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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 :

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.

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.

UD. He

Christopher D. Howe

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Analysis & Exploration

Coordination & Communication

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 handson 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?

Christopher D. Howe	, AIA,	CSI, ICC
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0	Architect:	Massachusetts Rhode Island
Constructio	on Specifications Institute (CSI):	Construction Documents Technologist (CDT)
nternatior	nal 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
Professior	nal Organizations	
Construction Internation		Britel D
	Roger Williams University Bachelor of Architecture, 1996	Bristol, RI
	Member Roger Williams University Member of the Alpha Chi National H Member of Tau Sigma Delta Nationa AIA Scholarship recipient	Ionor Society
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	Member of the Alpha Chi National H Member of Tau Sigma Delta Nationa AIA Scholarship recipient Vermont Technical College Associate of Applied Science Architectural and Building Enginee	Honor Society al Architecture Honor Society Randolph Center, VT ring Technology, 1988 ral Consulting Since October 1, 2012

Professional Practice (continued)

Professiona	al Practice [continued]
	Partial List of Completed Project Harvard Business School/Soldier Harvard University: Peabody Center, and Oxford Street D Citigroup Jacksonville Children's Upper Gwynedd Child Learning of First USA Back-Up Child Care Ce GSA Child Care Center Renovation Horizons for Homeless Children Bright Horizons: Cummings Ce MA; Prudential Center, H Newark NJ Acelero Learning Head Start Cen Boston Private Bank & Trust: Lei Haynes Management: Existing F
Designer	Randall T. Mudge & Associates Design, drafting, and project man
Draftsman	Yankee Barn Homes, Inc., Grant Design, drafting, and preparation
Carpenter	Russell F. Howe Builders, Inc., V
Regulator	y and Specification Writing Expe
Child care	Extensive child care center design existing facilities (including a second accommodate new child care centric parish house as a potential site of some serving over 400 children.
GSA	GSA child care projects involved by the federal government. The regulations, in addition to state by
Variances	Successfully secured variances from Board of Building Regulations and Board. In addition to formal varia successfully negotiated approval by b
LEED	Prepared specifications for three pro
Commercial	Haynes Management projects invo commercial office facilities. Projects multiple tenants in buildings origina involved the addition of new stairwa regarding the regulatory impact of conditions.

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

ts at D.W. Arthur Associates: er's Field Park Children's Center Terrace Children's Center, Harvard Yard Children's Day Care Center Renovations 's Center Center, Merck & Co., Inc. enter ions: Philadelphia, New York City, and Vermont at White Rock Center, Beverly MA; Crosby Corporate Center, Bedford, Boston; Landmark Center, Boston; Gateway Center, enter renovations at multiple New Jersey locations exington, Brookline, Boston, Cambridge offices Facility Upgrades and Tenant Improvements 1989-1992 Architects, Lyme, NH nagement on commercial and residential projects tham, NH 1988-1989 of shop drawings

West Brattleboro, VT

erience – Brief Synopsis

ign and regulatory experience involving renovation of shoe factory, church, and a soda bottling plant) to enters, a feasibility study evaluating a historic Boston for a child care center, and new free-standing centers,

1984-1988

preparation of non-proprietary specifications required ne GSA projects also required proficiency with federal puilding codes and licensing regulations.

om the Massachusetts Architectural Access Board (MAAB), d Standards (BBRS), and the Massachusetts State Plumbing riances, I've prepared compliance alternative proposals and v building officials.

ojects seeking LEED certification.

volved evaluation of, and improvements to their existing its involved renovations of existing facilities to accommodate hally constructed for single tenant occupancy. Three projects ways within existing buildings. Provided advice to the owner of planned tenant improvements and mixed occupancy

4 RANGE OF SERVICES

CDHA and the Design Team

I recognize that every project is unique, and has it's 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.

diagrammatic schedule below illustrates the CDHA The various services that 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.

