



SITE IDENTITY SIGNAGE

WAYLAND TOWN CENTER

Wayland, MA

Concept Design and Pricing Set

08.28.18 UPDATED



Wayland Town Center: Entry Signage Concepts
omloop / 08.28.17

Type	Description	Remarks	Qty	Unit \$
ID.1	Entry Monuments (Rte 20 Entry)	Single faced, curved, pained metal, fabricated letters (halo-lit)	2	\$ 0.00
TI.1	Tenant Pylon (Rte 20 Entry)	Double-faced, tenant panels, fabricated letters (halo-lit)	1	\$ 0.00
TI.2	Tenant Pylon (Rte 27 Entry)	Double-faced, tenant panels, fabricated letters (halo-lit)	1	\$ 0.00
ID.1	Mockup (see drawings & specs)	Full sized, partial section, temporary materials and graphics	1	\$ 0.00
TI.1	Mockup (see drawings & specs)	Full sized, full panel, temporary materials and graphics	1	\$ 0.00
TI.2	Mockup (see drawings & specs)	Full sized, partial section, temporary materials and graphics	1	\$ 0.00
TI.1	Prototype Letter	Full production prototype letter “W”, includes illumination	1	\$ 0.00
TI.1	Prototype Tenant Panel	Partial production prototype section (see drawings)	1	\$ 0.00
		SUBTOTAL		
		General Conditions (samples, submittals, management)		
		Engineering (structures, footings, and electric)		
		Permitting		
		Installation		
		TOTAL		

§ 198-501

Signs and exterior lighting.

[Amended 4-7-2011 ATM by Art. 19]

501.1.

Only those signs and exterior lighting as pertain to buildings, structures, or uses permitted in this Zoning Bylaw and on the same lot are permitted. Yard requirements as otherwise specified in this Zoning Bylaw shall apply to signs and exterior lighting fixtures and structures, except freestanding lampposts at a residence in a residential district, which lampposts shall have a minimum front yard setback requirement of 15 feet, to be measured from the front property line. Signage in residential districts shall be limited to that which is permitted by other sections of this Bylaw. **Signage in districts other than residential districts may not exceed 40 square feet of area and 15 feet in height, including supporting structures and light sources.** Signs attached to buildings may not rise above the front roofline of the building to which it is attached. Signs must be fixed in position so as not to rotate or oscillate. **Signage in excess of that which is permitted may be allowed with a special permit issued by the special permit granting authority with appropriate jurisdictional responsibility for site plan approval,** as provided for in § 198-603; provided, however, that signs with moving parts and **internally illuminated signs are prohibited.** The sign dimensions set forth in this Zoning Bylaw apply in the aggregate to all signs on the lot.

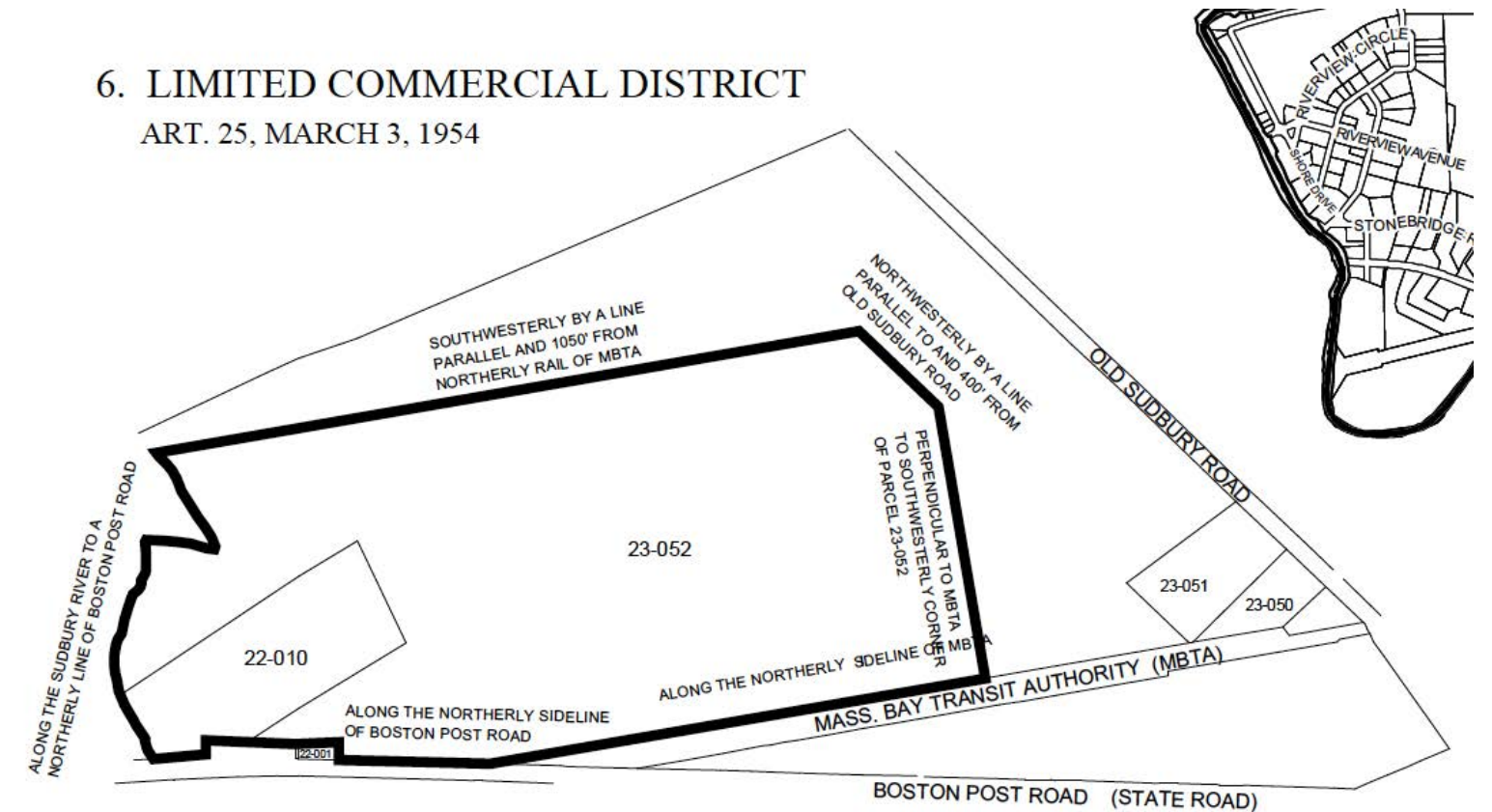
[Amended 4-29-1996 STM by Art. 1; 5-1-2002 ATM by Art. 30]

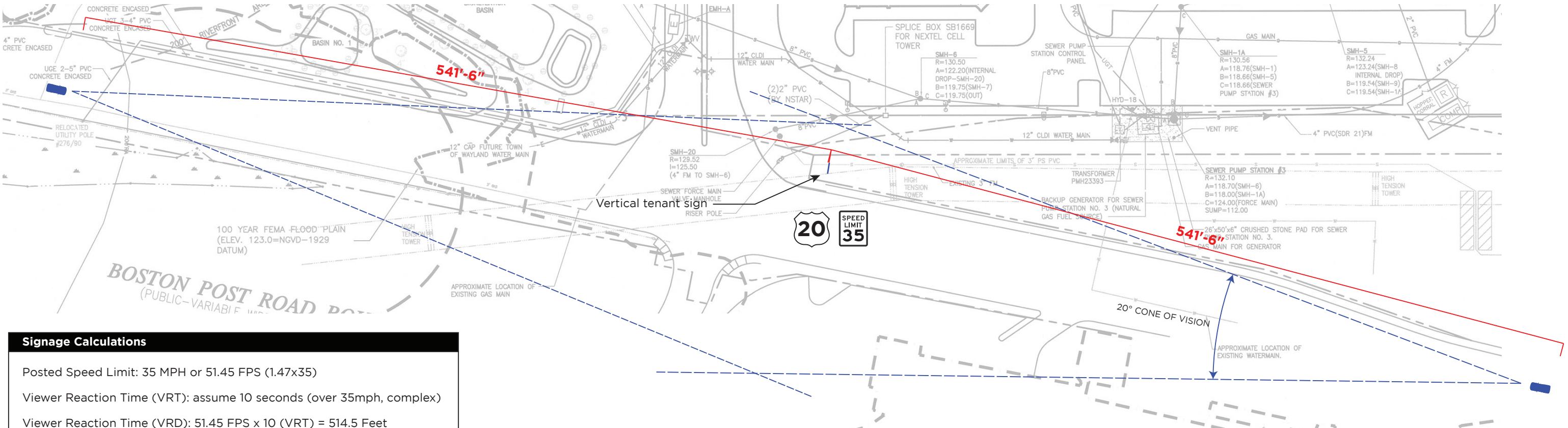
501.2.

