
PROJECTS OVERVIEW

DESIGN PROJECTS

PROPOSED 5 STOREY APARTMENT BUILDING AT 680 WORCESTER ROAD LLC WELLESLEY, MA (2022)

Floor Area – 9008 Sq. Ft

I Carried Out

- Structural design of a 5-Story Luxury Apartment Building for J. Derenzo Properties, LLC Which includes a basement and four timber framed floors.
- Steel – Concrete composite transfer floor was designed above the parking floor to optimize the space
- Design of Strip foundations
- Finite Element Modelling and analysis under gravity and lateral loads

PROPOSED 6 STOREY APARTMENT BUILDING AT 115-125 ESSEX STREET LAWRENCE, MA (2022)

Floor Area – 6708 Sq. Ft

I Carried Out

- Structural design of a 6-Story Luxury Apartment Building for Jowamar Companies, LLC.
- Design was carried out by retaining the existing two storied structure
- A composite transfer structure was designed to transfer the loads from proposed addition
- Design of wooden framed residential floors
- Finite Element Modelling and analysis

PROPOSED 4 STOREY LUXURY APARTMENT BUILDING AT 16 STEARNS ROAD, WELLESLEY, MA, FOR J. DERENZO PROPERTIES, LLC. (2022)

The proposed building is located on a side street one block from Route 9, Worcester Street, in Wellesley. The site is adjacent to and overlooks the multi-acre Sprague Fields, a large open space and recreational area. The 24-unit building is sited and configured so as to minimize the building massing adjacent to neighbouring homes putting open space and landscaping immediately adjacent to the neighbours.

Floor Area – 14900 Sq. Ft

I Carried Out

- Design of Structural System to Resist Gravity and Lateral Loads
- Steel – Concrete composite transfer floor was designed above the parking floors to transfer the loads from wooden stud walls located at the apartment boundaries to the steel columns positioned to match car parking
- Finite Element Modelling and analysis under gravity and lateral loads
- Design of Strip foundations

DESIGN PROJECTS

PROPOSED RAISED V ZONE BEACH HOUSE AT 0 STARBOARD WAY, MATTAPOISETT, MA (2021)

A luxury home that features a full-access elevator, 3 in-suite bedrooms /baths, generous living spaces, 2 fireplaces and multiple decks.

Floor Area – 2022 Sq. Ft

I Carried Out

- Design of a 3-Story Residential Building for MRS LISA CLARK.
- A pile foundation was designed
- Structure was designed critically considering lateral wind loads and flood loads and other code requirements for projects located in a V Zone.

PROPOSED BEACH CLUB AT 27 LONG BEACH ROAD CENTERVILLE, MA (2021)

Floor Area – 14128 Sq. Ft

I Carried Out

- Design of structural alteration scheme of a 3-Story Building for The Beach Club, Board of Trustees
- Alteration to the existing buildings such as removal of existing columns to obtain larger open floor plans
- Helical pile foundations were designed to support loading from proposed addition

DESIGN PROJECTS

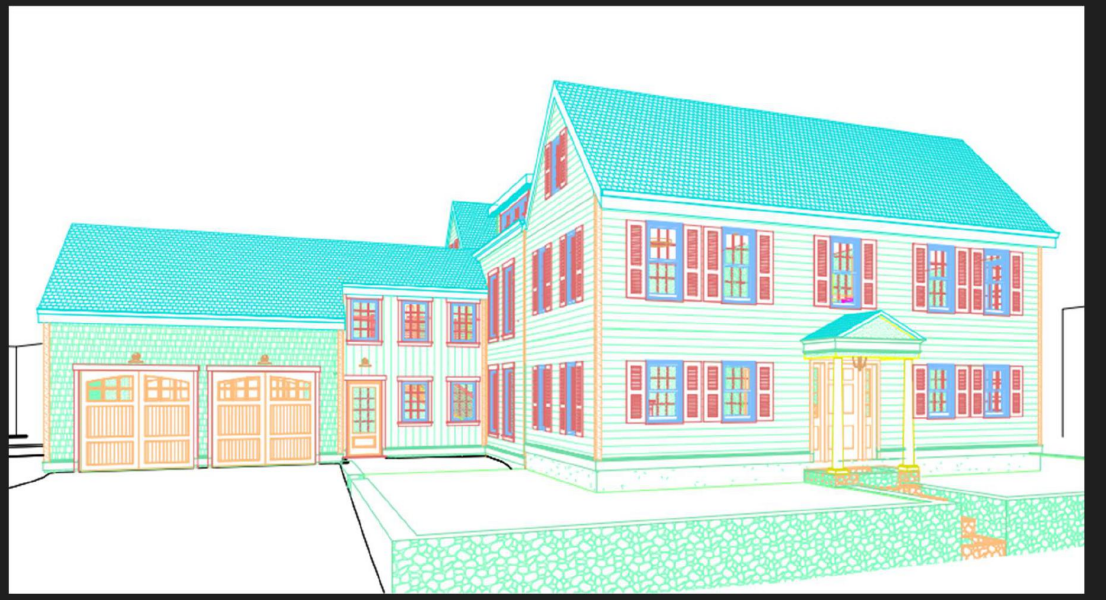
PROPOSED 3 STOREY RESIDENCE AT 1 PLIMTON STREET, WALPOLE, MA (2022)

A single-family home has 3 bedrooms and 2 bathrooms

Floor Area – 2399 Sq. Ft

I Carried Out

- Design of a 3-Story Residential Building for Harbor East, LLC.
- Complete design of wood frame structure
- Worked with lumber yard in design detailing and optimization



PROPOSED SENA RESIDENCE AT 148 GEORGE TOWN STREET, BOXFORD, MA (2022)

Floor Area – 5549 Sq. Ft

I Carried Out

- Design of a 3-Story Residential Building for J. Derenzo Properties, LLC.
- Design of large span wooden floors
- Steel beams and flitch beams were designed to support long spans with minimum structural depths

DESIGN PROJECTS

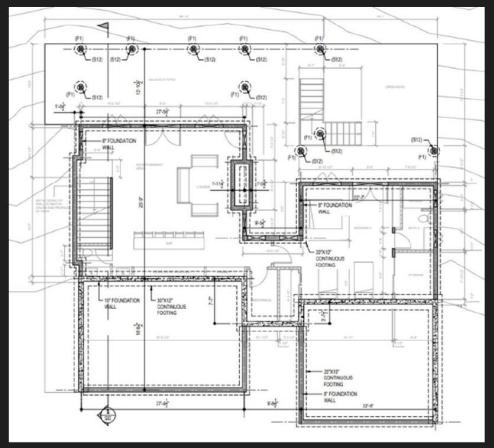
PROPOSED 3 STOREY RESIDENCE AT HIDDEN ACRES DRIVE SUGAR HILL, NH (2021)

