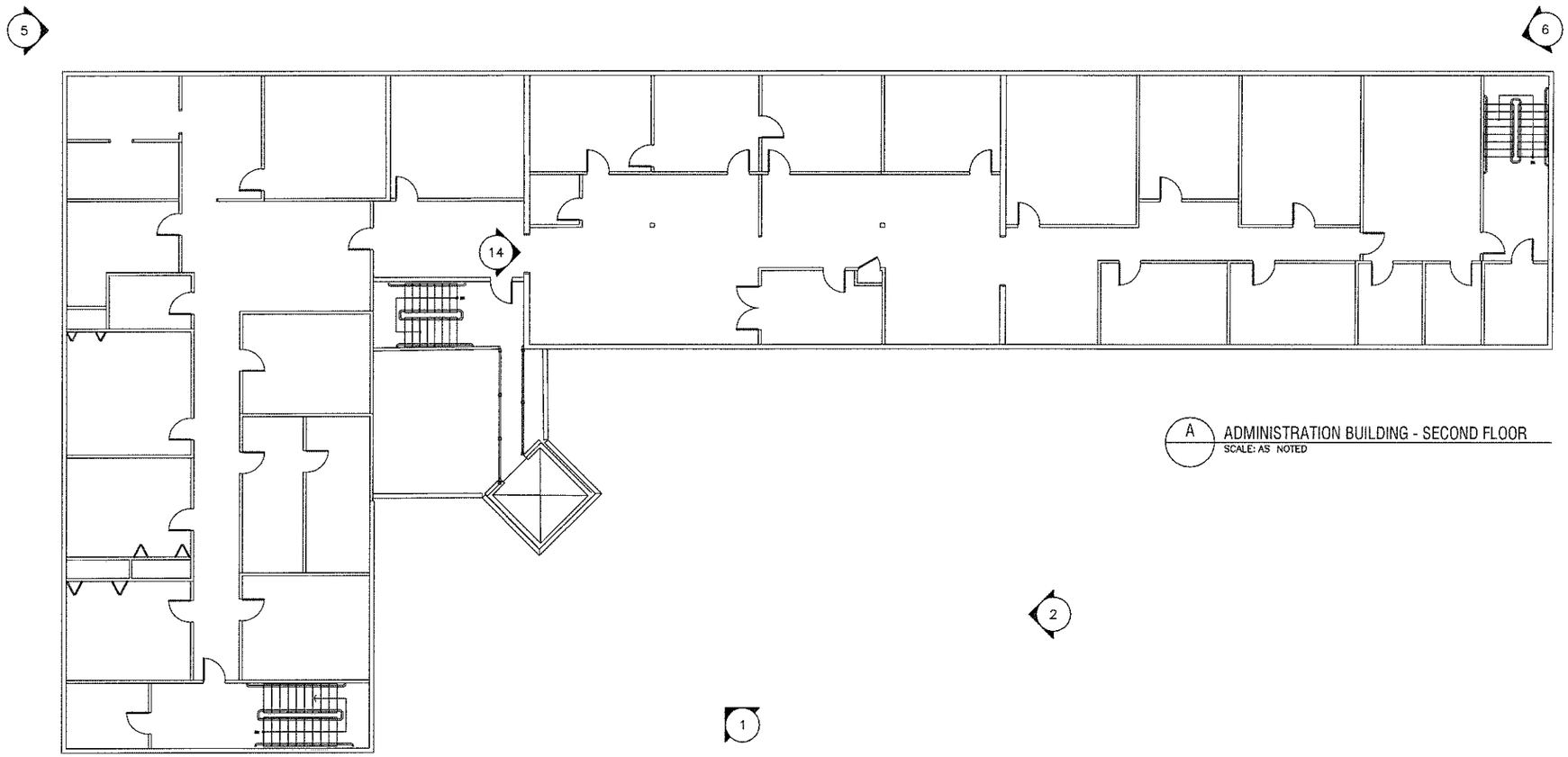
B COMMUNITY DEVELOPMENT BUILDING
SCALE: AS NOTED

LEGEND

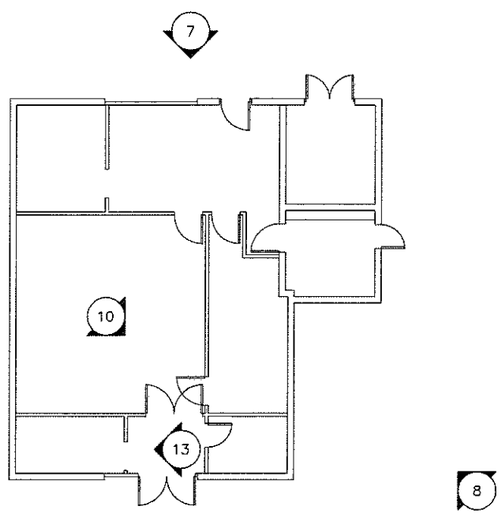
PHOTO LOCATION

XX

SCALE: 1/16"=1'-0"



A ADMINISTRATION BUILDING - SECOND FLOOR
SCALE: AS NOTED



B CABLE TV/COMMUNICATIONS CENTER
SCALE: AS NOTED

LEGEND

PHOTO LOCATION

SCALE: 1/16"=1'-0"