



CHRISTOPHER D. HOWE
ARCHITECTURAL CONSULTING
Code Consulting & Architectural Specifications

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1 ABOUT CDHA CONSULTING

Christopher D Howe Architectural Consulting (CDHA) provides a full range of comprehensive code consulting and architectural specification writing services.

Code compliance, and the development of clear, concise specifications are two critical factors in the design and construction of a successful building project. CDHA is dedicated to providing valuable support to building owners and design teams through a combination of: twenty years of experience in architectural practice, extensive regulatory expertise, and proficiency in the selection and specification of building materials and assemblies.

The CDHA methodology for providing code consulting, specification writing, or combined services involves close collaboration with the project team throughout the design and documentation process. CDHA considers code consulting and specification writing as iterative processes, much like the design process itself.

The primary mission of CDHA Consulting is to provide high quality services based on the following principles :

Analysis & Exploration

Provide thorough Analysis of the regulatory constraints applicable to each unique project, and investigate creative solutions that balance regulatory compliance with the stated project goals.

Explore innovative building material options that are technically appropriate while also supportive and enriching to the design.

Advice & Collaboration

Provide expert advice to the project team regarding code compliance and building material options, while always being mindful of the overarching project goals.

Collaborate with the project team, regulatory officials, material manufacturers, and the construction community to successfully resolve regulatory issues and seamlessly integrate desirable building materials into the design.

Coordination & Communication

Develop thoroughly coordinated documentation that clearly and concisely communicates the regulatory, building material, procurement, and contractual requirements of the project.

In October of 2012 I founded CDHA Consulting based on the principles described above. My goal is to provide each project with a high degree of personal attention and technical expertise. On the following pages you will find a description of my background and experience as well as a summary of the various services offered by CDHA Consulting.

Please feel free to contact me with any questions or comments. I look forward to working with you.


Christopher D. Howe

2 ABOUT CHRISTOPHER D. HOWE



Experience

I am a registered architect with 20 years of experience in architectural practice. Prior to founding CDHA consulting I was the project architect for a wide range of residential, commercial and institutional projects in a variety of settings.

Having led the design process myself many times, I know first-hand the challenges architects and engineers face in producing great work under the pressure of deadlines, budgetary constraints, and other project goals and limitations.

Informed by my experience in architectural practice, I've developed a range of code consulting and specification writing services that I feel provide the greatest benefit to the design team. I've also developed a timeline / process for my services in order to provide the design team with the support it needs, when it needs it.

Comprehensive Services

A primary function of the code consultant and specification writer is the production of clear, concise, and thoroughly coordinated specifications and regulatory reports. These "deliverables" are very important, and I pride myself in producing high quality documents. However, I believe that properly executed code consulting and specification writing services involve much more than production of the written documents.

I approach both code consulting and specification writing as iterative processes. The specifications start as a preliminary project description during the early stages of the project, and evolve into outline and long format specifications during the schematic design and design development and phases. Similarly, a preliminary code review is prepared at the outset of the project. The code review is expanded and supplemented by thorough design / "plan" review at each phase of the project.

In this way the specifications, regulatory review, and drawings are all developed in tandem. The specifications and drawings inform each other throughout the design process, resulting in a stronger design and a well coordinated set of documents. I believe that by integrating code consulting and specification writing services into the design process, the code consultant and / or specification writer becomes a valuable participant in the design process, and a key contributor to quality control efforts.

Technical background

I began working for my father, who was a general contractor, when I was in high school. This hands-on experience instilled in me an appreciation for the construction process, and an understanding of how Buildings are built. Following high school I completed a two-year associate degree program in Architectural and Building Engineering Technology at Vermont Technical College. I believe that my construction experience and education at Vermont Technical College provided me with a strong technical background that I carried with me through my later education at Roger Williams University, and into my career.

My wide range of experience, designing a variety of building types, has provided me with exposure to a range of building types and materials. I've also completed projects in a variety of settings, in twelve different states. This diverse experience has been key to the development of my expertise as a code consultant and specification writer.