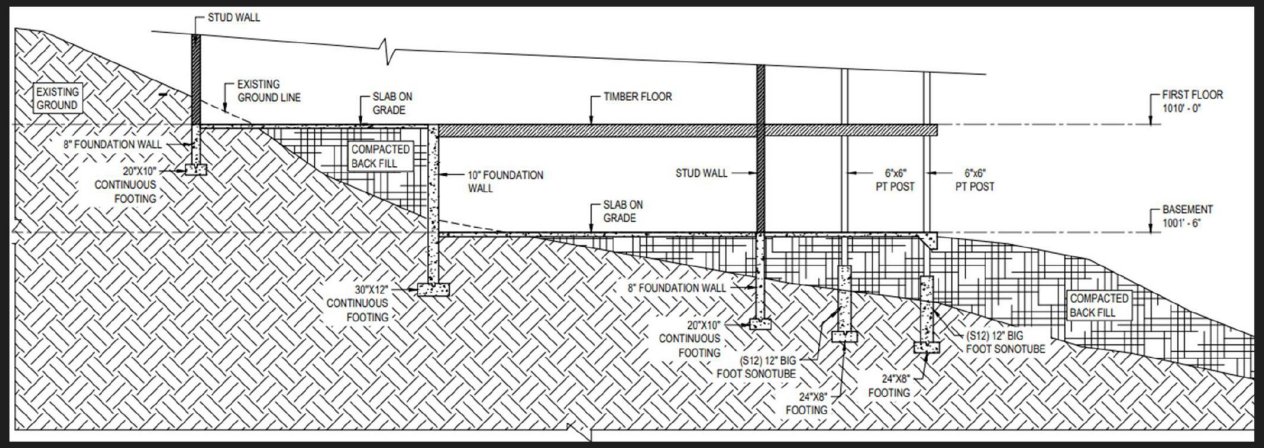
Proposed building is consisted of basement and 2 floors to accommodate bedroom, Dining area, Garage and Storage room.

Floor Area – 2605 Sq. Ft

I Carried Out

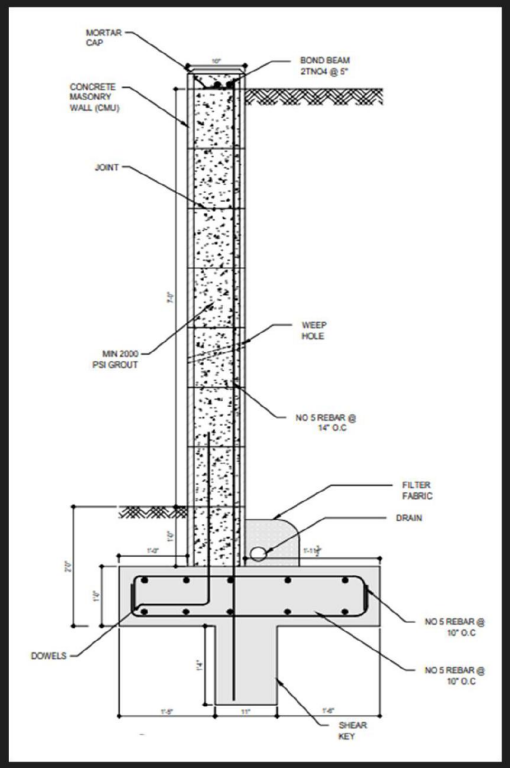
- Design of a 3-Story Luxury Apartment Building for Russel Tanguay.
- Design and detailing of wooden frame structure including all the connection details.
- Design of basement and basement walls