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

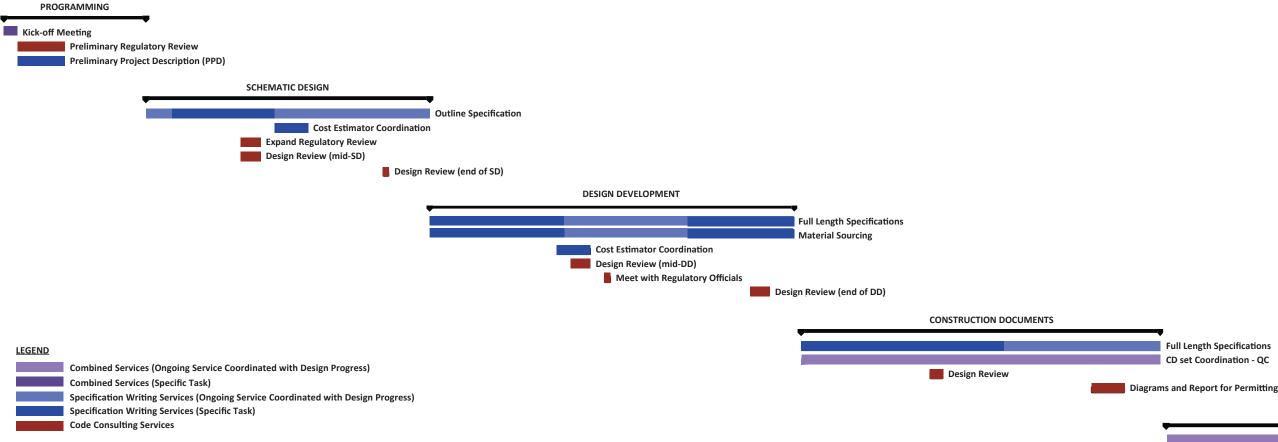
 Major code compliance issues are identified at the outset of the project in order to inform the design from the earliest stages.

• 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.



CDHA and Quality Control

BIDDING AND CONSTRUCTION

Permitting / Approvals Assistance

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.

		E. FIRE AND BUILDING SAFETY C	OMPLIANCE DIAGE	AM.		
			VERMONT FIRE & BUILDING SAFETY C SECTION 2 – MATRIX OF VERMONT F			
		NFPA 1 FIRE CODE 2012 EDITION (with Vermont amendments)	INTERNATIONAL (IBC) 2012 (with Vermont	EDITION		
Regulatory Review	v	(with vernont amenuments)	(with vermont	(wit		
Draft – 10/31/12 A. General Project Info	rmation					
Project Name:	Fun Time Child Care C	enter Improvements				
Project Number:	921.01					
Project Description:	Rehabilitation work to a and aesthetic issues.	address code compliance, operation	nal, maintenance,	Classification of Rehab nts of Applicable Existi Renovation w		
B. Building Description	<u>.</u>			ſ		
Building Height:	1 story and approximat	tely 15 feet		NFPA 101 SECTION 43		
Area of existing facility:	4,236 square feet gros 3,402 square feet net		A 101 3.3.21.2.2]	Renovation		
Construction Type:	III(200)	[NFF	PA 101 8.2.1.2]			
Occupancy Classification:	"Existing Day Care Oc	cupancy" [NFF	A 101 6.1.4.1]	1		
Occupancy Calculation:	98 occupants	[NFF	PA 101 7.3.1.2]	FPA 101 ON 43.4.1.3		
C. Applicable Regulation	ons			lements		
State Codes and Regulation	ions ¹					
Fire and Building	Manual Frank India			•		
Safety Code:		g Safety Code, 2012 edition (effecti nce (with Vermont amendments)	ve 11/5/12)	Existi		
	NFPA 101 Life Saf	fety Code, 2012 edition ing Code, 2012 edition				
Accessibility:	Vermont Access Rules					
		nce (with Vermont amendments) r Accessible Design, 2010 edition		Cl		
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¹ Per Vermont Division of Fire Saf	ety website 10/29/12 http://	firesafety.vermont.gov/standards		$ H_{dia}^{wi}$		
[43.4] throughout the locations. See secti work included in each	e majority of the facility, v ons "F" through "H" of th th category. The scope of	ehabilitation work has been categor with modification work [43.5] propos nis report for definitions and a descr of "modification" work impacts less	ed at some specif iption of the scope than 50% of the ar	ic Du		
General Requiremen	nts Applicable to Renova	icable to "reconstruction" [43.5.2.3] ation and Modification Work: The for		nts are		
	e renovation and modific n-conformance: The ren	cation work categories: ovation work shall not make the bui	Iding less conform	ning with ".		
	an it was prior to the ren	ovation. [43.4.1.4]	ned in accordance	with		
		supant load thereof. [43.4.2]		ding		
construction.		rior finish materials shall meet the r	equirements for h	ion ion		
electrical systems, fi equipment installation systems must be applied	re alarm / detection systen ons to remain in place. T proved by the <u>current</u> au	ws "approved existing" utilities, mec ems, separations between occupan "he term "approved existing" indicat uthority having jurisdiction (AHJ) [3. eviewed with the AHJ. The extent t	cies, and cooking es that the existing 3.79.1]. The exis) g red ting		
dependent on this in	itial review with the AHJ.					
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	system forms a continue					
	<u>G. C</u>	ATEGORIES OF PROPOSED WORK				
		oposed Work	Location	Category		
		w flooring, base, and wall finishes w cabinetry at existing locations	All existing	Renovation Renovation		
		w rates at evicting location-	cabinetry locations	Penovation		
	Re	w gates at existing locations location of cubbies and classroom try doors	Classrooms Two classrooms	Renovation Modification		