I have extensive experience in the design of child care centers. As a building type, child care centers are particularly challenging from a regulatory standpoint. The institutional use triggers a range of building code requirements. Many of the child care projects I participated in were located in existing buildings, requiring careful consideration of code requirements pertaining to change of use, fire protection, means of egress, and mixed use occupancies. In addition to the building code requirements, child care centers are required to comply with state licensing regulations. And, depending on the client, there are other standards and regulations that may need to be considered such as Federal Head Start standards and GSA standards for work in federal buildings.

I've put the skills I gained through my child care work to good use in my commercial projects. For nearly 10 years I worked closely with a major commercial developer in Wellesley, Massachusetts. I've completed numerous evaluations of their existing buildings, and successfully assisted them with code compliance upgrades. I've also advised the client regarding code compliance of planned tenant improvements.

To supplement the regulatory expertise I've accumulated through my work, and increase my knowledge of the regulations, I've participated in the International Code Council (ICC) certification program. I have successfully obtained a number of ICC certifications covering a range of disciplines. Similarly, I've chosen to supplement my specification writing experience by participating in the Construction Specifications Institute (CSI) certification program. I currently hold the Construction Documents Technologist (CDT) certification.

I hold architectural licenses in two states, and am capable of registration (through NCARB reciprocity) in additional states, as needed.

Focus and Enthusiasm

Unlike many architects, I really enjoy the process of regulatory review and specification writing. I'm genuinely interested in the workings of the codes, the legal aspects of construction, and the science behind building materials.

We all excel at those tasks that we find most enjoyable. For many architects, design is the most enjoyable aspect of the architectural profession. I find the process of research, analysis, collaboration, and documentation associated with code consulting and specification writing particularly enjoyable. By hiring CDHA Consulting, the project benefits from the designer's increased ability to focus on the design, and CDHA's focus on code compliance and specifications.

Why not put my experience, technical background, focus, and enthusiasm to work for you?

3 RESUME

Christopher D. Howe, AIA, CSI, ICC

Registrations and Certifications

Registered Architect: Massachusetts
Rhode Island

Construction Specifications Institute (CSI): Construction Documents Technologist (CDT)

International Code Council (ICC): Commercial Building Inspector and Plans Reviewer
Residential Building Inspector
Accessibility Inspector and Plans Reviewer
Commercial Energy Conservation Inspector
Commercial Plumbing Inspector and Plans Reviewer
Commercial Mechanical Inspector and Plans Reviewer
Certified Building Official – Technical Module

Professional Organizations

National Council of Architectural Registration Boards (NCARB)
American Institute of Architects (AIA)
Boston Society of Architects (BSA)
Construction Specifications Institute (CSI)
International Code Council (ICC)
National Fire Protection Association (NFPA)

Education

Roger Williams University Bristol, RI
Bachelor of Architecture, 1996

Member Roger Williams University chapter of AIAS
Member of the Alpha Chi National Honor Society
Member of Tau Sigma Delta National Architecture Honor Society
AIA Scholarship recipient

Vermont Technical College Randolph Center, VT
Associate of Applied Science
Architectural and Building Engineering Technology, 1988

Professional Practice

Principal **Christopher D. Howe Architectural Consulting** Since October 1, 2012
Code consultant and architectural specification writer

Associate **D. W. Arthur Associates Architects, Boston MA** 1996 - 2012
Responsibilities included design and management of a range of new free-standing and renovation projects including: child care, institutional, commercial, and residential.