Exterior lighting and lighting of signs shall be continuous illumination, not flashing, blinking or varying in color. **Exterior lighting fixtures shall be designed and placed so that the light source shall be completely shielded or diffused so as not to produce glare at any point along the exterior lines of ways adjacent to the lot where the sign is located or at another lot in a residential district.** Illumination of athletic fields, golf courses and tennis courts is permitted when a special permit is issued by the Zoning Board of Appeals under the provisions of § 198-203. The provisions of this article do not apply to the seasonal display of lights for the purpose of the celebration of holidays nor to signs and advertising devices that have been installed or erected pursuant to a special permit, which permit shall expire in seven days after issuance by the Board of Selectmen to a person or persons for any of the purposes set forth in MGL c. 180, §§ 2 and 4.

6. LIMITED COMMERCIAL DISTRICT

ART. 25, MARCH 3, 1954





Signage Calculations

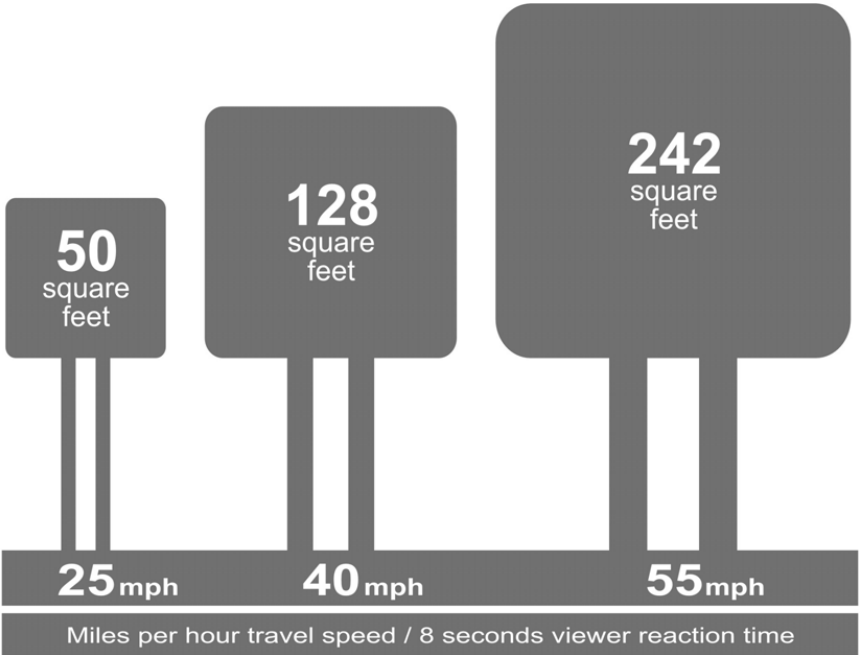
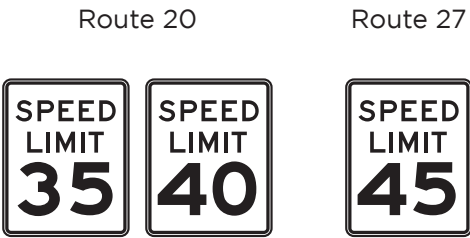
Posted Speed Limit: 35 MPH or 51.45 FPS (1.47x35)

Viewer Reaction Time (VRT): assume 10 seconds (over 35mph, complex)

Viewer Reaction Time (VRD): 51.45 FPS x 10 (VRT) = 514.5 Feet

Letter Height: VRD/Legibility Index, or 514.5/24 = **21" letter ht.**

Caculations based on Sign Legibility Rules of Thumb, United States Sign Council, 2006

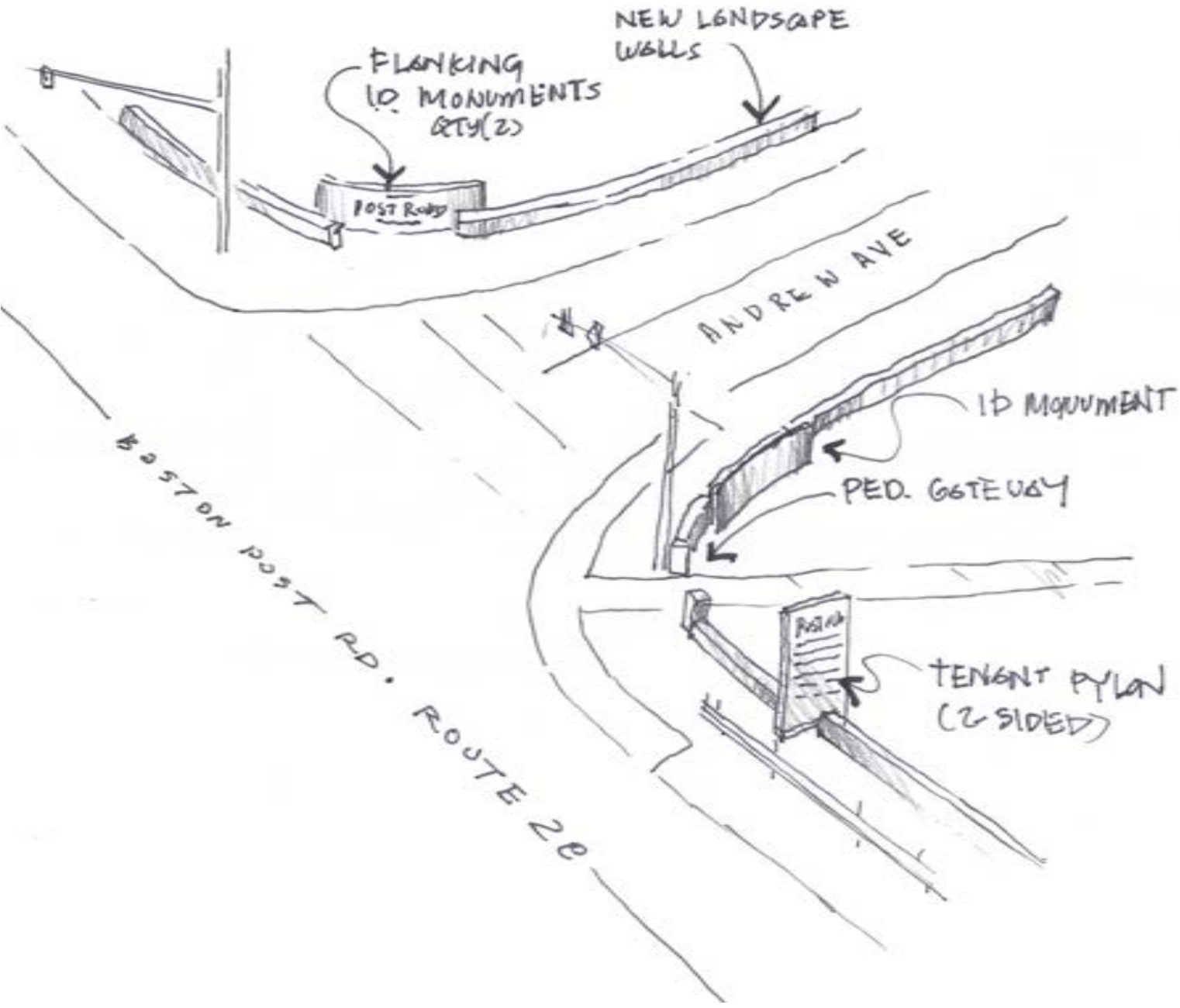
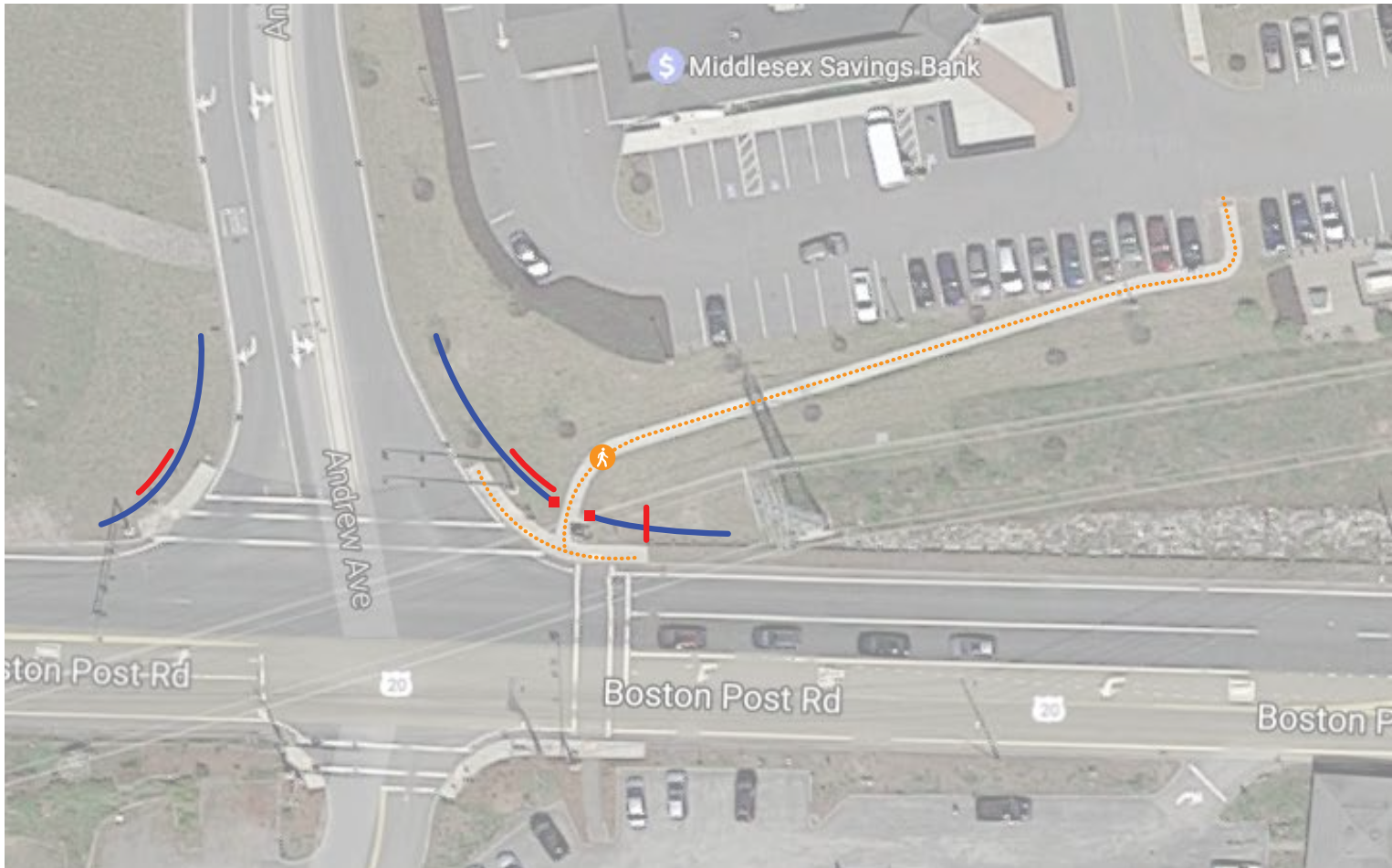