oval of existing walls at restroom

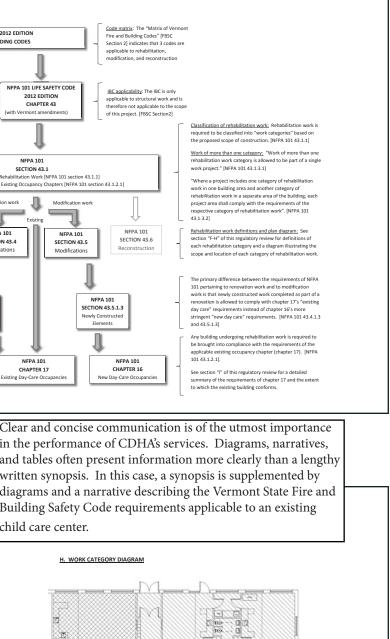
nfiguration at existing staff room

Lions classroo

taff room

Modification

odification





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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2. <u>Individual equivation of the project will be attantiated equivation athere equivated athere equivates att</u>	The building is three stories in height and approximately 20.000 squt has been vacant for approximately 12 years. The exterior shows sig deterioration. The building interior has suffered two small interior fire 19 to the test of the 10 full functioning hotel. 3. Challence and the test of the test of the test of the test of the test of the test of the test of the test of the 10 full test of the test of test of the test of test of test of	A100 Foundations A1010 Foundations 1. Existing to remain: Structural evaluation: Structural evaluation: The condition of the existing foundations is to the structural engineer. B SHELL B10 Superstructure B1010 Floor Construction Fire damage: Repairing the floor in the restaurant area is sagging and may be in reinforcement. To be evaluated by the structural engineer. B1020 Rod Construction 1. B1030 Rod Construction 1. B1040 Rod Construction 1. B1050 Rod Construction 1. B1050 Rod Construction 1. B1050 Rod Construction 1. Structuration 1. B1050 Rod Construction 1. Structuration 1.	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: 1. Mechanical door hardware for the following: a. Swinging doors and gates. 2. Electrified door hardware.
\$1.2 million. A budget has not been determined at this time. B2010 Exterior Walls 1.3 SUBMITTALS 2. Parapet: Regults: Parapet is to be repointed throughout. 1.3 SUBMITTALS 3. Wood trim: Wood trim: to be replaced with new throughout. 8. Other Actions Jumestions, dimensions of individual components and profiles, and finishes. BHA Consulting 9. Window replacement: Windows are to be replaced throughout. 8. Other Actions Submittals: HA Consulting 1. Manufacture: The supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate fragit door hardware schedule: Propared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, schedule with doors, frames, and relia are to be conside b. Historic requirements: To be determined. The National Park consulted. 1.3 SUBMITTALS	Funding Private funding: The buik of the funding for the project will be attain Caracty. The borough of Johnsonburg has indicated that there may grants available. The client is researching these grants. Owner Development 10 Site Acquisition Acquisition: Site acquisition is dependent upon the outcome of the 80 Budget	reinforcement will likely be required. B1080 Stairs a. <u>Repair</u> . Repair existing stair treads and risers / refinish to ma b. <u>Repair</u> . Repair existing stair treads and risers / refinish to ma b. <u>Repair</u> . New wood handmalls throughout, to match species and c. <u>First Construction</u> : Galvanized steel. b. <u>Support</u> . The exent of existing building modifications necess escape is to be determined by the structural engineer.	 