Professional Practice (continued)

Partial List of Completed Projects at D.W. Arthur Associates:

Harvard Business School/Soldier's Field Park Children's Center
Harvard University: Peabody Terrace Children's Center, Harvard Yard Children's Center, and Oxford Street Day Care Center Renovations
Citigroup Jacksonville Children's Center
Upper Gwynedd Child Learning Center, Merck & Co., Inc.
First USA Back-Up Child Care Center
GSA Child Care Center Renovations: Philadelphia, New York City, and Vermont
Horizons for Homeless Children at White Rock
Bright Horizons: Cummings Center, Beverly MA; Crosby Corporate Center, Bedford, MA; Prudential Center, Boston; Landmark Center, Boston; Gateway Center, Newark NJ
Acelero Learning Head Start Center renovations at multiple New Jersey locations
Boston Private Bank & Trust: Lexington, Brookline, Boston, Cambridge offices
Haynes Management: Existing Facility Upgrades and Tenant Improvements

Designer **Randall T. Mudge & Associates Architects, Lyme, NH** 1989-1992
Design, drafting, and project management on commercial and residential projects

Draftsman **Yankee Barn Homes, Inc., Grantham, NH** 1988-1989
Design, drafting, and preparation of shop drawings

Carpenter **Russell F. Howe Builders, Inc., West Brattleboro, VT** 1984-1988

Regulatory and Specification Writing Experience – Brief Synopsis

Child care Extensive child care center design and regulatory experience involving renovation of existing facilities (including a shoe factory, church, and a soda bottling plant) to accommodate new child care centers, a feasibility study evaluating a historic Boston parish house as a potential site for a child care center, and new free-standing centers, some serving over 400 children.

GSA GSA child care projects involved preparation of non-proprietary specifications required by the federal government. The GSA projects also required proficiency with federal regulations, in addition to state building codes and licensing regulations.

Variances Successfully secured variances from the Massachusetts Architectural Access Board (MAAB), Board of Building Regulations and Standards (BBRS), and the Massachusetts State Plumbing Board. In addition to formal variances, I've prepared compliance alternative proposals and successfully negotiated approval by building officials.

LEED Prepared specifications for three projects seeking LEED certification.

Commercial Haynes Management projects involved evaluation of, and improvements to their existing commercial office facilities. Projects involved renovations of existing facilities to accommodate multiple tenants in buildings originally constructed for single tenant occupancy. Three projects involved the addition of new stairways within existing buildings. Provided advice to the owner regarding the regulatory impact of planned tenant improvements and mixed occupancy conditions.

Hospitality Feasibility study to determine the viability of renovating and completing significant code compliance upgrades to a historic hotel near Pittsburg, Pennsylvania.

