11 May 2017 Reference No. 2017-003

Ms. Brenda Treadwell
Port of Anacortes
100 Commercial Avenue
Anacortes WA 98221
brenda@portofanacortes.com

Re: Evaluation, Options, and Cost Estimates for the Marine Hardware Block Buildings

Dear Ms. Treadwell,

On the 23rd of January 2017, GHD Team signed a contract with the Port of Anacortes (Port) to provide engineering consulting services to evaluate and prepare recommendations for the rehabilitation or replacement of the historic buildings known as the Marine Supply and Hardware Complex. Consulting services include evaluation of existing conditions, preparation of options for renovation/replacement, and preparation of preliminary cost estimates for each option, in accordance with our revised proposal dated 23rd of January. Our services specifically address the existing buildings on the east side of the block between 2nd and 3rd Streets facing Commercial Avenue. Our scope excludes the two dwellings facing 3rd Street, as well as other structures and storage areas on the same block.

Wally Jajou and Jim Cook of GHD Team visited the Port on 3 February 2017 for an initial meeting with Port representatives. Since there is very little reliable information available regarding the subject buildings, we conducted a visual examination of the Marine Supply & Hardware Building (MS&H Building), a timber framed structure, and the adjacent Olson Building (Brick Building), an unreinforced masonry structure. During our visit, we also took measurements and photographs of the subject buildings for reference purposes.

Project History and Background

This entire block between 2nd and 3rd Streets, 'O' Avenue and Commercial Avenue, was acquired by the Port of Anacortes in 2015. The Port continues to rent tenant spaces in the buildings to several local businesses. The buildings facing Commercial Street, known as the Marine Supply & Hardware Complex, were listed in 1987 on the National Register of Historic Places (NHRP #870012943).

We understand from our correspondence with Nicholas Vann, AIA, State Historical Architect representing the Washington Department of Archaeology & Historic Preservation (DAHP), that the National Register listing is an **honorary and symbolic designation** that comes with no strings attached, unless the property is protected under a preservation easement, or is currently benefiting from historic tax credits or special tax valuation. A mandatory review by the Anacortes Historic Preservation Board (AHPB) will be required for major exterior alterations proposed for buildings listed on the National Register. Though certain minor alterations can be approved administratively (such as siding repair), major exterior alterations are required to be reviewed by the Anacortes Historic Preservation Commission. As with most properties on the National Register, the recommendations of the AHPB are only advisory. However, the Port will make the ultimate decision to fit its needs and vision for this block.

Existing Port Tenants:

1. The Marine Supply & Hardware Building (both businesses under the same ownership):
   a. Marine Supply & Hardware Store, 202 Commercial Avenue.
   b. Alley Cat Antique Store, 208 Commercial Avenue.
2. Brick Building:
   a. Marine Documentation Service, Inc., 212 Commercial Avenue.

b. The Business Record Store, 216 Commercial Avenue.
c. Classic Upholstery Store, 220 Commercial Avenue.
d. Second story tenant (in the process of vacating).
e. The basement is leased by Marine Supply and Hardware Store for Storage space.

3. The alleyway between the two Buildings
   Bikespot, 210 Commercial Avenue.

Visual Observation, Preliminary Analysis and Required Improvement

GHD personnel visually examined the two subject buildings, both inside and out on 3 February 2017, and spent most of the day examining the building interiors, and measuring the outside for preparation of the recommendations and options included in this report. A layout drawing of the two buildings was prepared and is attached in Appendix A.

Included in this report are the following Appendices:

Appendix A – Figure 01 Buildings Floor Plans, Figure 02 Schematic Pre-Fab Building Replacement, and Figure 03 Brick Building Option 1 Steel Framing

Appendix B – Buildings Photos

Appendix C – Ratings of existing building components

Appendix D – Engineering Opinion of Probable Cost Options

The **MS&H Building** is a single story structure constructed of wood timbers and framing clad with horizontal lapped wood siding. It is not known when the structure was originally built, but is assumed to have been constructed in the early 1900's. A small existing wood structure is located in the alley that once separated the MS&H from the Brick Building. This structure is entirely non-compliant with applicable building codes, and for that reason, the small structure occupied by the bicycle store tenant has not been included in evaluations and recommendations included in this report.

MS&H Building Floor Area = 50'x74'+50'x68' = 7,100 square feet (gross).

1. **Foundation:** The existing foundation supporting the structure is in very poor condition, with no proper perimeter footing or foundation. The interior roof support posts vary in size and height, with each post supported on blocks of concrete varying in size, supported directly on un- compacted native subgrade. (See photos in Appendix B.)

   Major foundation improvements are strongly recommended for this building. We suggest that a new perimeter foundation be placed on all four sides of the buildings, including replacement of interior posts to be supported by new concrete footings. All new footings would be placed over properly compacted crushed rock. The new posts would be placed on a new grid layout to satisfactorily support and level the floor assembly to mitigate possible excessive foundation settlement.

2. **Floor:** The existing wooden floor assembly needs to be completely replaced due to its deteriorated condition. The existing floor materials are very old, and dry rot is evident in planks and beams. Replacement would include new wood beams, stringers, structural decking and finish flooring. The floor has experienced significant differential settlements through the years, and it is out of level to the point of becoming potentially hazardous to occupants and the public. (See photos in Appendix B.)

3. **Walls**: The perimeter walls do not appear to be structurally sufficient to transfer lateral and seismic forces in compliance with the current building codes. The gypsum wallboard needs to be removed so existing walls can be strengthened by the addition of studs and bracing members. Work on the wall assemblies would allow installation of seismic anchors connecting the new foundation and extending seismic connections to the roof structure. Electrical and plumbing systems could also be replaced and upgraded before closing the walls with new gypsum wallboard. (See photos in Appendix B.)

4. **Roof:** The existing roof assembly exhibits water damage from significant leaks. Some of the

existing wood timber members show evidence of dry rot, a direct consequence of the roof leaks. The entire roof assembly should to be replaced to conform to current structural codes, with new stronger timbers, new roof sheathing, and a new roofing system. The new roof could be designed to act as a diaphragm to transmit the lateral and seismic forces via the upgraded perimeter wall framing to the new perimeter foundation. Replacement of the entire roof would provide a durable and long lasting roofing system.