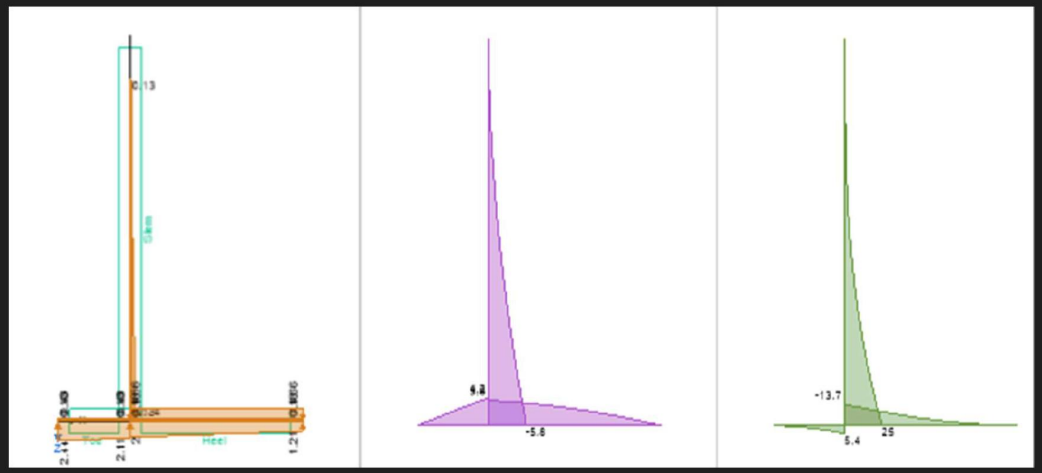

DESIGN OF
RETAINING
WALLS

RETAINING WALLS

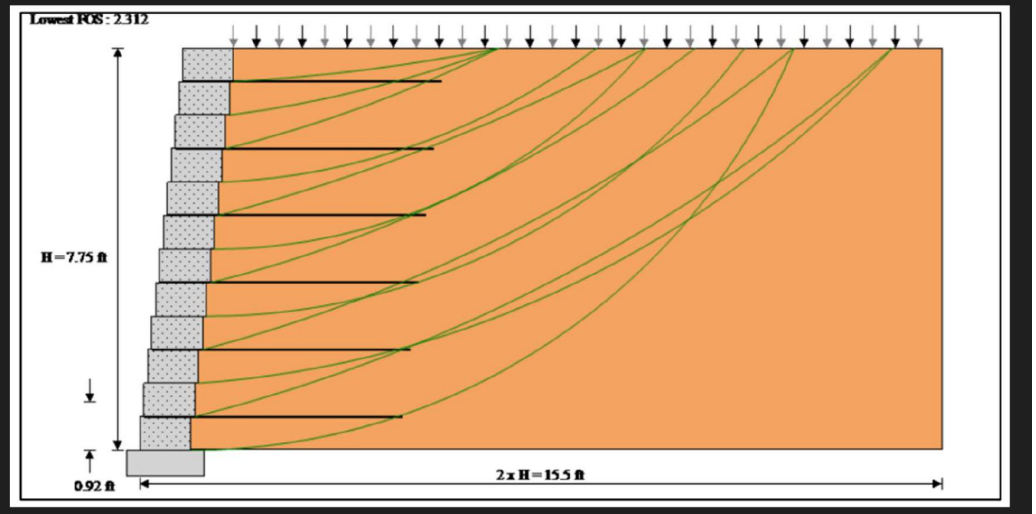


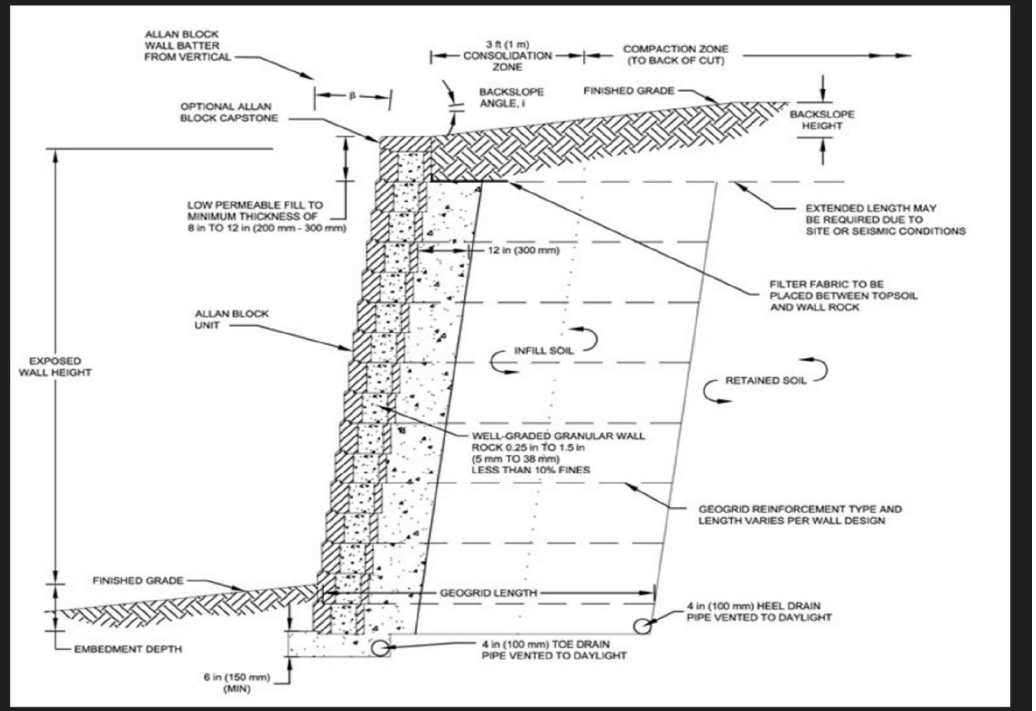
SOME OF THE RETAINING WALL DESIGN PROJECTS UNDERTAKEN BY ME

- Proposed 8’ High CMU Retaining Wall at 48 Martin Street, Lowell, MA (2022)
- Proposed 6’ High CMU Retaining Wall at 15 Open Trail Road, Sandwich, MA (2022)
- Proposed 10’ High CMU Retaining Wall at 16 Telegraph Hill Rd, Sandwich, MA (2022)
- Allan Block Modular Retaining Wall Systems (Geosynthetic Reinforced Segmental Retaining Walls) at No 39, Myers Farm Road, MA (2022)
- Proposed 7’ High CMU Retaining Wall at 96 Arch Street Lowell, MA



RETAINING WALLS





DISTINCTIVE WORKS

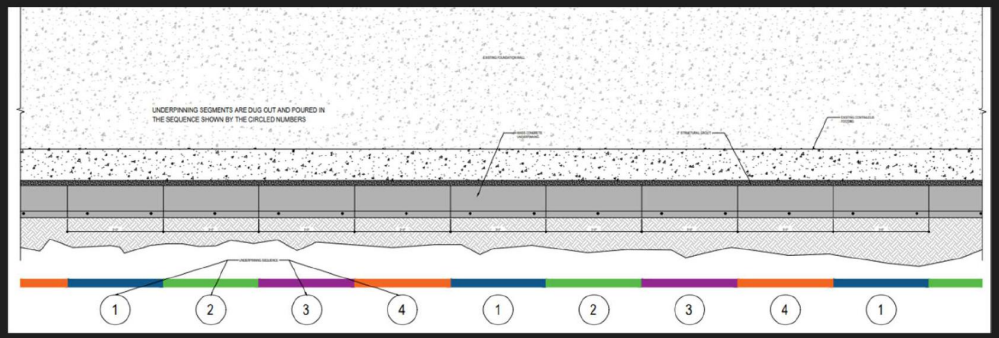
UNDERPINNING

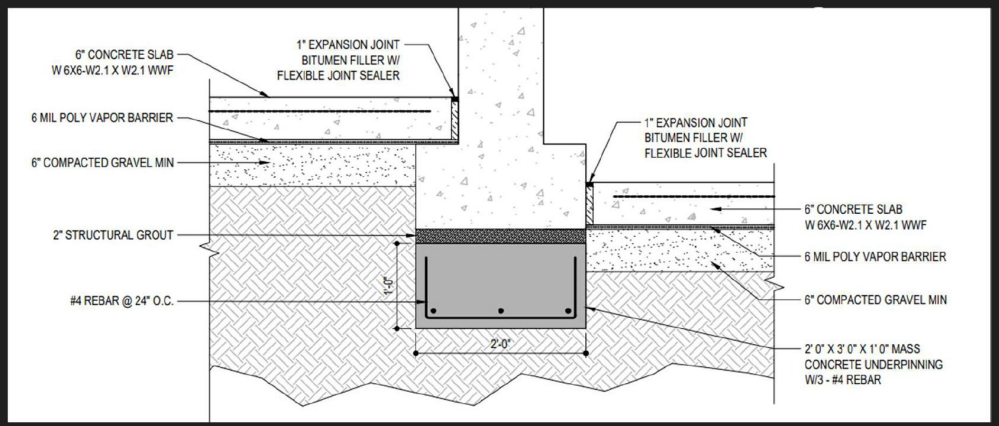
EXISTING FOUNDATION STRENGTHNING (UNDERPINNING) AT 24 ALBAN ROAD, WABAN, MA (2022)