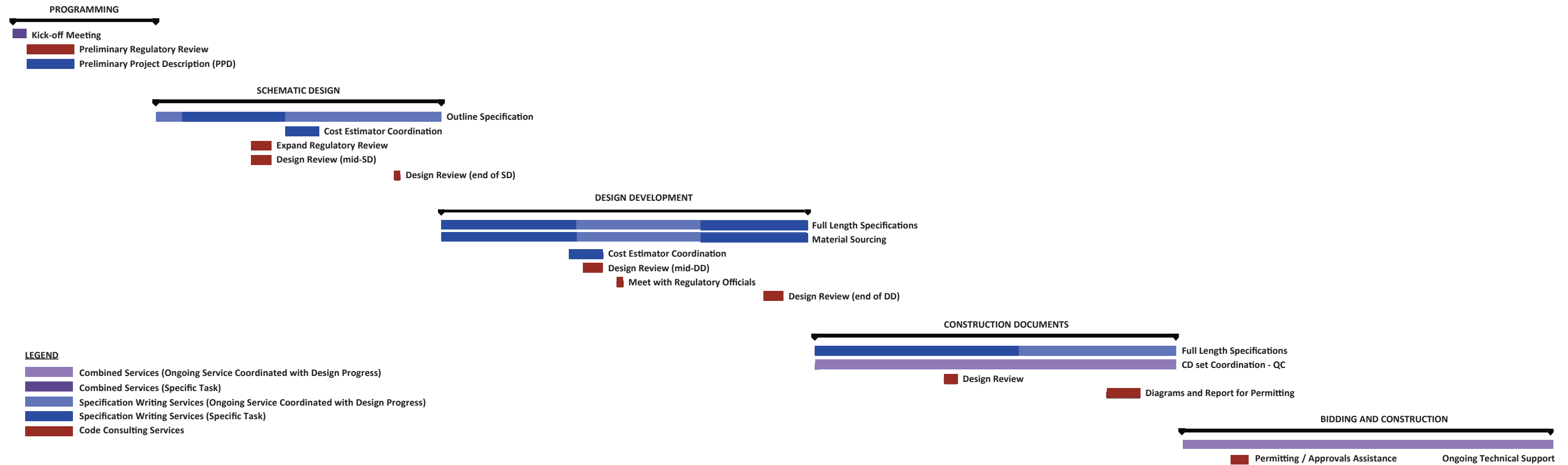
4 RANGE OF SERVICES

CDHA and the Design Team

I recognize that every project is unique, and has its own specific needs. With that in mind, CDHA's services are customized to suit each project. Some projects would benefit from combined code consulting and specification writing services, while others only require one type of service. In the case of smaller projects, "on call" code consulting services, on an as-needed basis may be appropriate.

By becoming involved in the project early, and remaining involved throughout the duration of the project the code consultant and specification writer provide valuable input to the design team throughout the design process, and play an important role in quality control efforts.

The diagrammatic schedule below illustrates the various services that CDHA Consulting can provide during each phase of design, documentation, and construction. Though CDHA is available for consultation at any point in the process, code consulting services typically consist of discrete tasks, at intervals appropriate to the status of the design. Specification writing services are more distributed over the course of the project, though they vary in intensity.



CDHA and Quality Control

The involvement of a code consultant and specification writer can greatly strengthen the quality control efforts of the project:

- Major code compliance issues are identified at the outset of the project in order to inform the design from the earliest stages.
- Multiple design reviews are provided over the course of the project to assist the design team in keeping the design "on track" from a regulatory standpoint.
- Preparation of a preliminary project description (PPD) at the outset of the project memorializes the project goals / parameters and serves as a roadmap for the project.
- Collaboration of the specification writer with the design team throughout the design process, and review of construction details as they are developed provides greater assurance that materials being used appropriately, and in a way that provides the maximum benefit to the design.
- A final review of the documents from a regulatory, specification, and overall coordination standpoint supplements the design team's own quality control process to reduce errors and omissions.

5 CODE CONSULTING SERVICES

CDHA Consulting's code consulting services are customized to meet the needs of each individual project. I am proficient with a wide range of codes and regulations including: Building (existing and new), fire, accessibility, energy conservation, mechanical, plumbing, fuel gas, and electrical codes. Services may include:

Services during design

- Identification of potential regulatory challenges at the outset of the project and preparation of a written regulatory synopsis.
- Further development and expansion of the regulatory synopsis as the design progresses.
- Thorough design reviews at each phase of design.
- Collaboration with the design team to develop creative solutions to regulatory challenges.
- Meetings with regulatory officials.
- Preparation of a final regulatory synopsis, supplemented by egress, occupancy, fire separation, and other diagrams for submission with the permit applications.
- Assistance with obtaining variances and other special approvals.