5. **Electrical, Mechanical and Plumbing:** The existing electrical, mechanical and plumbing systems are not in compliance with current building codes, and are in need of replacement. This recommendation includes the entire building's electrical, mechanical and plumbing systems. (See photos in Appendix B.)

The Brick Building appears to have been constructed in two distinct phases, at separate times, with each two-story wing being approximately 50 foot square. The north side of the building has an existing basement that extends to the east under the sidewalk on Commercial Avenue. The south building wing has no basement.

The two wings of the building were constructed primarily with unreinforced clay brick masonry. Only the rear elevation of the building was constructed with a mixture of clay brick and concrete masonry units. Concrete masonry at the rear façade was mostly utilized as a patchwork of fill between the level of the first floor and the roof line. The building elevation facing Commercial Avenue features decorative red brick masonry, and has a pleasing appearance. At original openings for windows and ground floor entrances, upper masonry walls are supported by masonry arches. At the storefront openings of tenant spaces facing Commercial Avenue, upper masonry walls are supported by exposed steel beams bearing the weight of the upper masonry walls. Openings in the concrete masonry wall at the rear of the building are spanned by concrete lintels.

Brick Building Floor Area: 56'x100'x2 stories = 11,200 square feet (gross).

1. **Foundation:** Based on visual observations at the rear of the building, the perimeter foundations appear to be constructed of stone masonry. The walls of the existing basement under the north wing support the masonry walls above, except where steel beams span under the masonry wall at the Commercial Avenue elevation. The basement extends out under the sidewalk nearly to the edge of street pavement. (See photos in Appendix B.)

   Since the construction of the existing foundation supporting the perimeter brick walls could not be verified, the structural capacity cannot be satisfactorily known based on available information. Current building codes require that a foundation be capable of transmitting significant seismic and gravity loads to the underlying subgrade whereas these buildings were originally built during a time when there were no building safety codes.

   Historically, unreinforced brick masonry buildings are the first to experience severe damage and structural failure during high-energy seismic events. This brick building is a very heavy structure and is not very ductile or flexible, and will not be capable of absorbing high lateral loads like the stresses applied during an earthquake event without severe damage. Rehabilitation of this building should include placement of micro-piles and new concrete footings that will satisfy current code requirements.

2. **Building Perimeter Walls**: All existing perimeter walls are constructed from red brick (4"x2 2/3"x8") or concrete masonry units. The exterior masonry walls are unreinforced, and are expected to exhibit significant damage during and following any future high-energy seismic event. Field measurements indicate that the typical exterior masonry wall thickness is 16-inches. The walls are constructed as a sandwich of 4-inch wide bricks stacked in a running bond at the inside and outside faces, with an 8-inch wide cavity in the middle. Typically, there are connecting bricks spaced approximately every 4 to 5 brick lengths horizontally bridging between the inner and outer masonry wall faces connecting the two sides. (See photos in Appendix B.)

   This type of masonry cavity wall is too weak to survive a significant seismic event. The weight of the masonry walls can generate high lateral and vertical seismic loads. When masonry walls are not reinforced with steel reinforcing, they readily fail under such extreme lateral loading, and are likely to cause substantial property damage.

We recommend complete rehabilitation of the building perimeter foundation to properly support the existing masonry. The existing walls could be supported by a new steel support frame designed to support the existing brick which could be erected on the inside of the building, with horizontal steel girds placed at 4 foot intervals along the full height of the wall. The system of steel girds would be tied to steel reinforcing mesh embedded in a 2-inch thick mortar bed placed on the inside surface of the existing brick walls. The mesh and mortar bed would help stabilize and secure the existing brick, transferring masonry loads into the steel support frame and down to the foundation.

3. **Second Floor Partitions:** The existing wood stud and gypsum wallboard interior partitions that configure and separate the second story rooms appear to be water-damaged due to roof leaks over a long period of time. The wallboard is damaged and studs are rotted. All of the second floor partitions should to be demolished and replaced.
4. **Roof:** The existing roofing system was not observed on this site visit. However, based on visual inspection of the second floor ceilings, it is obvious that the roof has been leaking over a long period of time. It is expected that there is significant dry rot in the existing wood structural members extending across the entire roof structure. We recommend complete removal and replacement of the roof assembly. (See photos in Appendix B.)
5. **Electrical, Mechanical and Plumbing:** Existing electrical, mechanical and plumbing systems are obsolete and non-compliant with current building codes. These fundamental systems are in need of complete removal and replacement. (See photos in Appendix B.)

Rehabilitation and/or Replacement Options

Option 1: Rehabilitate the Marine Supply & Hardware Complex, including the MS&H Building and the Brick Building, to comply with all the current applicable building codes. Rehabilitation efforts should attempt to maintain the same exterior materials and appearance, and should not be required to be implemented exactly in conformance with the Secretary of the Interior Standards for Rehabilitation because after all it is an honorary and symbolic designation as mentioned earlier.

1. **MS&H Building**: Rehabilitation efforts would consist of selective demolition and a complete demolition of the existing wood structure located in the alley that once separated the two buildings, installing a new concrete foundation at the building perimeter, installing new interior posts and concrete footings, replacing the floor assembly with new material similar to the existing floor, strengthening all bearing walls by replacement of rotted studs and the addition of new studs and brace members, adding seismic anchors connecting bearing walls to the foundation, and replacing the roof assembly with a new roof structure that matches the existing configuration. This work would allow for simultaneous replacement of the outdated electrical, plumbing and mechanical systems.

   Anticipated life span of the following building elements after rehabilitation:

   a. Interior finishes - lease period, typically 5-10 years
   b. Roof and Mechanical Systems – 20 years
   c. Windows, Wall Cladding and Electrical systems – 30 years
   d. Building structure, Floors & Foundation if protected from the weather – 50-100 years

   MS&H Building Cost Estimate (complete including engineering) = **$1,652,398**

   ($232.73/SF). (See attached Cost Estimate for detail – Appendix D.)

2. **Brick Building:** The proposed structural rehabilitation would require removal of the existing roof assembly. Removal of the roof would allow installation of a new steel support frame at the inside face of the existing brick masonry walls. The steel frame would serve to support the existing unreinforced masonry, the floors and the new roof assembly. The brick wall at the rear of the building would be completely removed to facilitate demolition and construction activities. The rear wall would then be

reconstructed after construction work inside the building is completed. The opening of the entire rear wall would reduce construction time and should result in lower costs.