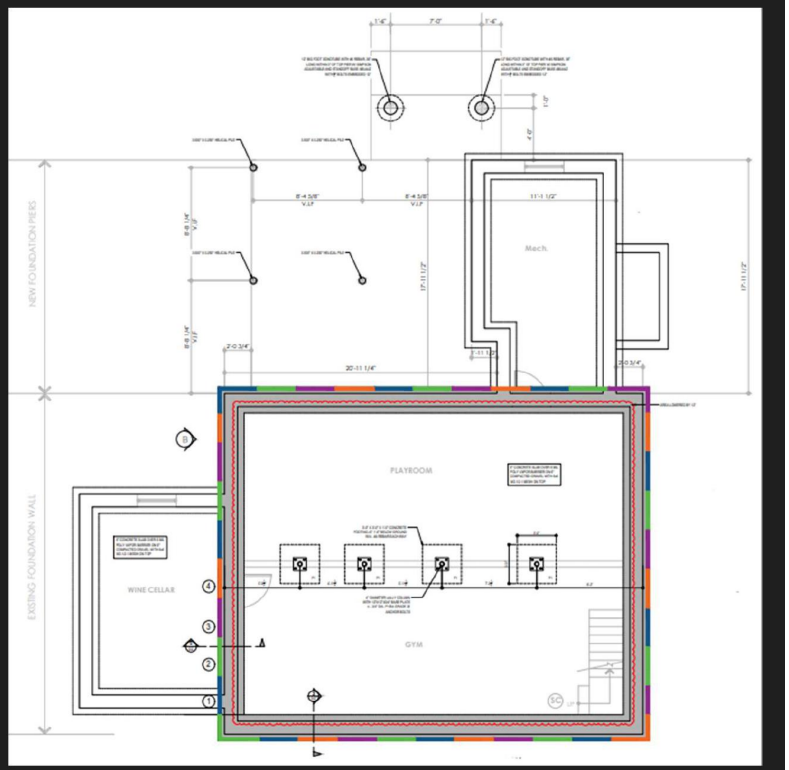
Generally, underpinning shall be carried out by Mass concrete pour, Beam and base under pinning and Mini piled under pinning. For this project mass concrete pour under pinning is selected. 3 ft width pit underpinning is carried out through 4 construction sequence

I Carried Out

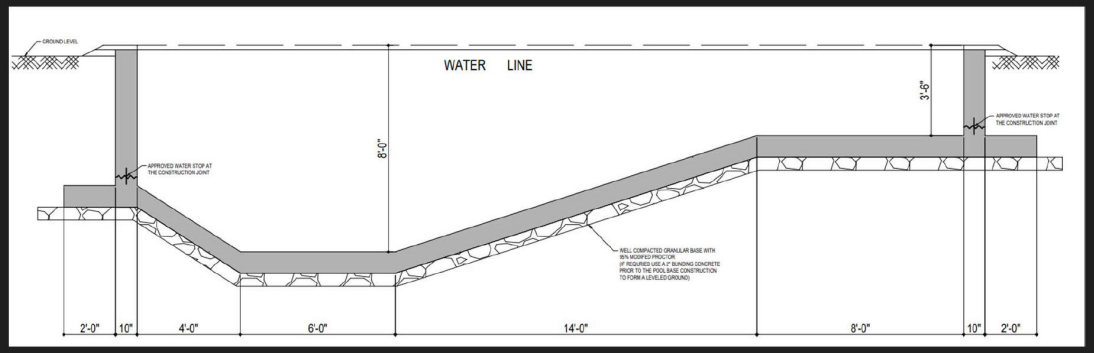
- Design of underpinning sequence
- Foundation strengthening

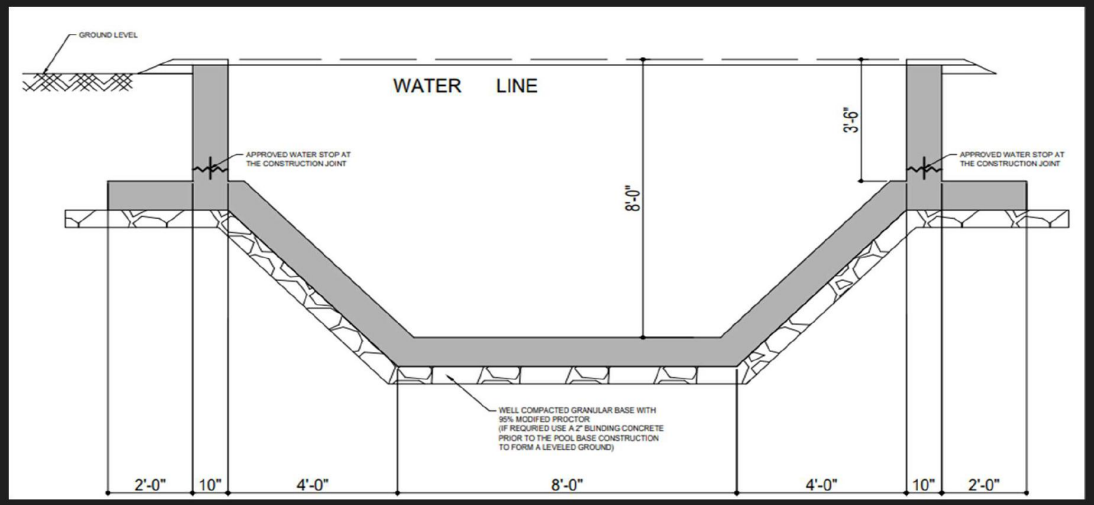






SWIMMING POOL



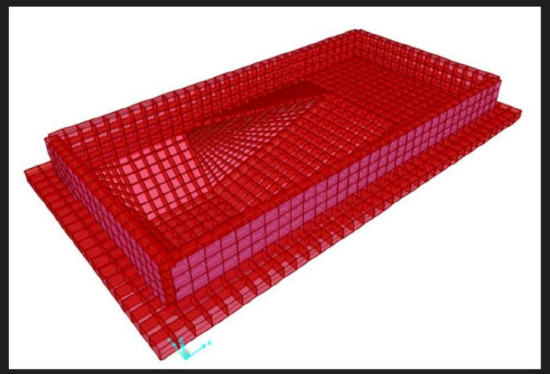


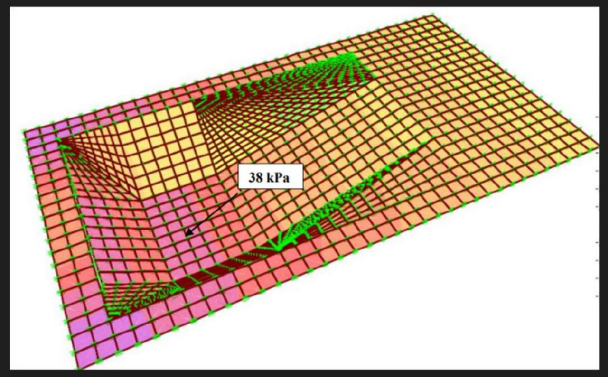
PROPOSED 32'X16' SWIMMING POOL AT 120 CHRISTINA LANE, TAUTON MA (2022)

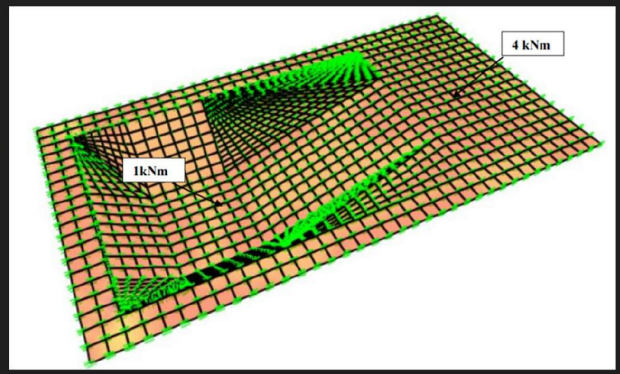
For designing this swimming pool, three major design aspects were taken into consideration.