Services during construction

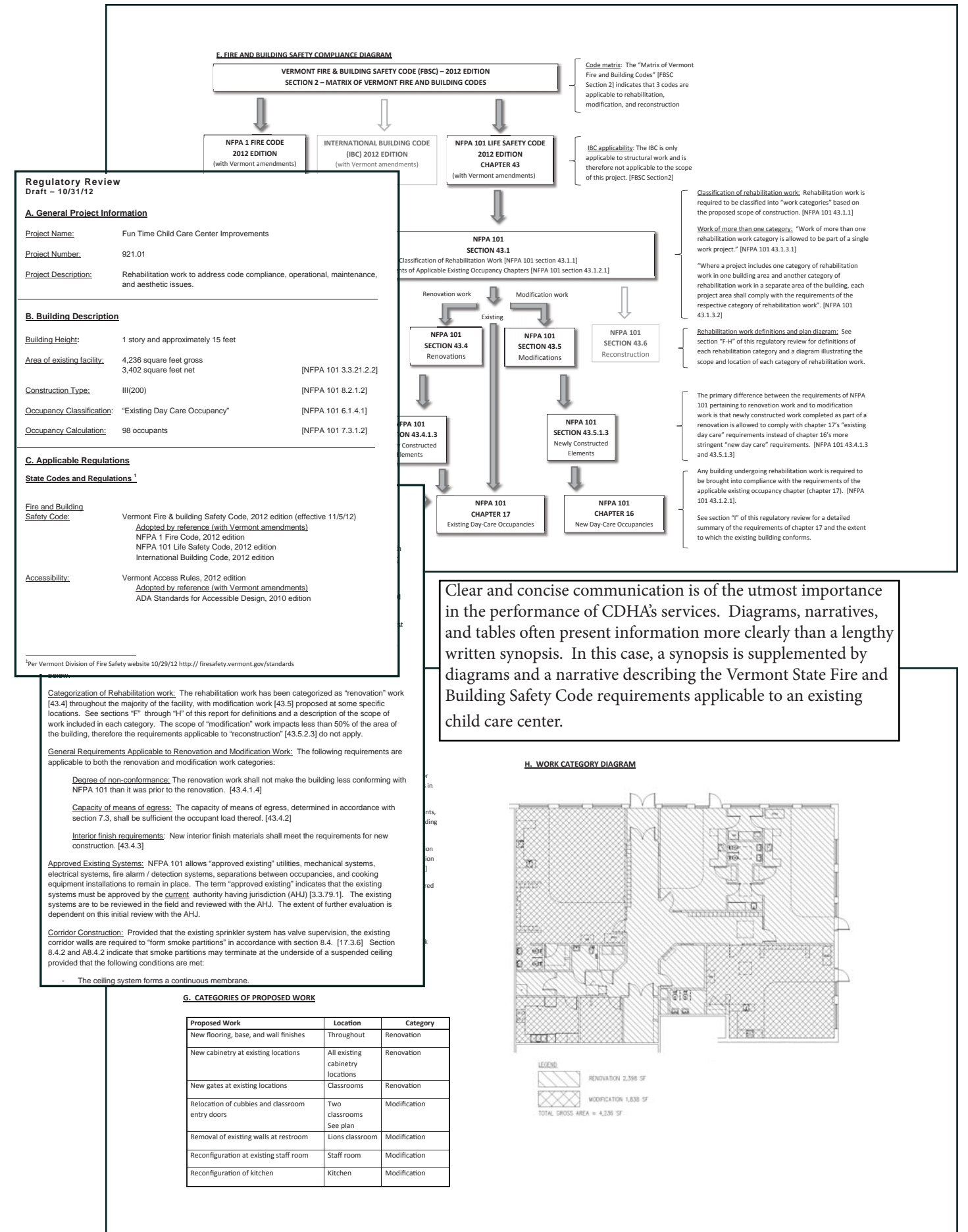
- Shop drawing and submittal review for conformance with regulatory requirements.
- Technical assistance to the design team during construction.
- Coordination with regulatory officials.

Existing facility evaluation

- Evaluation of existing facilities to identify areas of non-conformance.
- Determination of the scope of regulatory-related upgrades that would be triggered by proposed renovation work.
- Coordination and meetings with regulatory officials.

Related services

- "On call" services to provide technical code assistance on an as-needed basis.
- Child care facility compliance review (licensing regulations, NAEYC, ECERS, and ITERS).
- Existing conditions documentation.
- Design services.



6 SPECIFICATION WRITING SERVICES

CDHA consulting's specification writing services are customized to meet the needs of the individual project. Services are based on the recommended practices of the Construction Specifications Institute (CSI) and may include:

Schematic Design

- Assisting the design team and owner in defining the project goals through preparation of a Preliminary Project Description (PPD) at the outset of the project.
- Coordination of division 1 specifications with the construction contract and conditions of the contract.
- Preparation of outline specifications.