Average sign size related to speed of travel and reaction time

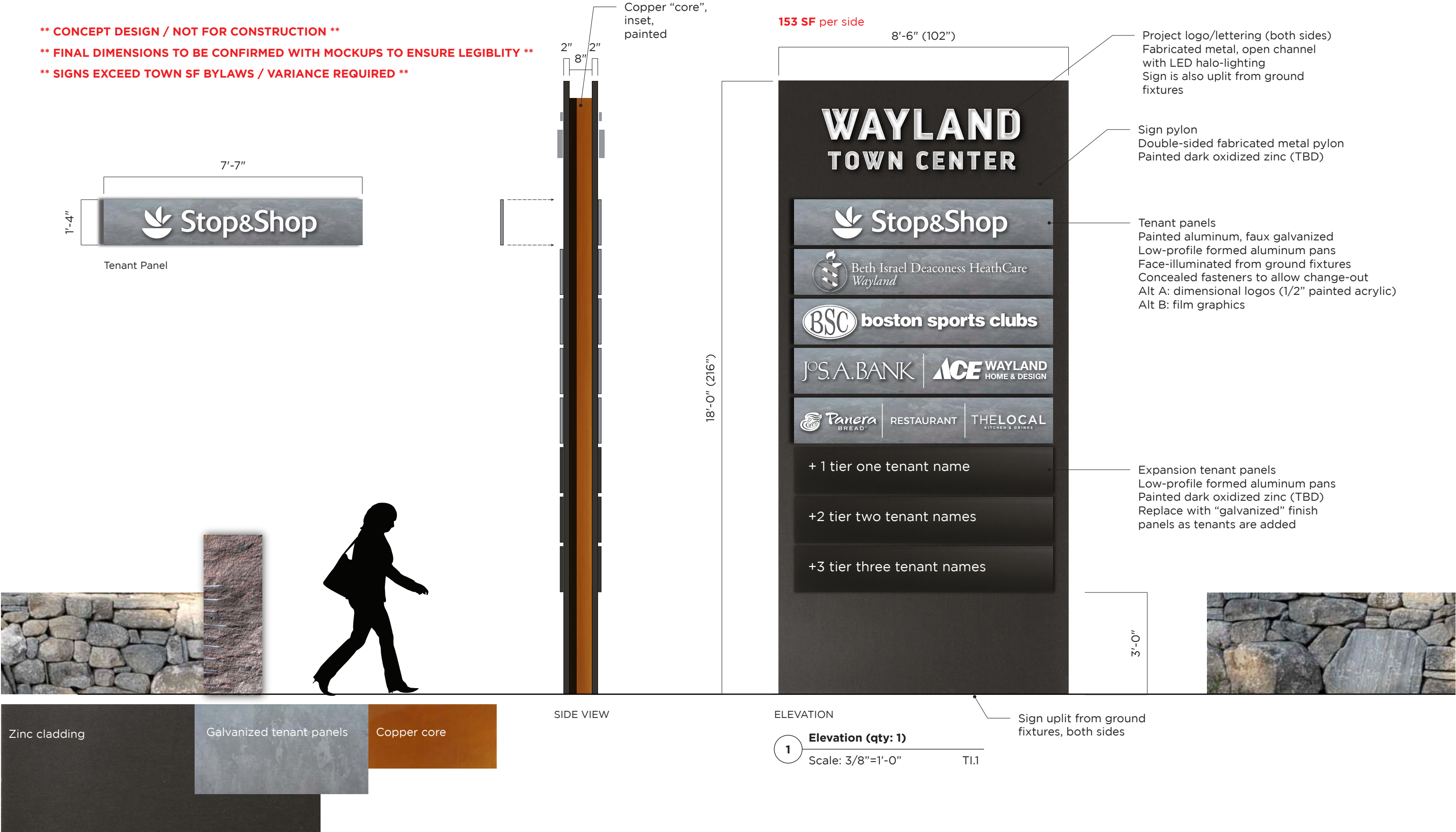
Illustration from *Street Graphics and the Law*, American Planning Association, 2004



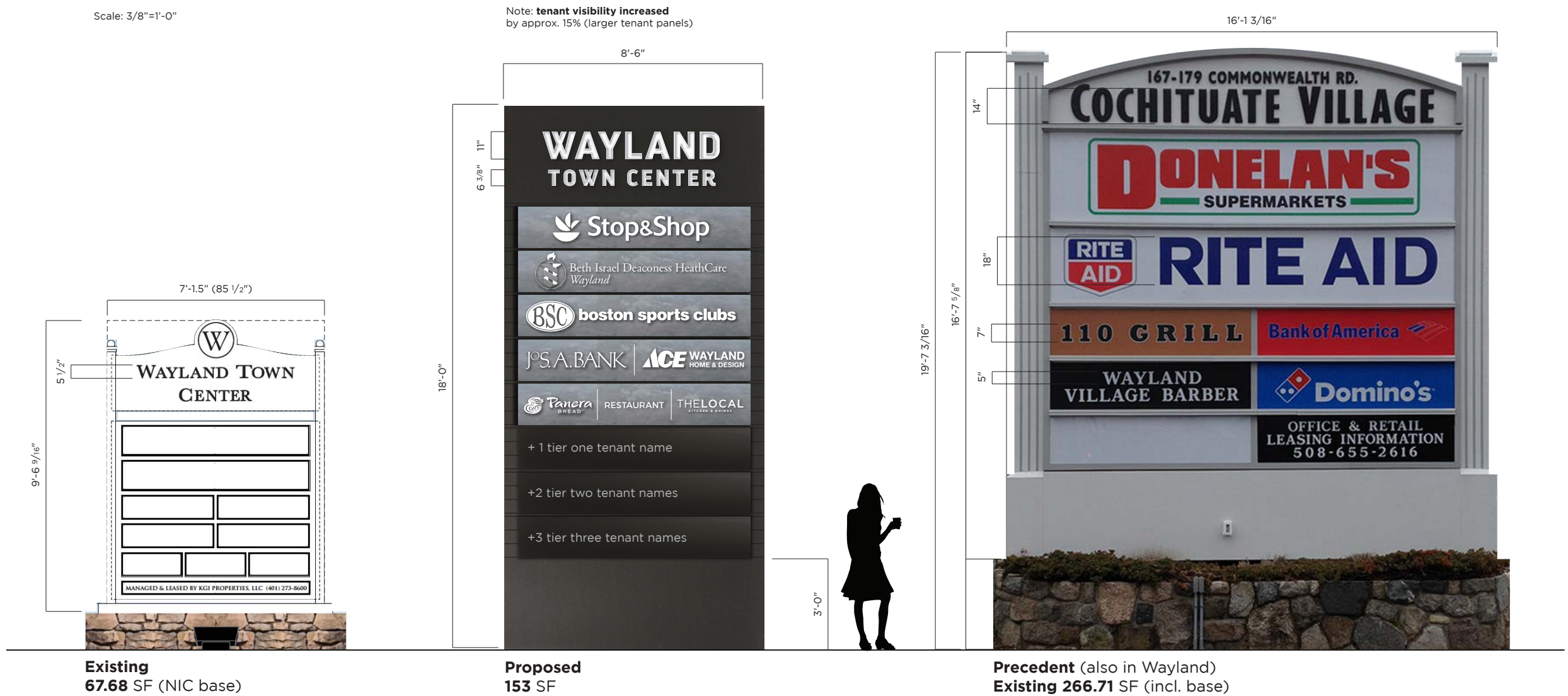
BOSTON POST ROAD ENTRY CONCEPT



** CONCEPT DESIGN / NOT FOR CONSTRUCTION **
 ** FINAL DIMENSIONS TO BE CONFIRMED WITH MOCKUPS TO ENSURE LEGIBILITY **
 ** SIGNS EXCEED TOWN SF BYLAWS / VARIANCE REQUIRED **