1. Stability (Floating Check)
2. Strength (Flexural Check of Wall and Base slab, Shear Check of Wall and Base slab, Axial Capacity)
3. Serviceability (Crack Control - limited to minimum Crack width of 0.1mm)

Three-dimensional finite element model was developed in general purpose finite element package called SAP 2000. Here shell elements were utilized to model slabs. Loadings such as hydrostatic pressure and earth pressure the wall is subject to are assigned using facilities available. To incorporate soil structure interaction at the base slab spring supports were used.



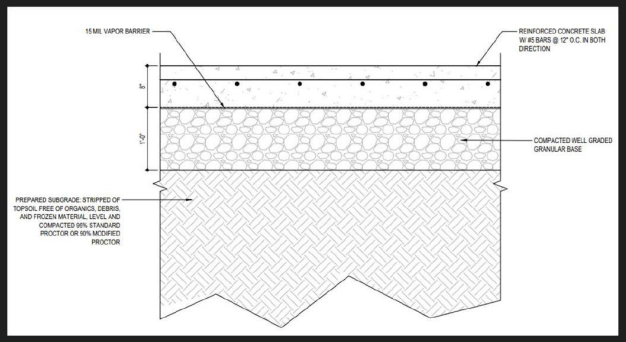


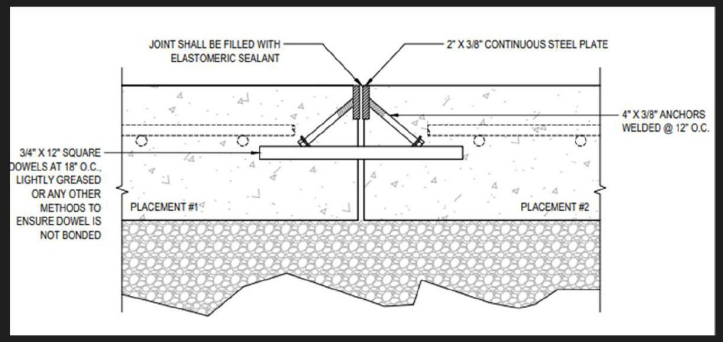


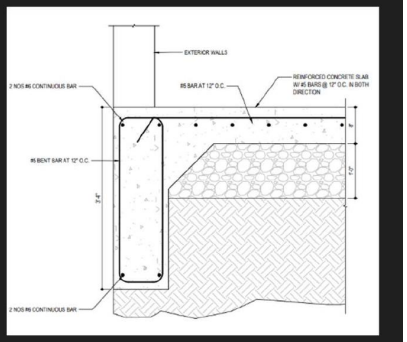
SLAB ON GRADE

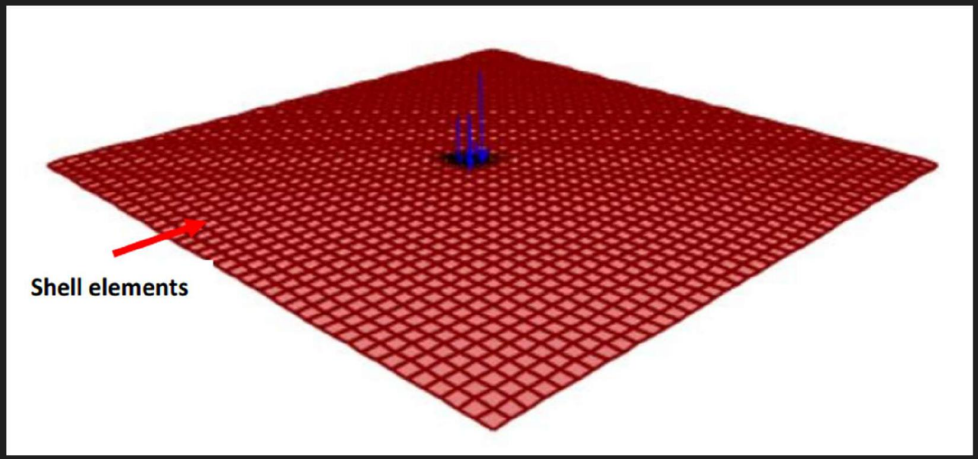
SLAB ON GRADE DESIGN FOR MACHINERY MOVEMENT IN MYSTIC AQUARIUM COURT YARD AT 55 COOGAN BOULEVARD, STONINGTON CONNECTICUT (2022)

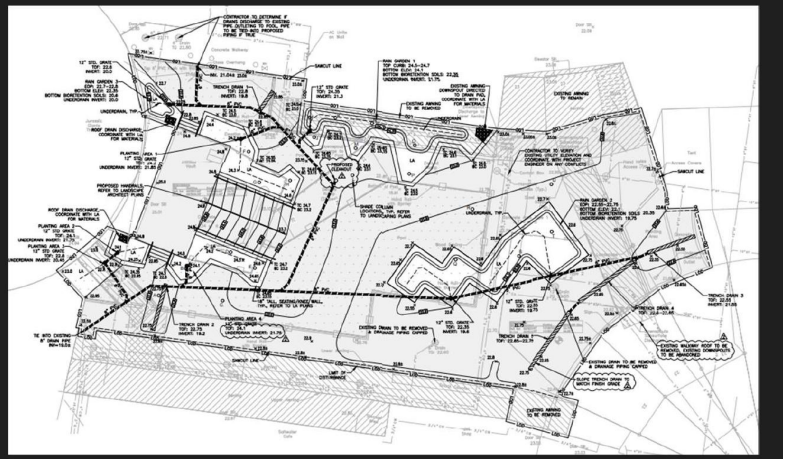
Generally accepted thickness design methods for unreinforced slabs-on-ground are PCA method, WRI method and COE method. Portland Cement Association (PCA) Method is used for this project. Slab thickness optimization, thermal and shrinkage crack controlling were carried out with the aid of ACI 318-14 and TM 5-809-12/AFM 88-3. ACI 224.3R-95 is used for the construction and contraction joint detailing.