Design Development

- Assisting the design team in the selection of materials, and related coordination with manufacturers and product representatives.
- Evaluation and comparison of building material options.
- Coordination of the cost estimating process.

Construction Documents

- Preparation of short form or full length specifications (depending on the project scale and scope).
- Coordination with engineers to incorporate their specifications into the project manual.
- Coordination of construction details with the specifications, manufacturer's recommendations, and building material limitations.
- Final document review to supplement the design team's quality control process.
- Preparation of procurement documents (invitation to bid, instructions to bidders, bid form, etc.).

Construction

- Technical assistance to the design team during construction.
- Shop drawing and submittal review, for compliance with the technical requirements of the specifications.

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Preliminary Project Description
Johnsburg Hotel Feasibility Study
October 10, 2012

INTRODUCTION
10 Project Description

1010 Project Summary

- Background:** The Johnsburg Hotel is a historic hotel located in Jo...
- Project goals:** Renovate the Johnsburg Hotel with the intent of re...
- Challenges:**
 - Building code:** As the building has been vacant for 12 years...
 - Accessibility:** The main entrance is approximately 4 feet abo...
 - Restrooms:** The guest rooms currently share common bath...
 - Historic designation:** The building is located in a historic ne...

1090 Funding

- Private funding:** The bulk of the funding for the project will be att...
- Grants:** The borough of Johnsburg has indicated that there may...

20 Owner Development

2010 Site Acquisition

- Acquisition:** Site acquisition is dependent upon the outcome of the...

2080 Budget

- Preliminary estimates:** Preliminary estimates suggest a construct...

CDHA Consulting
Preliminary - October 9, 2012

30 Procurement Requirements

3010 Project Delivery

- Option A – Design, Bid, Build:** Bid the project to up to 6 local general...
- Option B – Design, Negotiate, Build:** The client is considering one ge...

A. SUBSTRUCTURE
A10 Foundations

A1010 Foundations

- Existing to remain:** Existing foundations are to remain.
- Structural evaluation:** The condition of the existing foundations is to b...

B. SHELL
B10 Superstructure

B1010 Floor Construction

- Fire damage:** Repair fire damage to approximately 5 floor joists.
- Restaurant:** The floor in the restaurant area is sagging and may be r...

B1020 Roof Construction

- Entrance porch:** Existing entrance porch roof to be rebuilt.
- Mechanical equipment loads:** If mechanical equipment is to be instal...

B1080 Stairs

- Existing:**
 - Repair:** Repair existing stair treads and risers / refinish to ma...
 - Rails:** New wood handrails throughout, to match species and
- Fire escape:** The IEBC requires a new fire escape to serve the secon...

B20 Exterior Closure

B2010 Exterior Walls

- Brick:** Brick is to be repointed throughout.
- Parapet:**
 - Repairs:** Parapet is to be repaired and painted.
 - Structural:** The structural engineer is to determine the extent...
- Wood trim:** Wood trim is to be replaced with new throughout.

B2020 Exterior Windows

- Window replacement:** Windows are to be replaced throughout
 - Manufacturer:** Marvin, Andersen, and Pella are to be consid...
 - Historic requirements:** To be determined. The National Park...

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SECTION 08710 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

- Mechanical door hardware for the following:
 - Swinging doors and gates.
 - Electrified door hardware.
- Related Sections:
 - Division 06 Section "Interior Architectural Woodwork" for cabinet door hardware provided as part of architectural woodwork.
 - Division 8 Section "Steel Doors and Frames".
 - Division 8 Section "Stainless-Steel Doors and Frames".
 - Division 8 Section "Flush Wood Doors".
 - Division 8 Section "Stile and Rail Wood Doors".
 - Division 8 Section "Sound-Control Door Assemblies" for hinges and gasketing provided as part of sound-rated door assemblies.
 - Division 8 Section "Aluminum-Framed Entrances and Storefronts".
 - Division 16 Sections for connections to electrical power system and for low-voltage wiring work.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Other Action Submittals:

- Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

DOOR HARDWARE 08710 - 1

The preliminary project description (PPD) provides a "roadmap" for the project. The PPD evolves into three-part Masterformat specifications over the course of the project.