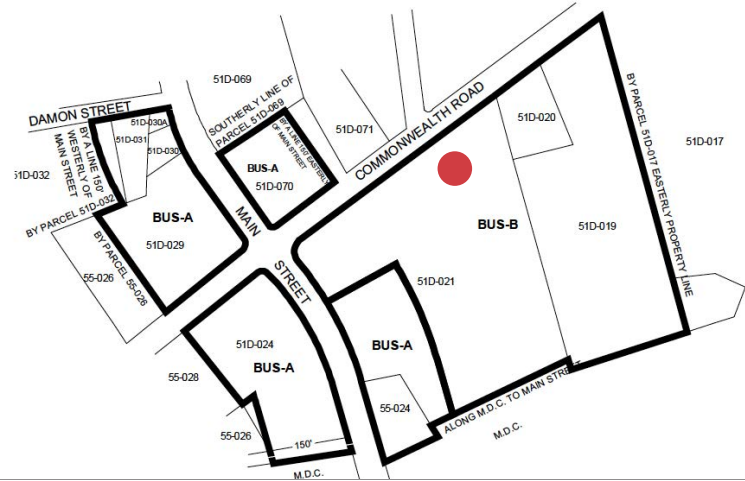


SCALE / SF COMPARISON



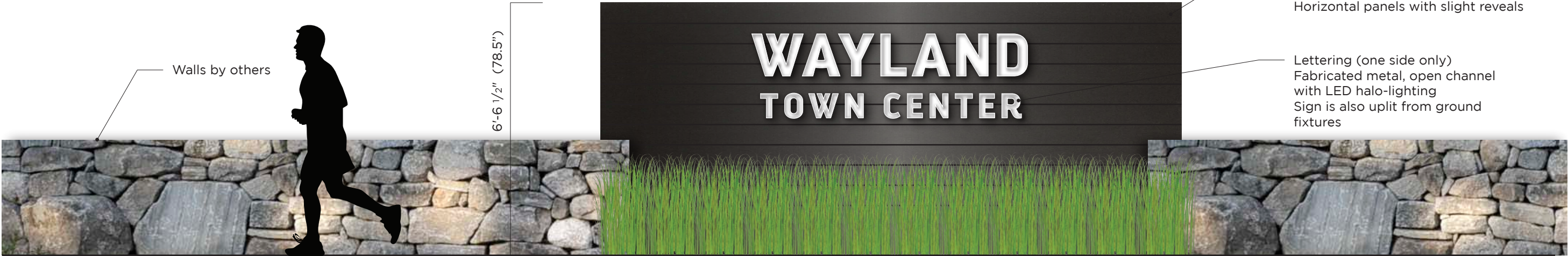
Cochituate Village Sign, Commonwealth Rd, Wayland, MA

5. BUSINESS DISTRICTS A & B
1934 MAP
ART. 29, MARCH 7, 1956
ART. 53 & 54, MARCH 18, 1957
ART. 38, MARCH 20, 1967



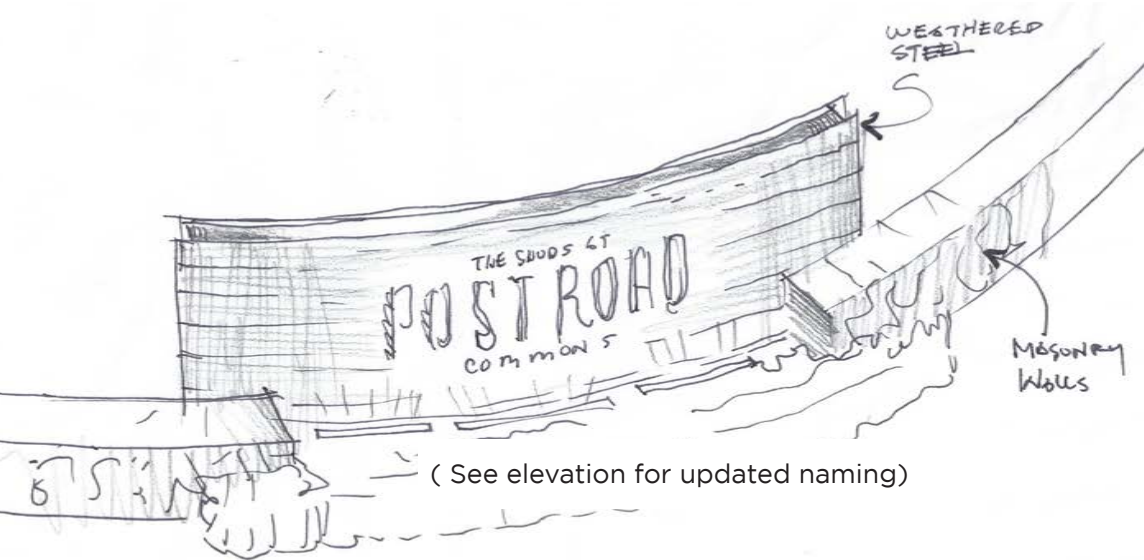
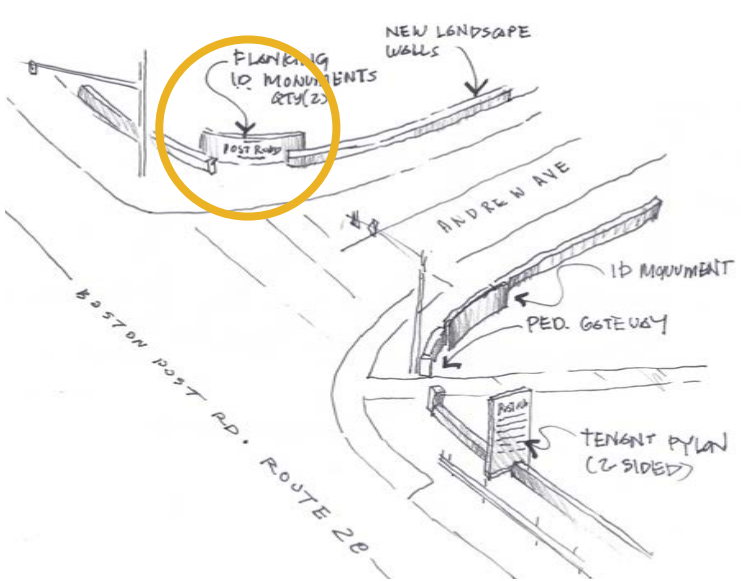
**** CONCEPTUAL ONLY / NOT FOR CONSTRUCTION ****
**** FINAL DIMENSIONS TO BE CONFIRMED WITH MOCKUPS TO ENSURE LEGIBILITY ****
**** SIGNS EXCEED TOWN SF BYLAWS / VARIANCE REQUIRED ****

07
06
05
04
03
02
01

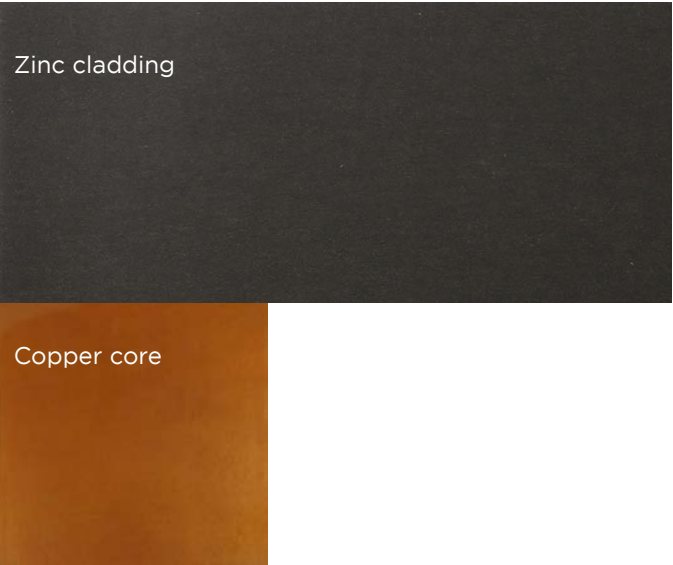


1 Elevation
Scale: 3/8"=1'-0" ID.1

ELEVATION
New Sign:
91.125 SF/14'-6"H
including supporting structures and light sources
Note: (2) signs proposed