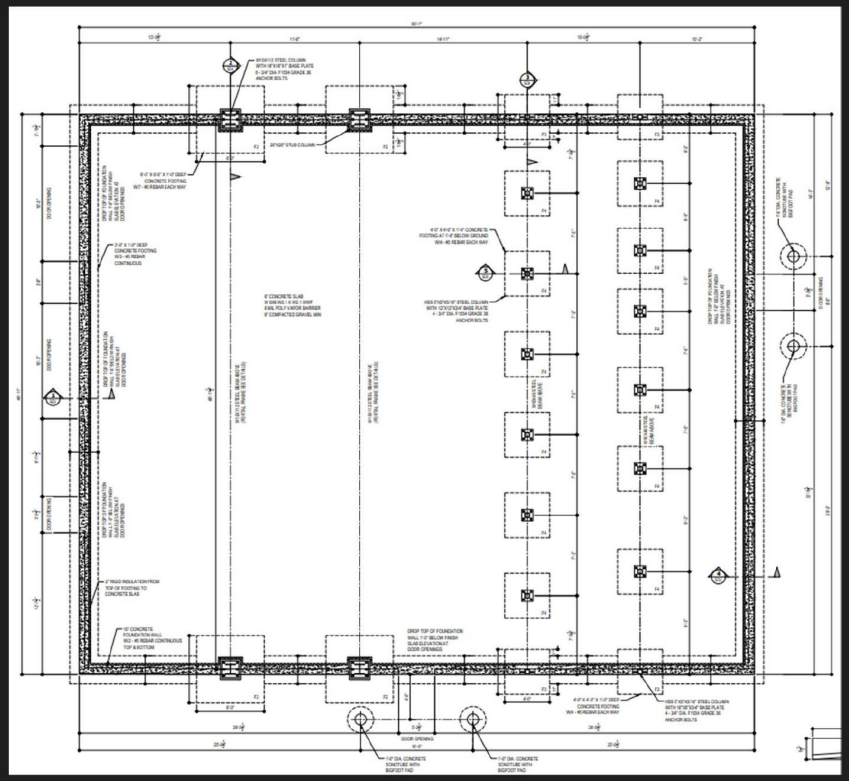






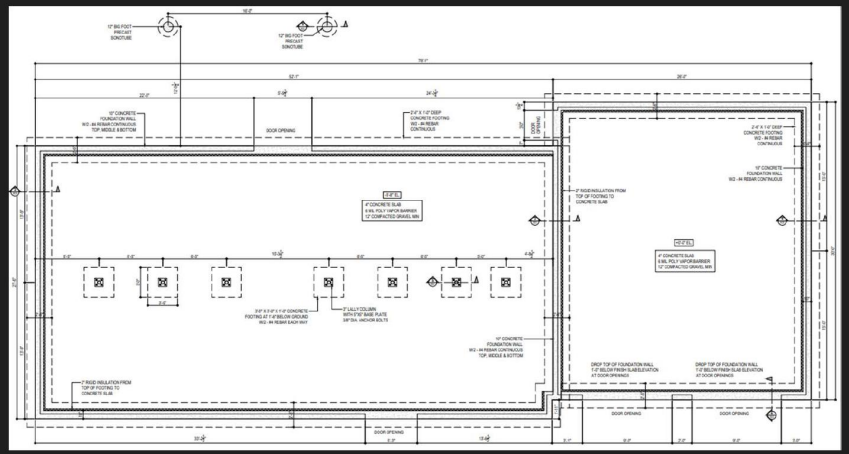


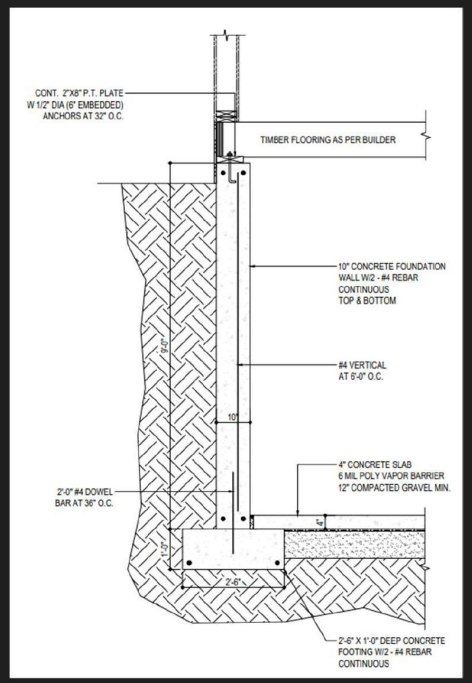
FOUNDATION DESIGNS

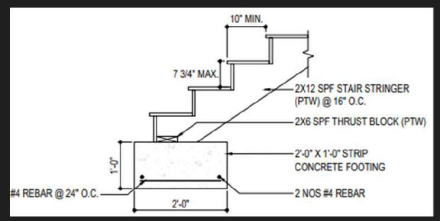


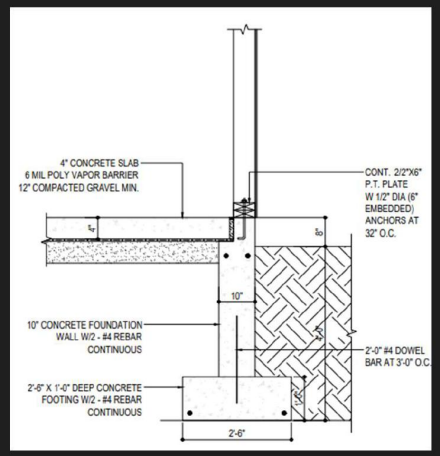
SOME OF THE PROJECTS UNDERTAKEN BY ME

- Foundations Design for Modular Houses at 1023 East Street, Tewksbury, MA (2022)
- Foundation Design for Steel Warehouse at Portsmouth, Newport, MA (2022)
- Foundations Design for Modular Houses at 16 Benton Street, Millbury, MA (2022)