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CONSTRUCTION DOCUMENTS CHECKLIST

Division 8 – Openings

Complete?	Category	Description	Notes
	08 10 00 Doors and Frames		
	Dims	Doors numbered on plans and coordinated with the door schedule	
	Spec	Door types given in schedule and specified in the specifications	
	Spec	Frame types given in schedule and specified in the specifications	
	Spec	Finishes specified	
	Spec	Wood species and cut	
	Spec	Hardware coordination see section 087000	
	Code	Size	
	Code	Swing	
	Code	Accessibility requirements	
	Code	Fire ratings	
	Code	Safety glazing	
	Code	Special locking arrangements	
	Code	Energy code compliance at exterior doors	
	Gen	Project specific requirements	
	LEED	Recycled content	
	LEED	Regional materials	
	LEED	FSC Certified (wood doors)	
	084000 Entrances, Storefronts, and Curtain Wall		
	Details	Extent indicated on drawings	
	Spec	Unique conditions detailed. Details comply with manufacturer	
	Spec	Coordinate types	
	Spec	Glazing plane location	
	Spec	Glazing types	
	Spec	Thermal break	
	Code	Safety glazing	
	Code	Energy code compliance	
	Code	Finishes specified	

A portion of a construction document review checklist, organized by specification section.

Material Evaluation / Comparison

Project Name:
Project number:
Section: 084300 Storefront
Preliminary 11/09/12

Intent: To identify and evaluate alternatives to the Kawneer 451T thermally broken storefront system based on performance and range of options offered.

Manufacturer	Model and Size	Thermally broken	U value	Glazing plane options	Operable vent options
Kawneer	TriFab 451T 2" x 4 1/2"	Yes. 1/2" high density polyurethane	.33 to .55 depending on glass	Front, Back, Center	Glass vent system Awning and casement
YKK	YES 45TU 2" x 4 1/2"	Yes.	.43 or less (frame only)	Front, center	None
Tubelite	Versatherm 1 1/2" x 2 1/16" to 8 1/2" or 14000 series 2" x 4 1/2"	Yes. Dupont acetol resin	.56 with 1" clear insulated glass 14000 series .43	Front, center	TBD
Oldcastle	Series 3000 2" x 4 1/2"	Yes.	.51 to .63	Front, Back, Center	TBD
EFCO	Series 403 2" x 4 1/2"	Yes. Polyurethane	.29 to .55	Center	Yes
Summary	2" x 4 1/2" is standard size	Standard	Wider range. Review further	Options vary	Operable vents are not offered by all

	1 1/2" x 2 1/16" to 8 1/2" or 14000 series 2" x 4 1/2"	Minimum wall thickness .109"	Products with recycled content". Pre-consumer vs. post-consumer?		
Oldcastle	Series 3000 2" x 4 1/2"	ASTM B 221: 6063-T5 alloy	Verify with manufacturer	0.06 cfm/ft2 at a static air pressure differential of 6.24 psf (300 Pa).	1 year. Longer warranties are available at an additional cost.
EFCO	Series 403 2" x 4 1/2"	ASTM B 221: 6063-T6 alloy and temper. Minimum wall thickness .080"	Optional: Post consumer 55% Pre consumer 22%	0.06 cfm/ft2 at a static air pressure differential of 6.24 psf (300 Pa).	3 years
Summary		T5 versus T6 alloy T6 is a stronger alloy	Availability varies widely	Review other criteria such as water infiltration	1 to 3 years standard. Also review finish warranties

Further Research: Review screw spline versus shear block assembly options, review finish warranties, review additional testing criteria.

A material evaluation comparing performance and product options of various storefront framing manufacturers and systems.