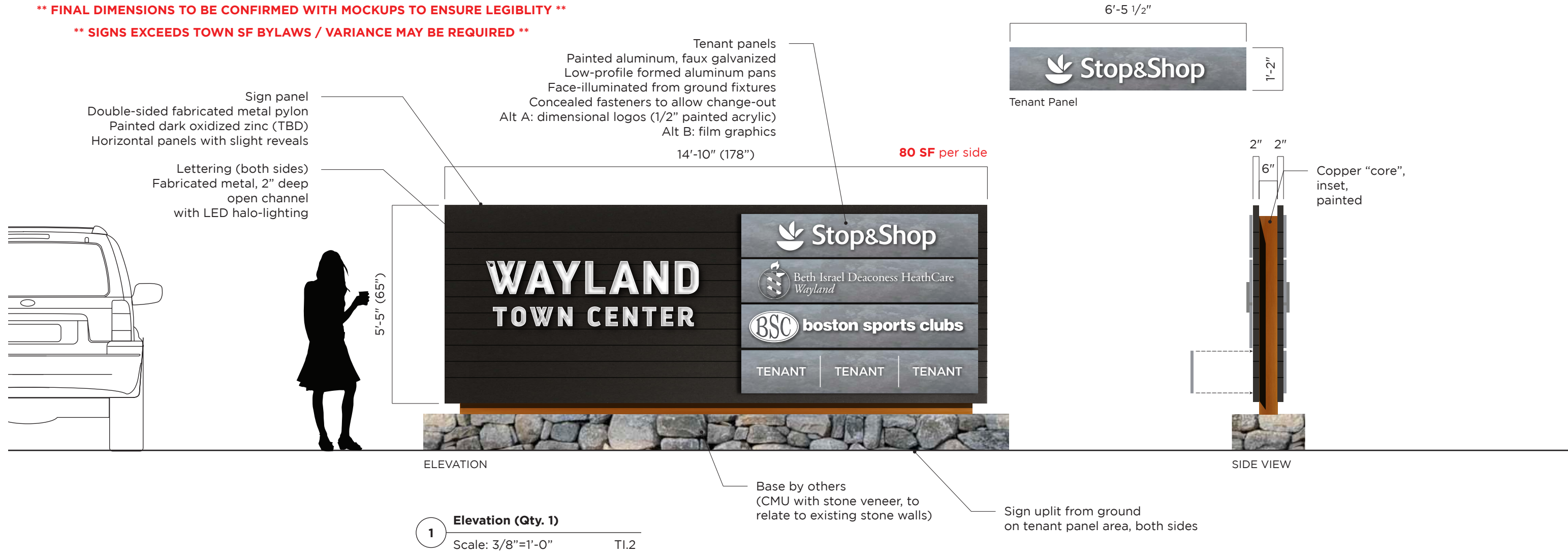
Similar letter style



**** CONCEPTUAL ONLY / NOT FOR CONSTRUCTION ****

**** FINAL DIMENSIONS TO BE CONFIRMED WITH MOCKUPS TO ENSURE LEGIBILITY ****

**** SIGNS EXCEEDS TOWN SF BYLAWS / VARIANCE MAY BE REQUIRED ****





Landscape and utility verification / coordination required





Landscape and utility verification / coordination required



Location A



Note: utilities are shown removed from foreground

Location A



Note: plantings in foreground removed, or changed to low ground cover



Location B: closer to road



Note: plantings in foreground removed, or changed to low ground cover



PART 1 GENERAL

1.01 Scope of Work

Bids must reflect the entire Scope of Work outlined in the enclosed drawings and are to be itemized as cost line items for the fabrication. installation of individual signs by sign type. Additionally, general conditions, submissions, bonds, taxes, and other miscellaneous costs should be itemized as separate cost line items in the bid response.

This sign program is made up of various materials, various finishes, and various fabrication and installation techniques. These materials include, but are not limited to

- Exterior fabricated stainless steel letters
- Exterior cut aluminum letters
- Exterior cut acrylic letters
- Fabricated aluminum dimensional sign cabinets
- Faux weathered finish on aluminum plate
- Stencil-cut aluminum plate
- Cast in place footings

Completion of the sign program requirements will also require the sign fabricator to complete the following:
Sign fabricator shall complete a site survey to verify existing site conditions and dimensions. This survey shall note all potential installation conflicts between sign installation locations and existing building conditions and systems.

Sign fabricator shall coordinate with Owner and Designer during all phases of development, fabrication, and installation.

Sign fabricator shall complete shop drawings, graphic layouts, samples, and prototypes for Owner and Designer approval.

Sign fabricator shall complete structural design and calculations when appropriate to substantiate design, this includes certified engineer's review and stamp if required by code, and notify the Owner and Designer in writing of any changes to the fabrication method set fourth in the bid documents.

Sign fabricator shall complete fabrication and installation of all signs, messages, and graphics are indicated in the bid documents and within message schedule.

Sign fabricator shall review and coordinate, furnish and install all blocking and support not provided by General Contractor required for the installation of all signs as needed

Sign fabricator shall install all fabricated signs, including all fasteners and fastenings and related electrical connections.

1.02 General Requirements

Sign fabricator shall furnish at own cost all labor, tools, materials, expendable equipment, and transportation services required to perform and complete the work in the best possible and most expeditions manner, and in accordance with the Sign Program bid documents.

Sign fabricator shall employ only competent foremen and experienced craftsmen and installers, and shall discharge immediately, whenever required to do so by Owner, any person considered by Owner as incompetent or disposed to be disorderly; and shall not employ said person again on the project.

Sign fabricator shall agree to pay all claims for labor performed and materials furnished in completing the contract.

Should sign fabricator find discrepancies in or omission from, the Sign Program bid documents, they should at once notify the Owner in writing, who in turn, will issue instructions in the form of a written bulletin. Neither Owner or Designer will be responsible for verbal instructions.

1.03 References and Codes

Sign fabricator shall comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.

- U.S. Department of Justice: 2010 ADA Standards (September 15, 2010)

- | | |
|-------|-----------------------------------------------------------------------|
| 2 | American Society for Testing and Materials (ASTM): |
| B 209 | Aluminum and Aluminum Alloy Sheet and Plate. |
| B 221 | Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes. |
| B 308 | Aluminum-Alloy 6061 T6 Standard Structural Shapes Rolled or Extruded. |
| B 429 | Aluminum-Alloy Extruded Structural Pipe and Tubing. |
| D 256 | Impact Resistance of Plastics and Electrical Insulating Materials |
| D 638 | Tensile Properties of Plastics |
| D 648 | Deflection Temperature of Plastics Under Flexural Load |

Sign fabricator is responsible for complying with all federal, state, and city/town building codes.

Sign Fabricator is responsible for complying with the Americans with Disabilities Act (ADA) legislation and guidelines have been published in the Department of Justice Federal Register, July 26, 1991, 28 CFR Part 36, Title III: Public Accommodations and Commercial Facilities. Sign Fabricator is responsible for complying with all regulations subsequently issued.

Any and all proposed fabrication/installation that does not comply with ADA (including but not limited to construction, mounting, finish, contrast, and character height) shall be brought to the attention of the Owner and Designer in writing for review and resolution prior to fabrication.

1.04 Sign Fabricator Qualifications

Sign fabricator shall have completed seven (7) projects which are similar in nature to the project described herein and provide the following for each:

- Name of project and its geographic location.
- Start date and completion date of project/work.
- Owner's name, address, telephone, and contact person.
- Brief, but thorough, description of the work including all trades involved; name(s) of responsible supervisory fabrication and installation personnel.
- Photographs of project examples listed above which represent the work of the firm.

Sign fabricator must have previous experience, and provide evidence of successfully completing the fabrication and installation of three (3) similar sign programs within the preceding two (2) years. At least four of the seven projects listed above must be of similar scope and complexity to the project described herein.

Sign fabricator shall provide five (5) references from the experience list above and provide the following for each reference:

- Contact Name
- Address,
- Telephone Number,
- Name of project and its geographic location

It is imperative that accurate contact names and phone numbers be given for the projects listed. All references should include a contact person who can comment on the firm's ability to successfully complete a project of this type. The Owner reserves the right to contact references for any projects provided as noted above, or through any other source available. Such references will be held in strict confidence.

Sign fabricator shall provide a certificate of insurance verifying the amount of your firm's coverage for comprehensive general liability, worker's compensation, employer's liability, and professional liability.

Sign fabricator shall identify any subcontractor, and a complete description of their role relative to this contract to submit with bid. It is highly desirable that all sub-contractors named will have prior experience working as a team. All sub-contractors must have a good working relationship with the prime contractor. If no sub-contractors are noted, it is understood that all work will be performed by the proposer's staff. The Owner reserves the right to accept or reject any sub-contractor.

Minor irregularities in the bid which are immaterial or inconsequential in nature may be waived whenever it is determined by the Owner to be in their best interest. If company literature or other publications are included, they should include reference to the document name and page. Submittals containing no such citations will be considered complete and without need to refer to other documents.

1.05 Shop Drawings and Graphics

The drawings in this package are for design intent only. The Sign Fabricator is responsible for the proper engineering of all items. The internal structure, dimensions, and specifications for all items shall be indicated in the shop drawings.