A preliminary analysis of the proposed steel frame has been completed for the purpose of preparing the enclosed preliminary cost estimate. (See model sketch Figure 03 in Appendix A.) The new steel columns would be supported by a new concrete foundation, with each footing to be placed over two micro-piles to transmit the high seismic loads transferred from above. The existing floor assemblies would be removed and replaced with new and similar materials as required for support of the code compliant design loads. The basement would also be renovated by replacing rusted steel beams with stronger steel beams. At the second floor, gypsum wallboard and rotted wood framing at interior partitions would be replaced by new framing and gypsum wallboard. The roof assembly would be replaced with a new structure capable of supporting code compliant dead loads, live loads and snow loads. As with the MS&H BUILDING, the proposed structural work would allow for replacement of the obsolete electrical, plumbing and mechanical systems.

Anticipated life span of the following building elements after rehabilitation:

a. Interior finishes - lease period, typically 5-10 years
b. Roof and Mechanical Systems – 20 years
c. Windows, Wall Cladding and Electrical systems – 30 years
d. Building structure, Floors & Foundation if protected from the weather – 50-100 years

Brick Building Cost Estimate (complete including engineering) = **$2,966,766 ($264.89/SF).**

Combined Cost Estimate = $4,619,164. (See attached Cost Estimate for detail – Appendix D.)

Option 1 Anticipated Schedule: Design and Permitting 12 months, Construction 20 months,

Total = 32 Months

Option 2: In this option, both buildings would be demolished including the existing wood structure located in the alley that once separated the two buildings. The two buildings would be replaced, in kind, with two entirely new structures of conventional construction meeting all current building code requirements. The replacement buildings could maintain the same plan configuration of the existing leased areas. We strongly suggest complete replacement with new buildings on new foundations designed to support lighter and more ductile-type structural assemblies constructed with metal studs and modern cladding, a metal roof structure, new roofing, and including new electrical, plumbing and mechanical systems.

For the Brick Building, we also recommend complete replacement of the existing structure with a new steel frame building featuring metal stud walls and modern cladding. Proposed work would demolish the basement, backfilling the void with engineered fill material. New pilings would not be required for the new foundation since the replacement structure would be designed to be lighter and more ductile to resist gravity, seismic and lateral loads. The proposed roof assembly for this building would also be framed in metal to carry a new roofing system and all anticipated design loads. This option also includes installation of completely new electrical, plumbing and mechanical systems for both buildings.

Anticipated life span of the following building elements:

a. Interior finishes - lease period, typically 5-10 years
b. Roof and Mechanical Systems – 20 years
c. Windows, Wall Cladding and Electrical systems – 30 years

d. Building structure, Floors & Foundation, if protected from the weather – 50-100 years

MS&H Building Cost Estimate (complete including engineering) = **$1,671,957 ($235.49/SF).**

Brick Building Cost Estimate (complete including engineering) = **$2,426,214 ($216.63/SF**).

Combined Cost Estimate = $4,098,171. (See attached Cost Estimate for detail – Appendix D.)

Option 2 Anticipated Schedule: Design and Permitting 12 months, Construction 16 months, Total = 28 Months

Option 3: For this final option, we propose that both buildings and the small existing wood structure located in the alleyway should be demolished, and the site filled and graded for construction of two buildings of similar footprint and floor heights as the Brick Building (23-ft), in a new pre-engineered metal building (Brick Building location will include a second floor with open space). Each would be a single building shell (below cost provided for the two single shells) or an alternative can combine the two buildings as a single shell building. Additionally, if the Port desires, the shell height can be increased to 32-ft. We anticipate the building total cost increases by about 5% (single shell total estimated cost will be $2,516,139 with 2nd floor provided and $2,219,088 with no 2nd floor). This option does not reproduce the same configuration of the existing leased areas, so it is difficult to compare anticipated construction costs with the preceding options. The new building would be supported on a concrete foundation with an 8- inch thick concrete slab-on-grade, and would feature four large overhead doors. Electrical, plumbing and mechanical systems would be designed as required to suit the needs of the new building tenants. The new building could be designed for many possible uses, such as cargo storage, new industrial customers, or to suit many other possible tenant requirements. (See Figure 02 in Appendix A.)

Anticipated life span of the following building elements:

a. Interior finishes Electrical and Mechanical Systems - lease period, typically 10-15 years
b. Roof – 20 years
c. Windows, Wall Cladding – 30 years
d. Building structure, Floors & Foundation if protected from the weather – 50-100 years

MS&H Building Cost Estimate (complete including engineering) = **$987,689 ($139.11/SF**).

Brick Building Cost Estimate with 2nd floor (complete including engineering) = **$1,349,123 ($120.46/SF).**

Combined Cost Estimate = $2,336,812 (See attached Cost Estimate for detail – Appendix D.)

Option 3 Anticipated Schedule: Design and Permitting 10 months, Construction 12 months, Total = 22 Months

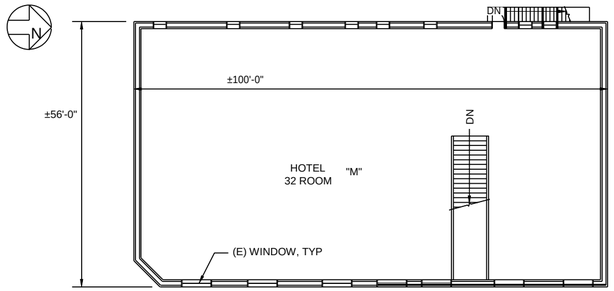
Summary

The existing buildings considered under this study are old and obsolete, slowly deteriorating, and non-compliant with current building codes. Attached is a rating matrix identifying the condition of existing building components for each of the two buildings. Their historic significance requires due consideration of reasonable rehabilitation efforts that would maintain their original appearance, but this rehabilitation will come at a premium. It is expensive and difficult to implement the selective demolition and construction strategies described above under Option 1 to upgrade the structures to overcome code deficiencies while simultaneously maintaining the existing historic appearance and character.

The costs for completely replacing the existing buildings as described in Options 2 and 3 above are notably less than the anticipated costs associated with options for rehabilitation.

The ultimate decision to be made by the Port of Anacortes should carefully consider the economic costs and benefits to the community.