STABILITY ASSESSMENTS

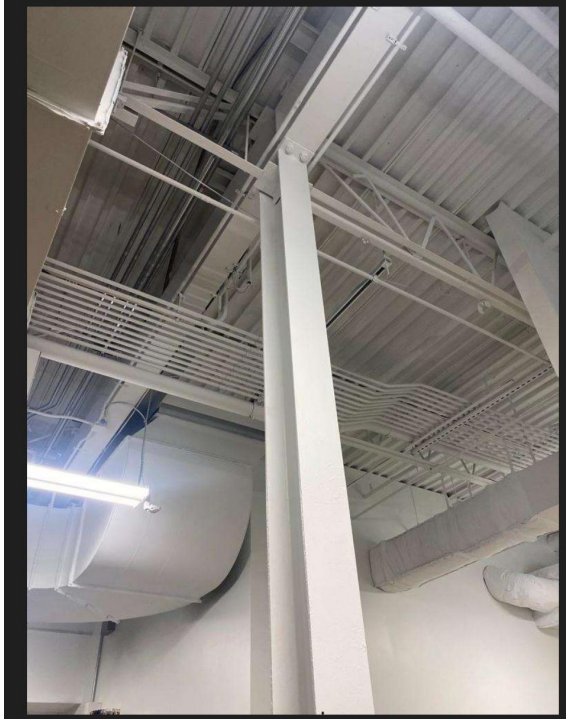
STRUCTURAL CAPACITY ASSESSMENT

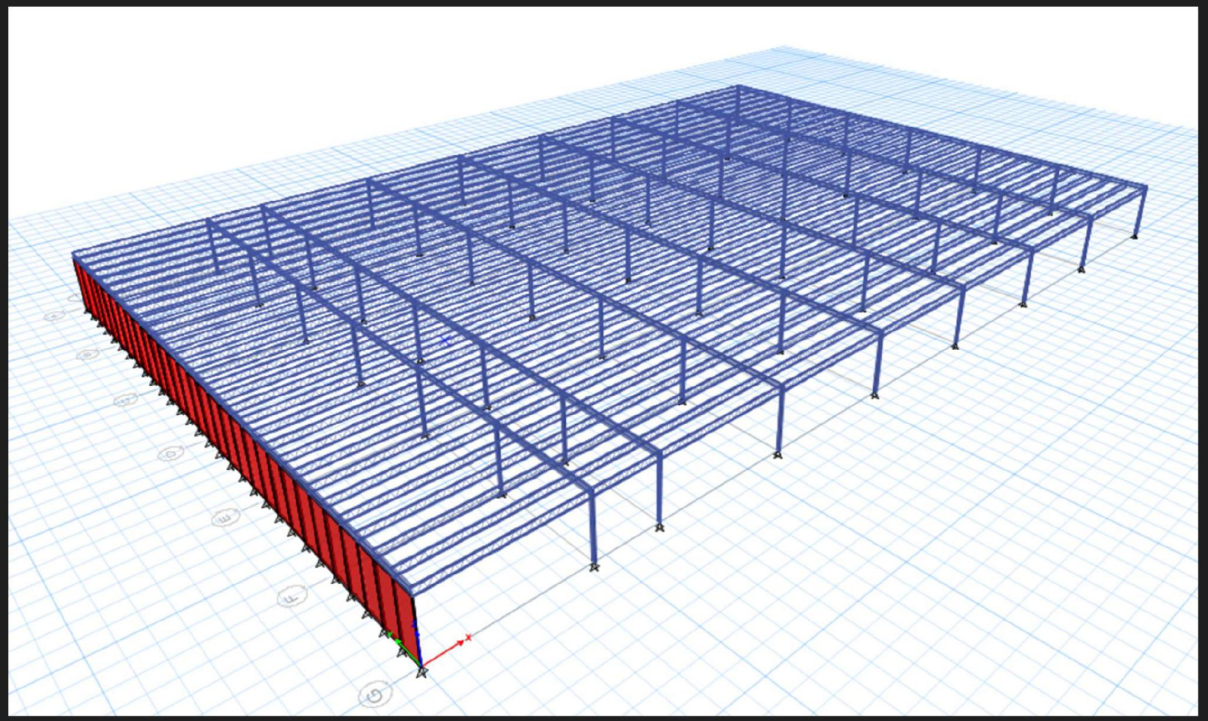
PROPOSED CATWALK ADDITION AT 60 BLANCHARD ROAD, BURLINGTON, MA

I performed structural capacity assessment for the proposed addition of a catwalk system on the roof of the existing building located at 60 Blanchard Road, Burlington, MA.

I Carried Out

- Structural evaluation on existing building structure
- Capacity assessment using Finite Element Modelling
- Column strengthening proposal





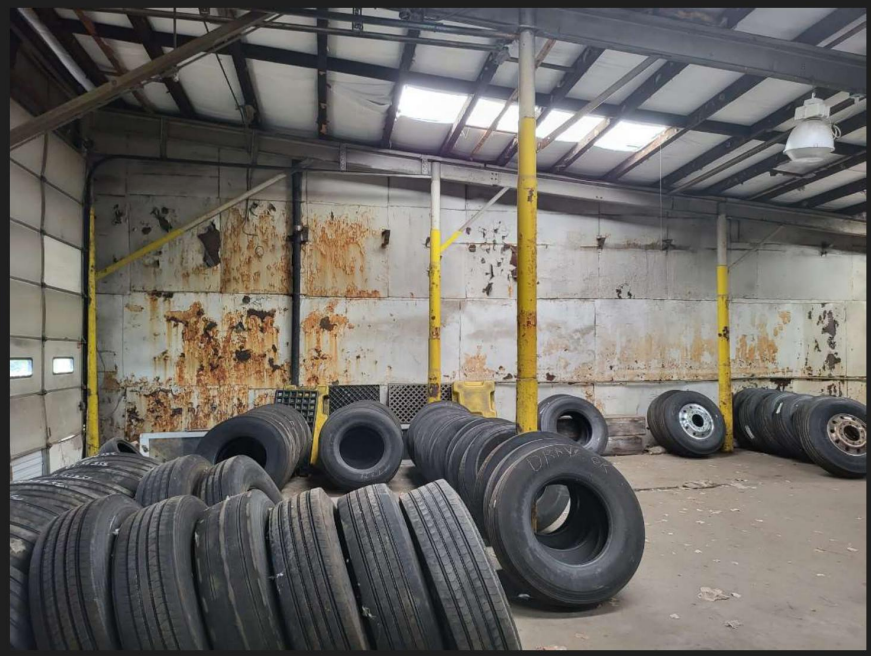
STRUCTURAL ASSESSMENT

STRUCTURAL ASSESSMENT OF OLD GARAGE AT 333 3RD STREET, CHELSEA, MA.

Stability assessment of existing structures is different in many aspects from designing a new structure. We perform a detailed building stability assessment of old garage which is a single-story building with working space is approximately 65 ft long, 64 ft wide and about 19 ft high.