A.	Graphics	
	1.	Graphic content and style: Sign fabricator shall produce sign copy to comply with the requirement indicated for sizes, style, spacing, content, positions, materials, finishes, and dolors of letters, numbers, symbols, and other graphic devices.
	2.	Typography: All graphics and typography shall be photographically and/or mechanically reproduced. Hand drawn images will not be accepted. International symbols that are used are to be from the U.S. Department of Transportation Current Standards Publication. Cutting of all letterforms shall be executed in such manner that all edges and corners of leterforms are clean and true. Letterforms with rounded positive or negative, or ragged edges will not be accepted Kerning/Tracking of all typography is to match the examples in the bid documents which were prepared in Adobe Illustrator CS2, and following kerning/tracking specifications as shown
B.	Shop Drawings	
Description: Provide shop drawings for all items including:		
	1.	Complete fabrication and installation drawings for each sign type, indicate dimensions, materials, finishes, fastening, anchorage, joining, sealing, backing, utility requirements, rough-in, paving, foundation, expansion joints and adjacent related site conditions.
	2.	Production of a half size minimum graphic submittal for each sign in sign schedule with all graphic elements.
	3.	Full size representative plotted templates for designated lettering, for each style, size, color, and finish designated on the Drawings. Include character and word spacing. Template with outlined letters are not acceptable.
	4.	Plotted template or camera-ready artwork for making symbols specified; including arrows, etc.
	5.	Accurately reproduced letter styles.
	6.	Provide two (2) complete sets to Designer for review.
	7.	Provide one (1) complete set to Owner for review.

1.06 Submittal Requirements

Sign fabricator shall make submittals at least ten (10) days before date that approved submittals are required.

Accompany submittals with transmittal letter in duplicate, containing:

1.

Date

2.

Project title and number.

3.

Sign Fabricator’s name and address.

4.

Description of data contained in submittals.

5.

Listing of any letters containing description of deviations from Bid documents.

6.

Other pertinent data.

Submittals shall include:

1.

Date and revision dates.

2.

Project title and name.

3.

The names of: Owner, Designer, Sign Fabricator, sub-contractor, supplier, manufacturer, and separate detailer when pertinent.

4.

Identification of product or materials.

5.

Relationship of product to adjacent structure or materials.

6.

Clearly identified field dimensions, when known.

7.

A blank space, 4” x 4”, for the Designer’s (or consultant’s) stamp.

8.

Identification and description of deviations from Bid documents.

9.

Written request for selection of colors, patterns, and textures for materials contained in submittals.
Note: Provide each and every item of finish, including color, pattern, and texture as selected or approved by Designer.

10.

Sign Fabricator’s stamp, initialed or signed, indicating review of submittal, compliance with Bid documents, and verification of field measurements when applicable.

Samples: Sign fabricator shall submit physical samples of sufficient size and quantity to illustrate materials, finishes, equipment or workmanship, and to establish standards by which completed work will be judged. Samples must represent

the functional characteristics of the product or material, with integrally related parts and attachment devices, colors, and finishes.	
Prototypes: Sign fabricator shall produce prototypes as specified in this section. Prototypes shall become the property of architect and are not to be part of completed signs unless previously agreed upon. Prototypes of production-run items, both large and small, will be reviewed by the Owner and Designer before production run is commenced.	
Mockups and Prototypes required are as follows:	
Sign Type ID.1:	
1.	Provide full size mock-up to be reviewed in field by owner for scale; on painted plywood, Gatorfoam™ or other suitable low-cost rigid panel. Intent is to mock-up entire sign face panel
Sign Type TI.1:	
1.	Provide full size mock-up to be reviewed in field by owner for scale; on painted plywood, Gatorfoam™ or other suitable low-cost rigid panel. Area to mocked up will encompass the header / logo section, and (3) tenant panels showing samples of Tier 1, 2, 3 sized tenant logos.
2.	Provide (1) production prototype letter “ W ” as specified, 10” high, with internal halo lighting, for owner review.
3.	Provide (1) production prototype tenant panel as specified, with intended hardware, for owner review.
Sign Type TI.2:	
1.	Provide full size mock-up to be reviewed in field by owner for scale; on painted plywood, Gatorfoam™ or other suitable low-cost rigid panel. Intent is to mock-up entire sign face panel
Product Data: Submit manufacturer’s product data of work of this Section. Provide complete product description and specifications, catalog cuts, and other descriptive data including concrete admixtures, concrete sealer, curing material.	
Sign Schedule: Provide complete sign and graphic schedule, showing key plans and locations of each type of sign.	
Field Measurements: Take all necessary field measurements before preparation of shop drawings and fabrication. Do not delay progress of the job. If field measurements are not possible prior to fabrication, allow for field cutting and fitting.	
Verification Samples: Submit representative samples of the following materials for approval prior to construction. Show full color ranges and finish variations expected. Provide samples having minimum size of 12 sq. in.	
Samples required are as follows	
1.	Representative silk-screen sample for each color and finish designated on the Drawings.
2.	Paint color and finish sample on 1/8” aluminum, for each color and finish required.
3.	Provide two (2) complete sets to Designer for review.
4.	Provide one (1) complete set to Owner for review.

1.07 Resubmittal Requirements

A maximum of two (2) rounds of submissions (shop drawings, graphic layouts, and prototypes) will be allowed. Review of additional submissions will be tracked and invoiced on a time-card basis to sign fabricator based on the designers current hourly rates at no additional cost to Owner.

Shop Drawings

1.

Review drawings and indicate revisions date as required, and resubmit as specified for initial submittal.

2.

Indicate on drawings all changes that are different than those requested by the Designer.

Prototypes: Submit new prototypes in accord with same criteria as required for first submittals.

Product data and samples: Submit new data and samples in accord with some criteria as required for first submittals.

1.08 Distribution of Submittals After Review

- Distribute copies of shop drawings and product data which carry Designer’s approval stamp to:
1. Sign Fabricator’s file, job site file, and product record documents file.
 2. Sub-contractors, suppliers, and sign fabricators as appropriate.
 3. Other prime contractors.

Distribute samples as directed by Owner or Designer

1.09 Sign Fabricator’s Responsibilities

Sign fabricator is responsible for providing any necessary computer program conversion, font, computer program, or equipment purchases; or other provisions in order to coordinate exactly with the Designer’s computer-generated drawings and other submissions. Designer will not provide digital templates, or font software at anytime.

Sign fabricator shall review shop drawings, product data, and samples prior to submittal to Owner and Designer.

Sign fabricator shall verify any field measurements, field construction criteria, catalog numbers, and similar data.

Sign fabricator shall coordinate each submittal with work of the project and with the Owner’s Bid documents.

Sign fabricator shall be responsible for errors and omissions in submittals or in deviations from the requirements of the bid documents and is not relieved by the Owner’s and Designer’s review of submittals.

Sign fabricator shall notify Owner and Designer in writing of any deviations from requirements of the Bid documents at the time of submittals.

A “Deviation” shall be construed to mean any change to the sequence indicated on Drawings or specifications.

A “deviation” is not intended to allow substitutions or product options.

In addition to notifying Owner and Designer in writing of deviations, said deviations shall be clearly represented in shop drawings.

Do not begin work that requires submittals until submittals have been returned with Designer’s (or consultant’s) stamp and initials indicating review and approval.

After Owner and Designer review, distribute copies of approved drawings, data, and submittals.

1.10 Owner’s Responsibilities

To review submittals with reasonable promptness on basis of design concept of project and information contained in Bid documents.

The scope of the Owner’s review is to check for general conformance with the design concept of the project and general compliance with bid documents only. No responsibility is assumed by Owner for accuracy of dimensions, details, quantities, or procedures shown on shop drawings or submittals.

Omission in shop drawings of items, materials, or processes indicated in Contract Drawings or Specifications, or otherwise required for proper execution and completion of work, does not relieve the sign fabricator from responsibility for providing such items, materials, or processes. Sign fabricator is responsible for accuracy, dimensions, quantities, strength of connection, coordination with various trades, and conformance to project requirements and all applicable codes.

Approval of a separate or specified item does not necessarily constitute approval of an assembly in which item functions.

- To affix stamp and initials or signature acknowledging review of submittal as follows:
1. Approved.
 2. Approved with notations, resubmittal not required.
 3. Not approved. Resubmittal required.

Return of submittals to Designer for distribution.

Preparation of Punch List with designer at completion of job.

1.11 Designer’s Responsibilities

To review submittals with reasonable promptness as they relate to design concept of project and information contained in Bid documents.

The scope of the Designer’s review is to check for general conformance with the design concept of the project and general compliance with Bid documents only. No responsibility is assumed by Designer for accuracy of dimensions, details, quantities, or procedures shown on shop drawings or submittals.

Omission in shop drawings of items, materials, or processes indicated in Contract Drawings or Specifications, or otherwise required for proper execution and completion of work, does not relieve the Sign fabricator from responsibility for providing such items, materials, or processes. Sign fabricator is responsible for accuracy, dimensions, quantities, strength of connection, coordination with various trades, and conformance to project requirements and all applicable codes.

Approval of a separate or specified item does not necessarily constitute approval of an assembly in which item functions.

- To affix stamp and initials or signature acknowledging review of submittal as follows:
1. Approved.
 2. Approved with notations, resubmittal not required.
 3. Not approved. Resubmittal required.

To provide any project symbol or custom artwork to sign fabricator in Adobe Illustrator CS, Windows Version on a CD media disk, or via E-mail.

Return submittals to sign fabricator with all comments.

Preparation of Punch List with owner at completion of job.