APPENDIX A



1 S1.0 **SECOND FLOOR PLAN VIEW**

SCALE: 116" = 1'-0"

GAS METERS	
NOTE	METER NUMBER
1	02 28977984
2	02 29272468
3	02 29146377
4	02 23096970
5	02 23096841

ELECTRIC METERS	
NOTE	METER NUMBER
1	PSE A93282781
2	PSE C82925446
3	PSE C68573187

SHEET GENERAL NOTES

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO START OF WORK.

SHEET KEYNOTES

1. DOORS NOT IN USE

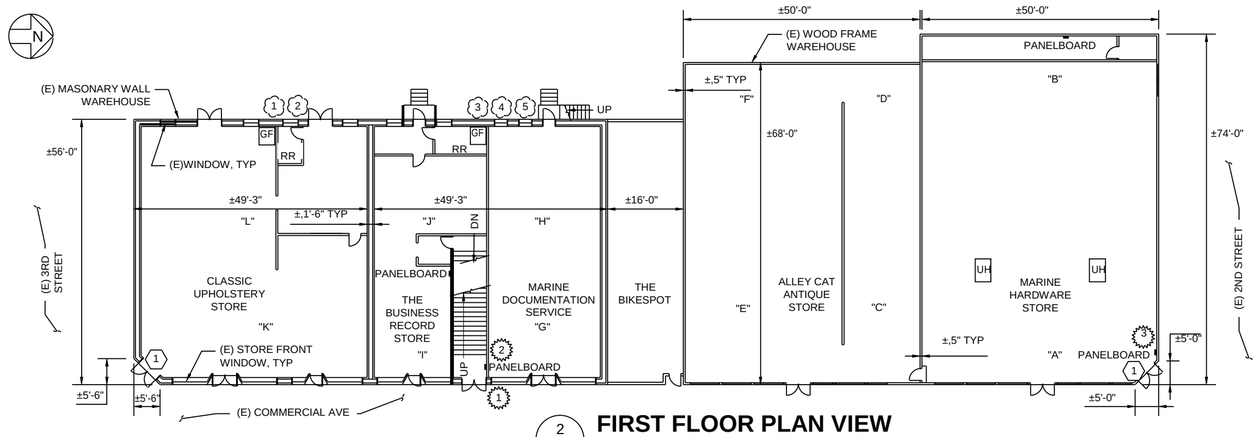
LEGEND

DN	DOWN
(E)	EXSITING
GF	GAS FURNACE
RR	RESTROOM
TEL	TELEPHONE PANEL
TYP	TYPICAL
UH	UNIT HEATER

FINISHED CEILING HEIGHTS

"A" = 9'-7"	"I" = 15'-6"
"B" = 9'-8"	"J" = 15'-6"
"C" = 13'-0"	"K" = 13'-10"
"D" = 13'-0"	"L" = 13'-10"
"E" = 13'-0"	"M" = 8'-0"
"F" = 13'-0"	"N" = 7'-6"
"G" = 11'-3" *	
"H" = 11'-3" *	

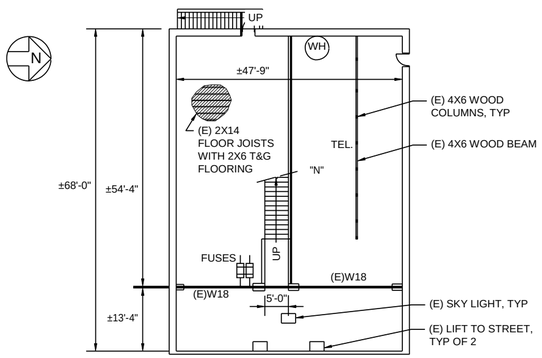
* = DROPPED CEILING



2 S1.0 **FIRST FLOOR PLAN VIEW**

SCALE: 116" = 1'-0"

EAST SIDE VIEW OF CLASSIC UPHOLSTERY STORE, BUSINESS STORE & MARINE DOCUMENTATION STORE



3 S1.0 **BASEMENT PLAN VIEW**

SCALE: 116" = 1'-0"

EAST SIDE VIEW OF MARINE HARDWARE STORE

NORTH SIDE VIEW OF MARINE HARDWARE STORE

0 8'-0" 16'-0" 24'-0"

SCALE 332"=1'-0" AT ORIGINAL SIZE

PRELIMINARY

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
-	-		-			-

Reuse of Documents

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD Inc. and shall not be reused in whole or in part for any other project without GHD Inc.'s written authorization. © GHD Inc. 2012

GHD Inc.
4450 Kruse Way Suite 300 Lake Oswego Oregon 97035 USA
T 1 971 925 3740 **F** 1 971 925 3768
W www.ghd.com

Drawn	PRK	Designer	WJ
Drafting Check		Design Check	
Approved (Project Director)			
Date	2132017		
Scale	AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed For Construction	