provided as part of architectural woodwork. Drivision 8 Section "Steel Doors and Frames". Drivision 8 Section "Steinloses and Frames". Drivision 8 Section "Steinloses and Frames". Drivision 8 Section "Isle and Rail Wood Doors". Drivision 8 Section "Stoinle and Rail Wood Doors". Drivision 8 Section "Stoind-Control Door Assemblies" for hinges and gasketing provided as part of sound-traded door assemblies. Drivision 8 Section "Aluminum-Framed Entrances and Storefronts". Drivision 8 Sections for connections to electrical power system and for low-voltage
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DOOR HARDWARE 08710 - 1		CDHA Consulting CDHAConsulting.com	hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

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

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otior	ns offered.	Model and Size		ermally broken	Uva	·		ing plane options		rable vent options	
	meer	Trifab 451T		. ¼" high		to .55 depending		it, Back, Center		is vent system	
		2" x 4 ½"		nsity		glass glass		,,,		ing and casement	
			pol	yurethane						-	
YKK		YES 45TU	Yes	i.		or less (frame	Front, center		Non	None	
Tub	elite	2" x 4 ½" Versatherm	Ver	. Dupont acetol	only		Eron	t center	TBD		
TUD	ente	1 %" x 2 1/16" 1			.56 with 1" clear insulated glass		Front, center		160		
		8 ½" or 14000				00 series .43					
		series 2" x 4 ½"									
Old	castle	Series 3000	Yes	Yes.		.51 to .63		Front, Back, Center		TBD	
		2" x 4 ½"									
EFC	D	Series 403	Yes	. Polyurethane	.29	to .55	Cent	ter	Yes		
		2" x 4 ½"									
Sum	marv	2" x 4 ½' is	Sta	ndard	Wid	e range. Review	Opti	ons vary	Ope	rable vents are not	
summer y		standard size	500		furt					red by all	
		8 ½" or 1		Minimum wall		recycled content		151 (25518)			
T		series 2"		thickness .109"		Pre-consumer vs.					
T						post-consumer?					
	Oldcastle		00	ASTM B 221: 60)63-	Verify with		0.06 cfm/ft2 at a st		1 year. Longer warranties	
T		2" x 4 ½"		T5 alloy		manufacturer	air pressure differe			are available at an addition cost.	
	EFCO	Series 40	3	ASTM B 221: 60)63-	Optional:		of 6.24 psf (300 Pa 0.06 cfm/ft2 at a st	-	3 years	
		2" x 4 ½"		T6 alloy and			5%			- ,	
Summary				temper. Minim		Pre consumer 22	%	of 6.24 psf (300 Pa			
				wall thickness .	080"						
				T5 versus T6 all		Availability varies		Review other crite	ria	1 to 3 years standard. Also	
				T6 is a stronger		widely		such as water		review finish warranties	
				alloy				infiltration			

Further Research: Review screw spline versus shear block assembly options, review finish warranties, review additional testing criterian environment of the second second

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