1.12 Maintenance Manuals

- Provide three (3) up-to-date copies of all shop drawings, product data, and other information described in this Section.
1. Make required submittals not later than six (6) weeks prior to scheduled completion of project.
 2. Submittals shall be made by permanent reproduction copy equipment from typewritten or typeset originals.
 3. Pre-punch 8 x 11” sheets for standard three ring binders.
 4. Submit larger sheets in rolled and protected packages.

- Submittal format: Provide each of the following items, as applicable, for each required item.
1. Manufacturer’s data: provide catalog data sheets, specifications, name plate data, and parts list.
 2. Extra parts: Provide a listing of extra stock or parts furnished as part of the Contract.
 3. Warranties: Provide specific manufacturer’s warranty. List each component covered with day and date warranty begins, date of expiration, and name, address, and telephone number of person to contact regarding problems during warranty period.
 4. Provide Owner with clear printed instructions recommending cleaning materials and methods to be used.

Provide names, addresses, and telephone number of sign fabricator, its subcontractors, suppliers, installers, and authorized service and part suppliers. Format as follows:

Sign Fabricator:

Address:
Telephone Number:
Fax Number:
Person to Contact:

Sub-Contractor:

Address:
Telephone Number:
Fax Number:
Person to Contact:

Installer:

Address:

	Telephone Number: Fax Number: Person to Contact:
	Local Representative: Address: Telephone Number: Fax Number: Person to Contact:
1.13	<div>Warranty</div> <div>Sign fabricator shall warrant all work against failure because of faulty materials, workmanship, assembly and installation, for a period of five (5) years from date of substantial completion.</div> <div>Fading, cracking, warping, peeling, delaminating, rusting, corroding, and structural failure, including distortion by whatever cause, shall be construed to mean failure because of faulty materials and workmanship.</div> <div>Failures during the warranty period shall be repaired or replaced to the satisfaction of the Owner and Designer.</div>
1.14	<div>Maintenance Materials</div> <div>Touch-up paint: Provide Owner with one quart can of touch-up paint of each type and color used in the work.</div>
1.15	<div>Quality Assurance</div> <div>Source: For each material type required for the work of this Section, provide primary materials which are the product of one manufacturer. Provide secondary or accessory materials which are acceptable to the manufacturers of primary materials.</div> <div>Installer: A firm with a minimum of three years experience in type of work required by this Section and which is acceptable to manufacturers of primary materials.</div> <div>1. If installer is different company than sign manufacturer, notify Architect in advance providing installer's name, address, telephone number, and name of contact person.</div> <div>All work and material shall be in accordance with all applicable codes and standards and shall be acceptable to all authorities having jurisdiction. Work shall meet or exceed the requirements of the Connecticut State Building Code.</div> <div>Unless otherwise specified, work and materials for construction of the exposed aggregate concrete paving shall conform to ACI 316 and PCA Ref. 1.</div>
1.16	<div>Delivery, Storage and Handling</div> <div>Discuss options of secure storage on site with Owner if desired, if fabricator feels secure and safe storage can not be guaranteed storage must be off site at fabricators choice of location. Under no circumstances shall the Owner or Designer be responsible for the security or safety of stored product or materials.</div> <div>Deliver materials and products unopened. Store and handle in strict compliance with manufacturer's instructions and recommendations. Store under cover and protect from weather damage.</div> <div>Sequence deliveries to avoid delays, but minimize on-site storage. Coordinate work and storage requirements with the Building Contractor, subject to approval by the Owner and Architect.</div>

PART 2 MATERIALS

2.01	<div>Aluminum</div> <div>General: Provide manufacturer's standard extrusions, sections, sheet, and plate, of alloy and temper recommended by aluminum manufacturer or finisher for type, use, and finish indicated, but not less than strength and durability properties specified below:</div> <div>1. Structural Aluminum Shapes: ASTM B 308, 6061 alloy.</div> <div>2. Extruded Aluminum Bars, Rods, Shapes, and Tubes: ASTM B 221, 6063 alloy.</div> <div>3. Aluminum Sheet and Plate: ASTM B 209, alloy 1100, 3003, or 5052.</div>
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2.02	<div>Acrylic</div> <div>Acrylic: Made with methylmethacrylate polymers, as manufactured by Cyro Industries or approved equal.</div> <div>Provide solid sheet, laminated sheet, or cast acrylic in size, thickness, clarity, opacity, texture, and color required for work.</div>
2.03	<div>Vinyl</div> <div>Applied Vinyl Graphics: Pressure sensitive vinyl graphics shall be Scotchcal, 0.003 - 0.004 mil applied pressure sensitive vinyl, manufactured by 3M, or approved equal.</div>
2.04	<div>Photopolymer</div> <div>Photopolymer: Shall be Nova Polymers or approved equal</div> <div>Process to factory specifications to approved methods, equipment, and fabrication techniques. Use only computer generated, professional grade film.</div> <div>Minimum height for tactile letters to be 1/32"</div>
2.05	<div>Screen Printing</div> <div>Acceptable Ink manufacturers:</div> <div>1. Nazdar, Chicago, IL.</div> <div>2. System 2, KC Coatings, Atlanta, GA.</div>
2.06	<div>Fasteners and Mounting</div> <div>Fasteners: Unless otherwise indicated, use concealed fasteners in all work of this Section. Fabricate fasteners from metals that are non-corrosive (aluminum or non-magnetic stainless steel) to sign surface materials and mounting substrates.</div> <div>1. Exposed fasteners shall be counter sunk flat head, vandal-resistant, and painted to match surface the head appears.</div> <div>2. Spacers and washers shall be neoprene or EPDM.</div> <div>3. Provide break-away bolts where indicated.</div> <div>Anchors and Inserts: Provide non-ferrous metal or hot-dip galvanized anchors and inserts for exterior installations. Provide toothed steel or lead expansion bolt devices for drilled-in place anchors. Furnish inserts to other trades when required to be cast into concrete.</div> <div>Permanent Bond Adhesive: Provide structural adhesive suitable for bonding a variety of dissimilar industrial surfaces over a wide temperature range, similar to "PR-943", manufactured by Products Research and Chemical Corporation, Gloucester City, NJ 08030, or approved equal.</div> <div>Vinyl Tape Mounting: Use double-sided foam tape, of the thickness indicated, to mount signs to smooth, nonporous surfaces. Do not use this method for vinyl-covered or rough surfaces.</div> <div>Silicone Adhesive Mounting: Use liquid silicone adhesive as recommended by sign fabricator to attach signs to irregular, porous or vinyl covered surfaces. Use double sided vinyl tape where recommended by sign fabricator to hold sign in place until adhesive cures.</div> <div>Concealed Mounting: Mount signs by inserting threaded studs into tapped holes on the back of the sign. Set in predrilled holes filled with quick-setting epoxy as recommended by sign fabricator.</div> <div>Sign contractor to be responsible for fastener compatibility with all project substrates, and that no oxidation or reactive process occur between any project related materials.</div> <div>Sign contractor to provide color matched vinyl backer, on first surface of glass, when mounting sign panels to front surface of glass.</div> <div>Sign contractor responsible to make any perforations to the envelope of the building watertight.</div>
2.08	<div>Painting and Finishing</div>

The term “paint” refers to those materials that require a finished surface as recommended by the approved materials manufacturer. “Paint” includes preparation, priming/sealing, and intermediate and finish coats as applicable.

Sample finishes: Refer to Previous Section.

Paint:

1.

Provide an alphatic polyurethane enamel with ultraviolet inhibitors, and lightfast, weather, abrasion and wear resistant additives supplied by:
A. M.A.P. Acrylic Polyurethane, Matthews Paint Co., Kenosha WI. (800-323-6593). or approved equal
2.

Compile and maintain a listing of all colors with the factory batch number and formulation code for all paints and coatings. At the date of substantial completion, submit the list to the Owner for future maintenance reference.

Application and Finish: Coatings shall be applied by an applicator having facilities, equipment, and experience required to apply the finish to the manufacturer’s specifications. All substrates shall be cleansed of any foreign substance such as oil, grease, dirt, dust, etc.

Typical finish shall consist of:

1.

An acid-wash prime coat applied per manufacturer’s specifications when using raw metal as a substrate.
2.

Primer/filler seal coat, properly applied to all substrates per manufacturer’s specifications including dry film thickness.
3.

Primer/filler coat sanded smooth before topcoating and coated with a minimum of two applications of acrylic polyurethanes in colors indicated on the design drawings. Top coating shall be applied per manufacturer’s recommendations to a minimum total dry film thickness of 2.0 mil.

Coating Performance Criteria: (In addition to above)

1.

Dry film thickness: Within minus 5% to plus 25% of the specified thickness.
2.

Abrasion resistance: ASTM D968 coefficient of abrasion 65 minimum.
3.

Pencil hardness: 2H minimum.
4.

Salt spray: ASTM B-117 withstanding 3500 hours, 100% salt fog at 95 degrees F and retaining adhesion, corrosion resistance, color, and gloss with no more than minimal blisters no larger than No. 8 (ASTM D-714), and no more than 1/16” creep or loss of adhesion from scribed line.
5.

Humidity test: ASTM D-2247 withstanding 3500 hours 100% relative humidity at 95 to 100 degrees F and retaining adhesion, corrosion resistance, color, and gloss with no more than minimal blisters no larger than No. 8 (ASTM D-714), and no more than 1/16” creep or loss of adhesion from scribed line.
6.