Client **PORT OF ANACORTES**

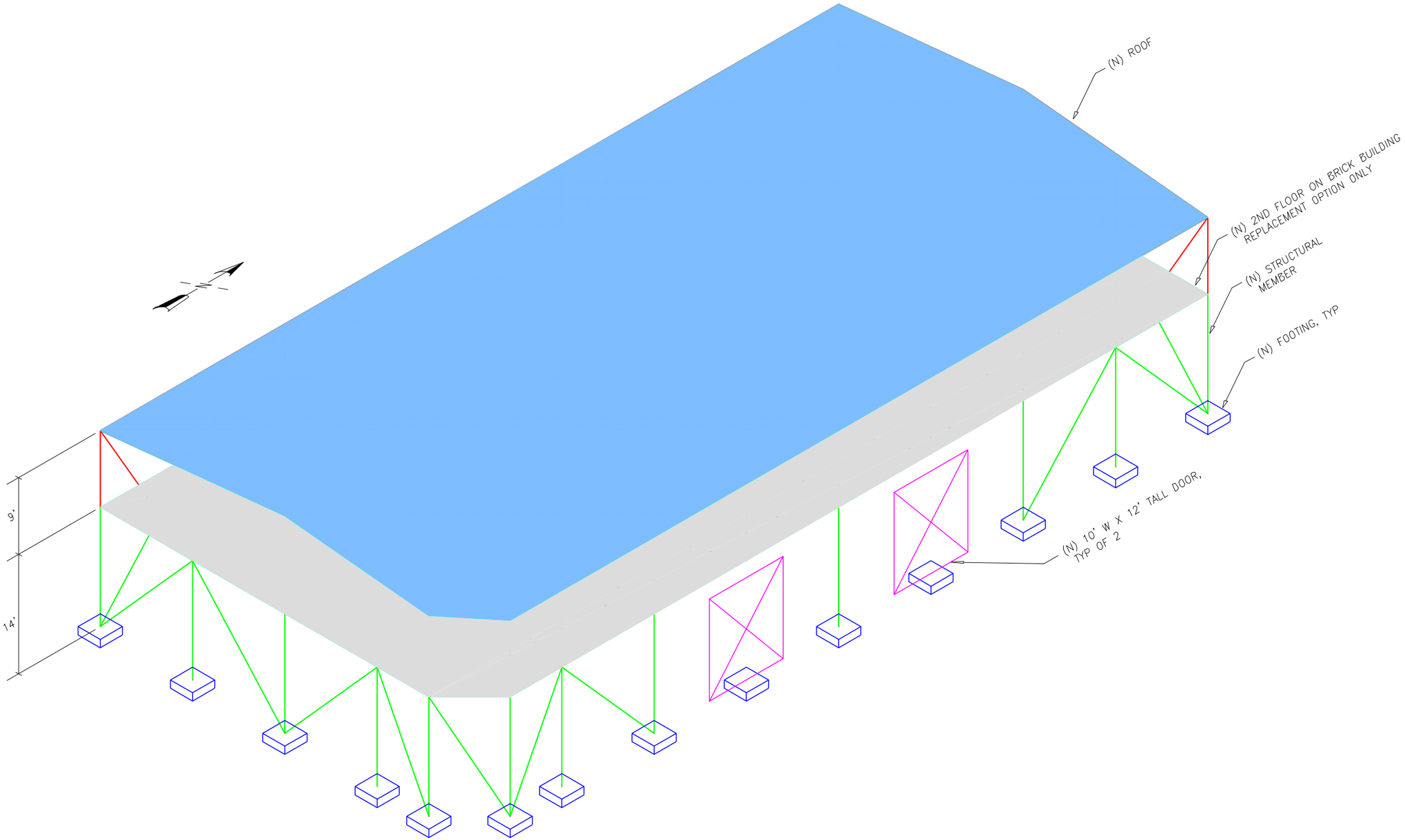
Project **MARINE SUPPLY & HARDWARE COMPLEX**

Title **EXISTING FLOOR PLANS**

Contract No. 11136690

Original Size **Ansi D** Drawing No: **FIGURE 01** Sht of

Plot Date: 5 May 2017 - 11:31 AM Plotted by: Paul Kemp Cad File No: G:\111\11136690 POA - Marine Hardware Block Bldgs Eval\06-CAD\Sheets\11136690_S1.0-MARINE HARDWARE BLDG-prk.dwg



SCHEMATIC PRE-FAB BUILDING REPLACEMENT (OPTION 3) FOR EACH OF MARINE SUPPLY & HARDWARE BLOCK BUILDINGS

GHD

PORT OF ANACORTES
MARINE HARDWARE BLOCK BUILDINGS

Job Number 11136690
Revision A
Date 032017
Figure 02

4450 Kruse Way Suite 300 Lake Oswego Oregon 97035 USA **T** 1 971 925 3740 **F** 1 971 925 3768 **W** www.ghd.com

Plot Date: 5 April 2017 - 10:45 AM Cad File No: G:\111\11136690 POA - Marine Hardware Block Bldgs Eval\06-CAD\Sheets\Marine Bldg Port of Anacortes-1.dwg