I Carried Out

- Structural assessment of existing building
- Recommendations for modifications




BUILDING RENOVATIONS
&
ALTERATIONS

ALTERATIONS & RENOVATIONS

STRUCTURAL ALTERATION AT 10 W CENTRAL STREET NATICK, MA (2021)

I Carried Out

- Condition assessment of existing structure
- Introducing new headers
- Strengthening of existing basement wall

STRUCTURAL ALTERATION AT 120 G ST #1, SOUTH BOSTON, MA (2021)

Floor Area – 1036 Sq. Ft

I Carried Out

- Introducing New Door Opening at Existing Brick Wall

STRUCTURAL REPAIR OF ROOF (BARTLETT RESIDENCE) AT 744 WILLOW STREET, SOUTH YARMOUTH, MA (2021)

Floor Area – 2809 Sq. Ft

I Carried Out

- Condition assessment of existing roof structure
- Analysis and design for strengthening work of affected parts

ALTERATIONS & RENOVATIONS

STRUCTURAL ALTERATION (KEANE RESIDENCE) AT 41 OLD MAIN ST WEST DENNIS, MA (2021)

Floor Area – 2127 Sq. Ft

I Carried Out

- Introducing New Door Opening at Existing Brick Wall

PROPOSED RENOVATION OF EXISTING PORCH AT 12 ATLANTIC STREET, BOSTON, MA (2021)

Floor Area – 1742 Sq. Ft

I Carried Out

- Renovation of existing porch

PROPOSED HOUSE MODIFICATION AT 700 BROCKTON AVE, ABINGTON, MA (2021)

Floor Area – 2669 Sq. Ft

I Carried Out

- Investigation of existing structure
- Verification of structural stability
- Design for proposed modifications

ALTERATIONS & RENOVATIONS

PROPOSED ATTIC FLOOR DEVELOPMENT AT 49 COOLIDGE ST, MA (2021)

Floor Area – 2132 Sq. Ft

I Carried Out

- Architectural design of proposed attic floor
- 3D Rendering
- Structural design of proposed Attic framing

WALL REMOVAL AND TIMBER BEAM DESIGN AT 24 PURDUE DR, MILFORD, MA (2022)

Floor Area – 1750 Sq. Ft

I Carried Out

- Assessment of load path and design alternative structural wood framing to support the existing structure after wall removal

BEAM AND LALLY COLUMN DESIGN FOR BASEMENT AT 242 HURON AVE, CAMBRIDGE, MA (2022)

Floor Area – 3788 Sq. Ft

BUILDING REVIEWS

PROPOSED GARAGE ADDITION & REAR ADDITIONS AT 3286 MAIN ST BARNSTABLE, MA (2021)

Floor Area – 884 Sq. Ft

I Carried Out

- Structural design review of a 3-story building alterations and garage additions for CAPE Architecture

PROPOSED NEW HOUSE & COTTAGE AT 8 EVERGREENWAY NANTUCKET, MA (2021)

Floor Area – 4257 Sq. Ft

I Carried Out

- Structural design review of a 2-story building alterations and cottage additions for CAPE Architecture

PROPOSED RENOVATIONS OF COTTAGE AT C PISACANO 182 SEA ST HYANNIS, MA (2021)

Floor Area – 780 Sq. Ft

I Carried Out

- Structural design review of a 2-story cottage alterations for CAPE Architecture

BUILDING REVIEWS

PROPOSED NEW SUNROOM AT 25 ELMCROFTWAY, YARMOUTHPORT, MA (2021)

Floor Area – 2095 Sq. Ft

I Carried Out

- Structural design review of a sunroom addition for CAPE Architecture

PROPOSED 2ND FLOOR ADDITION AT 57 JAMIESON STREET, ABINGTON, MA (2021)

Floor Area – 534 Sq. Ft

I Carried Out

- Structural design review of a 2nd floor addition

PROPOSED DORMER ROOF AT PATEL RESIDENCE, 959 WEST YARMOUTH ROAD, MA (2021)

Floor Area – 1385 Sq. Ft

I Carried Out

- Structural design review of a dormer roof for CAPE Architecture

BUILDING REVIEWS

PROPOSED TWO STOREY DWELL AT 20 MARGIN STREET, LAWRENCE, MA (2021)

Floor Area – 1576 Sq. Ft

I Carried Out

- Structural design review of a 2-storey building for J & D REALTY ASSOCIATES LLC

PROPOSED RENOVATED PORCH AT 10 KERWIN STREET, BOSTON, MA (2021)

Floor Area – 3481 Sq. Ft

I Carried Out

- Structural design review of a new addition of a porch

DEMOLITION AND REPLACEMENT OF 3 COTTAGES UNITS AT 182 SEA ST, HYANNIS, MA (2021)

Floor Area – 1500 Sq. Ft

I Carried Out

- Structural design review of a 2-storey building for CAPE Architecture
-

BUILDING REVIEWS

PROPOSED KAMBERI RESIDENCE AT 603 MISTIC DRIVE, MARSTON MILLS, MA (2021)

Floor Area – 1288 Sq. Ft

I Carried Out

- Structural design review of a 2-storey building for NEW DAY DESIGN

PROPOSED ROOF ALTERATIONS AT 115 SPRINGFIELD POINT, WOLFEBORO, NH (2022)

Floor Area – 2733 Sq. Ft

I Carried Out

- Structural design review of a pitch roof with collar tie

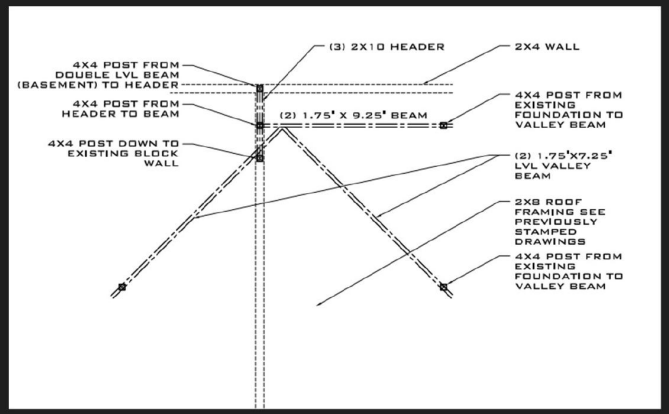
PROPOSED TWO STOREY RESIDENCE AT 252 MAIN STREET, HYANNIS, MA (2021)

Floor Area – 5557 Sq. Ft

I Carried Out

- Structural design review of a 2-storey building

BUILDING REVIEWS



CATHENDRAL ROOF FOR SHAW RESIDENCE AT 91 FISK ST WEST DENNIS (2022)

I Carried Out

- Structural design review of a pitch roof

PROPOSED 3 STOREY RESIDENCE AT 620 SHIRLEY ST. WINTHROP, MA (2022)

I Carried Out

- Structural design review of a 3-storey building for EDGE REAL ESTATTE