Gloss: ASTM D523, +/-5%, using a 60 degree glossmeter, of the gloss level selected by the Designer.
7.

Adhesion: No removal of any finish after 1/16” crosshatching to base metal, impacting to the point of metal rupture, and subjected to application and quick removal of cellophane tape.

2.10 Chemically Etched Zinc

Reproduce type and graphics in zinc panel, using etching technique, both light and deep etch as produced by Dixie Graphics or equal.

2.10 Workmanship

It is intended that the workmanship be of the highest quality obtainable by the respective trades and crafts experienced in the fabrication of signs, and that all work be done by journeymen, or by tradesmen under the direct supervision of journeymen.

1.

“Journeymen” shall be interpreted to mean those craftspeople having the qualifications and experience to meet the requirements described in the Job Classification and Description for the Electric Sign Industry, as developed by the NESA/Tri-Trades Committee.

2.11 Fabrication

General: Fabricate work of this Section in conformance with requirements indicated for materials, thicknesses, finishes, colors,

designs, shapes, and sizes.

Directional and Regulatory Signs: Fabricate signs using metals and shapes of sufficient thickness, with reinforcing when necessary, to produce sufficient flatness, free of “oil canning”, and to impart sufficient strength for size, design, and application indicated.

Fabricate posts, brackets, and fittings from extruded aluminum to suit sign panel construction and mounting conditions indicated; all seams welded and ground smooth prior to painting.

Colors: Where applied graphics require color selection, provide colors as indicated and as approved by Architect.

All Signs: Fabricate flat and curved signs using metals, plastics and shapes of sufficient thickness, with reinforcing when necessary, to produce sufficient flatness, free of “oil canning”, and to impart sufficient strength for size, design, and application indicated. All returns to be square 90 degree eased corners unless otherwise noted id bid documents.

Fabricate all panel surfaces so that no seams unless specified are visible after painting of panel surface.

Graphic Content and Style: Provide graphics in letter style, copy, size, spacing, and arrangement indicated.

Where applied vinyl copy is indicated, provide die-cut copy characters from vinyl film with pressure sensitive adhesive backing. Apply copy to exposed face of sign panel.

Welded Connections: Comply with AWS for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of the exposed side. Clean exposed welded surfaces of welding flux and dress on all exposed and contact surfaces.

Mill joints to a tight, hairline fit. Form joints exposed to the weather to exclude water penetration.

It is intended that all finished work be of the highest quality to pass eye-level examination and scrutiny by the Owner and Designer.

Construct all work to eliminate burrs, dents, cutting edges, and sharp corners.

Finish welds on exposed surfaces to be imperceptible in the finished work.

Finish all surfaces smooth except as indicated or directed otherwise.

Surfaces which are intended to be flat shall be without dents, bulges, oil canning, gaps, or other physical deformities.

Surfaces which are intended to be curved shall be smoothly free-flowing to required shapes.

All exterior hardware and fasteners shall be non-corrosive, non-rusting stainless steel or galvanized steel as noted on Fabricator’s Shop Drawings.

Conceal all fasteners except as indicated or directed otherwise.

Make access panels tight-fitting, lightproof, and flush to adjacent surfaces.

Conceal all identification labels and U.L. labels to conform to U.L. Codes.

Carefully follow manufacturer’s recommended fabricating procedures regarding expansion/contraction, fastening, and restraining of all materials.

Exercise care to assure that painted, polished, and plated surfaces are unblemished in the finished work.

Isolate dissimilar materials. Exercise particular care to isolate nonferrous metals from ferrous metals.

PART 3 EXECUTION

3.01 General

Locate sign units and accessories where shown and scheduled. Use mounting methods indicated.

Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installation of work of this Section.

Erect work square, plumb and true, accurately fitted, and with tight joints and intersections. All anchors, inserts and other members to be set in concrete shall be furnished loose by this trade to be built-into concrete by that trade. Avoid field cutting or drilling to greatest extent possible.

Fit exposed connections accurately together to form hairline joints, except where invisible joints are indicated. Shop weld connections, except when work cannot be shop welded due to shipping size or galvanizing limitations.

Fastening to In-Place Construction: Provide anchorage devices and fasteners necessary for securing work of this Section to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through bolts, lag bolts, wood screws, and other connectors required.

Field Welding: Comply with AWS Code for procedures of manual welding, appearance and quality of welds, and correction methods for defective welds.

Where members other than expansion bolts or inserts are fastened into concrete, set such members in proprietary-type expanding grout manufactured specifically for such purpose. Use grouts strictly in accordance with manufacturer's directions. Form to receive members with galvanized metal sleeves, or other approved method to provide at least 1/2 in. clearance around entire perimeter. At exposed applications, hold expanding grout back 1/2 in. from finish surface and fill voids with Portland cement grout to match color and texture of surrounding concrete surface.

Electrolytic Isolation: Where dissimilar metals are to come into contact with one another, or in contact with concrete, isolate by application of a heavy coating of bituminous paint on contact surfaces in addition to shop coat specified above. Do not permit the bituminous paint in any way to remain on surfaces to be exposed or to receive sealant.

3.02 Inspection

The Installer shall examine substrates, supports, and conditions detrimental to the proper completion of work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning of installation will be construed as installer accepting substrates and conditions.

3.03 Transportation of Work

Transport, deliver, handle, and store materials and equipment at the job site in such a manner as to prevent damage to both the site and the signs, including damage to finishes and damage which might result from intrusions of foreign matter or moisture from any source.

Packaging:

1.

Maintain packaged materials in manufacturer's original container with seals unbroken and labels intact until they are incorporated into the Work.
2.

Packaged material shall bear the name of the manufacturer and the product, including brand name, color, stock number, and all other complete identifying information.
3.

Packages showing indications of damage that may affect conditions of content are not acceptable.
4.

Promptly remove all damaged or otherwise unsuitable materials and equipment from the job site.

Storing:

1.

Store all materials and equipment in accord with manufacturer's instructions. Store above grade and properly protected from weather and construction activities.

Protection:

1.

Protect all finished building surfaces, including jambs and soffits of all openings used as passage-ways through which materials and equipment are handled.
2.

Provide protection for all finished flooring surfaces in traffic areas before allowing materials and equipment to be moved over those finished surfaces.
3.

Maintain all finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

3.04 Sign Installation

General Installation Requirements: Strictly comply with manufacturer's instructions and recommendations, except where more restrictive requirements are specified in this section.

Exterior signs shall be installed in various stages in response to the overall Project construction schedule. Install signage in strict accordance with approved phasing plan.

Installation: Install units plumb, level, in alignment and plane without warp or rack. Anchor securely in place.

Verify the exact location with the Owner and Designer for all signs which are not precisely dimensioned on the Drawings.

Sign installation work shall be under the direct supervision of a journeyman sign erector.

Securely anchor work in proper location using anchors, fasteners, or other methods approved on shop and erection drawings. All anchors/fasteners shall be appropriate for the anchorage condition.

The Sign Fabricator shall be held directly responsible for the correct installation of all work performed under this Contract. He/she must make good repair, without expense to the Owner, of any part of the work which may become inoperative on account of leaving the work unprotected or unsupervised during the construction of the system or which may break or give out in any manner by reason of poor workmanship, defective materials, or lack of space to allow for expansion/contraction of the work during a period on one (1) year from date of final acceptance of the work by the Owner.

3.05 Tolerances

The following allowable installed tolerances are allowable variations from locations and dimensions indicated by the Bid documents. Do not add these tolerances to any allowable tolerances indicated for other work.

1.

Allowable Variation from True Plumb: + 1/8 in. in 20 ft. - 0 in.
2.

Allowable Variation from True Line: + 1/8 in. in 20 ft. - 0 in.
3.

Allowable Variation from True Level: + 1/16 in. in 20 ft. - 0 in.

3.06 Adjusting, Cleaning, Touch-up, and Protection

Clean exposed surfaces using manufacturer's printed instructions recommending materials and methods to be used. Remove and replace work which cannot be successfully cleaned.

Touch-up damaged coatings and finishes. Eliminate visible evidence of repair.

Provide temporary protection during the course of work, and immediately after completion to ensure work is not damaged or deteriorated in any way at time of final acceptance. Remove temporary protections and reclean as necessary immediately prior to final acceptance.

Clean-up work area after installation has been completed.

3.08 Punch List

When sign fabricator considers the work has reached final completion (that is, when less than one percent of the Contract remains to be completed), submit written notice, together with a written list of items to be completed or corrected.

The owner and designer will inspect the status of completion and prepare a "Punch List" setting forth in detail any items on the sign fabricator's list and additional items found unacceptable. When the Punch List is complete, the Owner will arrange a meeting with the sign fabricator to identify and explain all items and respond to questions regarding the work which must be done before final acceptance.

Sign fabricator shall correct Punch List items within an Owner-approved time frame established when the punch list is made. The time frame for completion of the Punch List items shall not exceed the completion date of the Contract. The Contract shall not be considered complete until Punch List items are completed.

END OF SPECIFICATIONS

END OF DOCUMENT