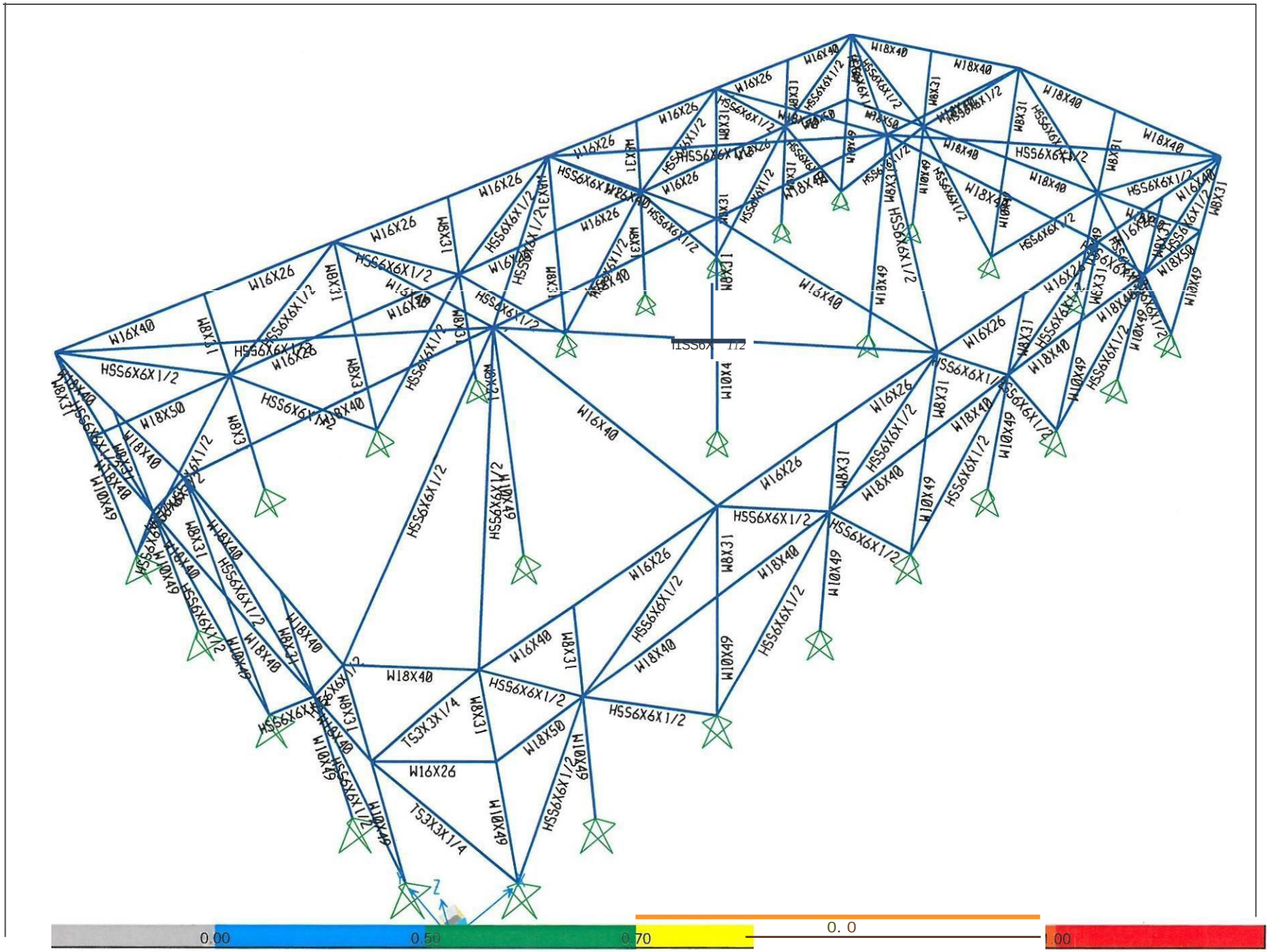


Figure 03
Brick Building Option 1 Steel Framing

APPENDIX B

Marine Supply & Hardware Building

Marine Supply & Hardware Building –
Foundation Floor post on broken concrete block

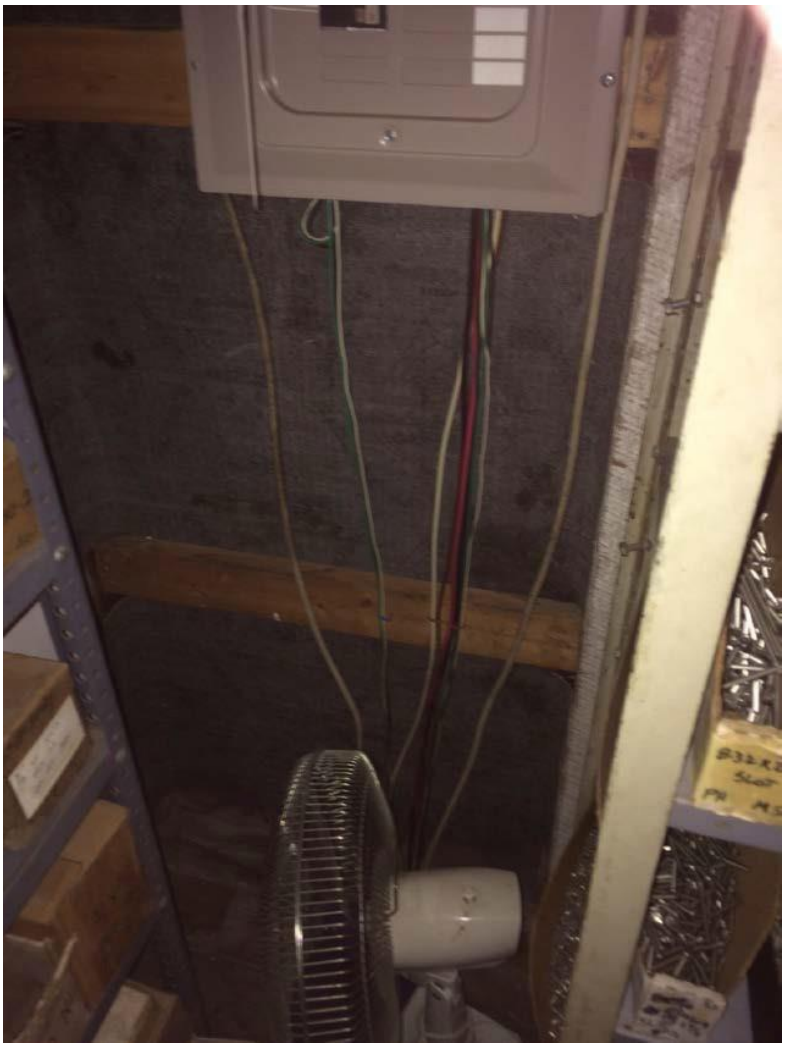
Marine Supply & Hardware Building –
Foundation Floor post on split timber block

Marine Supply & Hardware Building – Floors
Floor sagging and weakly supported

Marine Supply & Hardware Building – Walls
Walls at 2nd Street

Marine Supply & Hardware Building – Walls
Walls at Commercial Avenue

Marine Supply & Hardware Building – Roof
Line Rear of the building roof line



Marine Supply & Hardware Building– Electrical
Electrical box and loose wiring at the rear of building

Marine Supply & Hardware Building – Electrical
Loose wiring

Brick Building

Brick Building - Foundation
Foundation at the rear between the two phases – built at separate periods
Early south section phase build on stone masonry foundation

Brick Building – Basement and Foundation
Basement rear access

Brick Building – Basement and Foundation
Rusted steel beam supporting the building
Brick wall at Commercial Avenue.

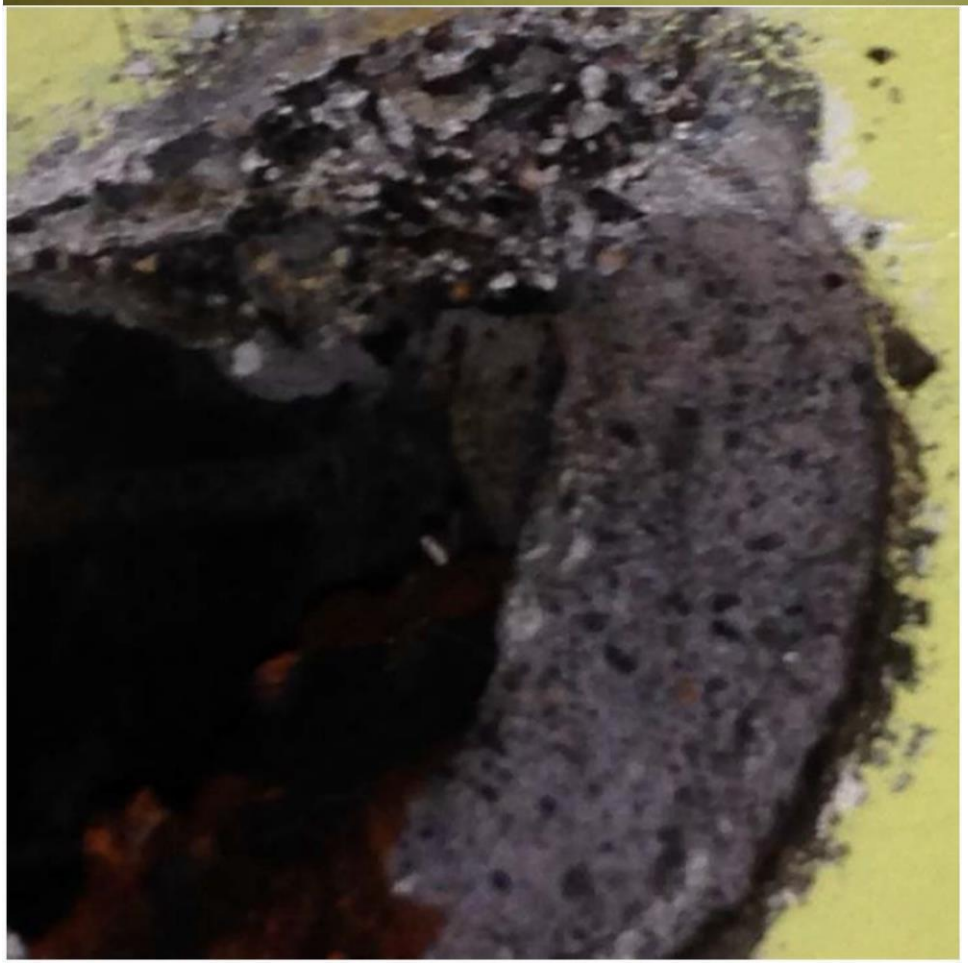
Brick Building – Basement and Foundations
Basement steel beam rusted support building
Brick wall at Commercial Street front

Brick Building – Walls
Brick and mortar damage at rear of the building

Brick Building – Walls

Rear wall – a mix of red bricks and concrete masonry units, damage at interface between the two sections

Brick Building - Walls
Full rear view showing the mix between the red brick and concrete masonry units



Brick Building – Walls
Wall damage at south section of building on 3rd Street / Commercial Avenue

Brick Building – Ceiling and Roof
Ceiling and Roof damage

Brick Building – Ceiling and Roof
Ceiling and wall damage

Brick Building – Ceiling and Roof
Ceiling and roof damage

Brick Building – Electrical / Mechanical
Communication boxes located at rear of building

Brick Building – Electrical / Mechanical
Gas Metering

Brick Building – Electrical / Mechanical
Loose electrical wiring communication box

www.ghd.com

APPENDIX C

Based on limited visual inspection of MS &H and Brick Buildings, below are the ratings criteria and ratings Matrix of conditions of existing building components for each of the two buildings:

RATING CRITERIA:	
Condition Status:	General Description
Excellent	No defects; “As New” Condition
Good	System or element exhibits minor defects or signs of deterioration and is sound and performing its intended function(s). It does not require major maintenance, only minor or routine maintenance.
Fair	System or element is in average condition and the deterioration requires attention to restore it to good condition and prevent the deterioration from declining to a more significant (poor or very poor) condition.
Poor	System or element has serious structural or material defects and cannot be relied upon to continue to perform its original function without immediate or priority repairs.
Very Poor	System or element has failed and is unsafe for operations or being occupied.

Marine Supply & Hardware Buildings

Building Systems:	Condition Status:
Foundation Systems	Poor
Basement	N/A
Subflooring & Flooring	Poor
Exterior Walls & Openings	Fair
Interior Walls & Openings	Fair
Stairs	N/A
Ceiling	Fair
Roofing	Poor
Plumbing System	Poor
Fire Suppression System	Not Existing
Mechanical (HVAC) System	Poor
Electrical Systems	Poor

Brick Building

Building Systems:	Condition Status:
Foundation Systems	Poor, Basement Steel Beam Supporting the masonry wall at the Commercial Avenue elevation severely rusted require immediate replacement
Basement	Fair
Subflooring & Flooring	Fair
Exterior Walls & Openings	Fair
Interior Walls & Openings	Poor
Stairs	Poor
Ceiling	Poor
Roofing	Poor
Plumbing System	Poor
Fire Suppression System	Not Existing
Mechanical (HVAC) System	Poor
Electrical Systems	Poor

Marine Hardware Block Buildings
Options 1, 2 3
Engineering Opinion of Probable Cost

APPENDIX D

	ITEM & DESCRIPTION	Condition of existing / Building Element	QUANTITY	OPTION 1 COST - Rehabilitate Existing Buildings UNIT COST	OPTION 1 COST - Rehabilitate Existing Buildings TOTAL COST	ITEM & DESCRIPTION Replacement with New Building	OPTION 2 COST - Demolish and Reconstruct Both Buildings in -kind UNIT COST	OPTION 2 COST - Demolish and Reconstruct Both Buildings in -kind TOTAL COST	OPTION 3 COST - Demolish & Replace with Pre-Fab Metal Building Shells UNIT COST	OPTION 3 COST - Demolish & Replace with Pre-Fab Metal Building Shells TOTAL COST
	Marine Hardware Building				$ -	**Marine Hardware Building**				
1	Demolition, including the Bicycle Shop		7,100	$ 8.50	$ 60,350	Demolition, including the Bicycle Shop	$ 7.00	$ 49,700	$ 9.00	$ 63,900
2	Rehab Foundation	Foundation	7,100	$ 26.00	$ 184,600	Foundation	$ 21.00	$ 149,100	$ 6.00	$ 42,600
3	Walls Strengthening & Seismic Anchors	Walls	5,445	$ 21.00	$ 114,345	Option 2 Walls, Option 3 Steel Framing+Shell	$ 32.00	$ 174,240	$ 37.02	$ 201,600
4	Floor Replacement	Floor Replacement	7,100	$ 24.00	$ 170,400	Floor	$ 24.00	$ 170,400	$ 10.26	$ 72,811
5	Roof Replacement	Roof	7,100	$ 25.00	$ 177,500	Roof	$ 25.00	$ 177,500	$ 13.41	$ 95,211
6	Paint and Misc Items		7,100	$ 15.00	$ 106,500	Paint and Misc Items	$ 15.00	$ 106,500	$ 5.00	$ 35,500
7	Plumbing	Plumbing	7,100	$ 4.00	$ 28,400	Plumbing	$ 4.00	$ 28,400	$ 1.35	$ 9,585
8	HVAC	HVAC	7,100	$ 7.30	$ 51,830	HVAC	$ 7.50	$ 53,250	$ 1.70	$ 12,070
9	Electrical	Electrical	7,100	$ 10.00	$ 71,000	Electrical	$ 9.50	$ 67,450	$ 5.00	$ 35,500
10	Communication	Communication	7,100	$ 1.20	$ 8,520	Communication	$ 1.20	$ 8,520	$ 0.50	$ 3,550
11	Electrical Safety and Security	Electrical Safety and S	7,100	$ 1.10	$ 7,810	Electrical Safety and Security	$ 1.10	$ 7,810	$ 2.00	$ 14,200
12	Sub-Total				$ 981,255	Sub-Total		$ 992,870		$ 586,527
13	Contingency 15%				$ 147,188	Contingency 15%		$ 148,931		$ 87,979
14	Sub-Total				$ 1,128,443	Sub-Total		$ 1,141,801		$ 674,506
15	Contractor Admin & Profit 12%				$ 135,413	Contractor Admin & Profit 12%		$ 137,016		$ 80,941
16	Sub-Total				$ 1,263,856	Sub-Total		$ 1,278,817		$ 755,446
17	Sales Tax WSST 8.5%				$ 107,428	Sales Tax WSST 8.5%		$ 108,699		$ 64,213
18	Sub-Total			$ 193.14	$ 1,371,284	Sub-Total	$ 195.42	$ 1,387,516	$ 115.44	$ 819,659
19	Design /Engineering 12%				$ 164,554	Design /Engineering 12%		$ 166,502		$ 98,359
20	Permitting 3%				$ 41,139	Permitting 3%		$ 41,625		$ 24,590
21	Construction Oversight 5%				$ 68,564	Construction Oversight 5%		$ 69,376		$ 40,983
22	Port Administration 0.5%				$ 6,856	Port Administration 0.5%		$ 6,938		$ 4,098
23	Grand Total			$ 232.73	$1,652,398	Grand Total	$ 235.49	$1,671,957	$ 139.11	$ 987,689
	Brick Building					**Brick Building**				
1	Support Masonry Walls		212	$ 400.00	$ 84,800					$ -
2	Demolition 2nd Floor & and Roof		11,200	$ 11.00	$ 123,200	Demolition 1st & 2nd Floors, Roof & Walls	$ 12.00	$ 134,400	$ 12.00	$ 134,400
3	Rehab Foundation		11,200	$ 19.00	$ 212,800	Foundation	$ 12.00	$ 134,400	$ 3.80	$ 42,599
4	Rehab Basement		3,500	$ 26.00	$ 91,000	Backfill Basement	$ 8.00	$ 28,000	$ 8.00	$ 28,000
5	New Steel Framing System		11,200	$ 32.50	$ 364,000	New Steel Framing System	$ 25.00	$ 280,000	$ 18.00	$ 201,600
6	Ground Floor Replacement		5,600	$ 15.00	$ 84,000	Ground Floor	$ 15.00	$ 84,000	$ 13.00	$ 72,800
7	Second Floor Replacement		5,600	$ 25.00	$ 140,000	Second Floor	$ 25.00	$ 140,000	$ 14.00	$ 78,400
8	Walls Rehab		11,200	$ 17.50	$ 196,000	Modern Walls	$ 20.00	$ 224,000	$ -	$ -
9	Roof Replacement		5,600	$ 25.00	$ 140,000	Roof	$ 25.00	$ 140,000	$ 17.00	$ 95,200
10	Close Back Wall		L.S	L.S	$ 45,000		$ -	$ -	$ -	$ -
11	Paint and Misc Items		L.S	L.S	$ 60,000	Paint and Misc Items	L.S	$ 55,000		$ 30,000
12	Plumbing		11,200	$ 5.50	$ 61,600	Plumbing	$ 5.50	$ 61,600	$ 1.35	$ 15,120
13	HVAC		11,200	$ 5.90	$ 66,080	HVAC	$ 5.90	$ 66,080	$ 1.70	$ 19,040
14	Electrical		11,200	$ 6.65	$ 74,480	Electrical	$ 6.65	$ 74,480	$ 5.00	$ 56,000
15	Communication		11,200	$ 0.85	$ 9,520	Communication	$ 0.85	$ 9,520	$ 0.50	$ 5,600
16	Electrical Safety and Security		11,200	$ 0.83	$ 9,296	Electrical Safety and Security	$ 0.83	$ 9,296	$ 2.00	$ 22,400
17	Sub-Total				$ 1,761,776	Sub-Total	-	$ 1,440,776		$ 801,159
18	Contingency 15%				$ 264,266	Contingency 15%		$ 216,116		$ 120,174
19	Sub-Total				$ 2,026,042	Sub-Total		$ 1,656,892		$ 921,333
20	Contractor Admin & Profit 12%				$ 243,125	Contractor Admin & Profit 20%		$ 198,827		$ 110,560
21	Sub-Total				$ 2,269,167	Sub-Total		$ 1,855,719		$ 1,031,893
22	Sales Tax WSST 8.5%				$ 192,879	Sales Tax WSST 8.5%		$ 157,736		$ 87,711
23	Sub-Total			$ 219.83	$ 2,462,047	Sub-Total	$ 179.77	$ 2,013,456	$ 99.96	$ 1,119,604
24	Design /Engineering 12%				$ 295,446	Design /Engineering 12%		$ 241,615		$ 134,352
25	Permitting 3%				$ 73,861	Permitting 3%		$ 60,404		$ 33,588
16	Construction Oversight 5%				$ 123,102	Construction Oversight 5%		$ 100,673		$ 55,980
27	Port Administration 0.5%				$ 12,310	Port Administration 0.5%		$ 10,067	$ 3.15	$ 5,598
28	Grand Total			$ 264.89	$2,966,766	Grand Total	$ 216.63	$2,426,214	$ 120.46	$1,349,123
29	Grand Total for MS&H and Brick Buildings				$4,619,164			$4,098,171		$2,336,812