ADDENDUM

July 07, 2016

Addendum No. 2

The State of Connecticut
Department of Housing (DOH)
Community Development Block Grant
Disaster Recovery Program (CDBG-DR)
Owner Occupied Rehabilitation and Rebuilding Program (OORR)

Application No. 2440
Frascarelli Residence
32 Massachusetts Road
South Lyme, CT 06376

To All Prospective Bidders:

This Addendum shall become part of the Contract and all bidders shall be bound thereby.

The date and time for the Bid Opening **HAS NOT CHANGED**. Sealed bids will be accepted until 4:00 p.m. on Wednesday, July 13, 2016.

The following changes and/or clarifications are hereby made to the Contract Documents dated May 05, 2016 for the above captioned project.

A. QUESTIONS & CLARIFICATIONS

1. Contractors were requested to have all questions and requests for clarifications submitted to the Architect by email by 4:00 p.m., Wednesday, July 06, 2016. No requests were received by the deadline. No further questions will be entertained.

2. Attached is the Geotechnical Report referenced in the Foundations note number 3 on sheet S1.0.

B. CHANGES TO THE PROJECT MANUAL & SPECIFICATIONS

1. **ADD** the following to the Bid Form as Bid Alternate #1:

   If ground water is encountered during excavation, perform de-watering in accordance with the attached reference. Unit of Measure: Lump Sum.

2. **ADD** the following to the Bid Form as Bid Alternate #2:

   REVISE the typical foundation detail shown on sheet S-1.0 as follows:

   Excavate to 3'-6" below finished grade using a smooth edge bucket to minimize disturbance of the soil. Backfill excavation with 1'-0" deep layer of 3/8" diameter crushed stone (pea gravel) in the same general material configuration as the structural fill. Pour bottom of concrete footings on the crushed stone at 2'-6" below finished grade. This work shall be part

of the Base Bid. If water is encountered, perform de-watering in accordance with the lump sum Bid Alternate above. Unit of Measure: Lump Sum

C. CHANGES TO THE DRAWINGS

1. **SUBSTITUTE** the following drawing sheets for the drawing sheets in the original Bid Documents:

   Sheet A-1.0: Floor Plans
   Sheet A-2.0: Elevations
   Sheet A-3.0: Stair and Deck Details
   Sheet A-3.1: Deck and Misc. Details

2. **ADD** the following new drawing sheet to the Bid Documents:

   Sheet S-1.1 A: Mechanical Level Framing Plan

END OF ADDENDUM #1

c: file

Y:\2013 Projects\13-47_CT DOH Disaster Relief for Hurricane Sandy\1347-51 2440 32 Massachusetts Road, South Lyme - Frascarelli\1347-51 2440 Documents\Admin\1347-51 2440_Addenda\1347-51 2440_Addendum No. 2.doc

Capital Studio Architects
1379 Main Street • East Hartford, Connecticut 06108
860.289.3262 fax 860.289.3163
capitalstudios.net

GNCB
Consulting Engineers, P.C.

Structural Engineering
Geotechnical Engineering
Historic Preservation
Construction Support

March 3, 2016

Mr. Patrick Mancuso, AIA
Capital Studio Architects, LLC
1379 Main Street
East Hartford, Connecticut 06108

Sent via e-mail: pmancuso@capitalstudio.net

Re: Sandy Disaster Recovery Program
Elevating Frascarelli Residence
32 Massachusetts Road
Point of Woods, South Lyme, Connecticut

Principals
Kenneth Gibble, P.E.
James F. Norden, P.E.
Charles C. Brown, P.E.

Geotechnical Associate
David L. Freed, P.E.

Structural Associate
Richard A. Centola, P.E.

Dear Mr. Mancuso,

This letter summarizes the results of recent test borings and our recommendations for foundation design to elevate the existing Frascarelli residence in South Lyme, Connecticut. Our geotechnical engineering phase services, as reported herein, have been completed in accordance with our contract agreement with you dated February 15, 2015, as authorized. GNCB is also the project structural engineer.

SITE LOCATION AND PROPOSED CONSTRUCTION

The Frascarelli Residence is located northwest of the intersection of Massachusetts and Ridgewood Roads, in the Point of Woods area of South Lyme, Connecticut. The existing house is a two-story, rectangular-shaped, wood-framed structure located in the center of an approximately 0.17-acre parcel. The house measures about 26.4 ft. wide by 42.3 ft. long, about 1120 sq. ft.; a detached 400 sq. ft. garage exists at the northwest corner of the property. A wood deck abuts the west side of the house facing Massachusetts Road. The first floor level of the house and garage are at El. 8.5 and 4.0, respectively. (Note: Elevations are in feet and refer to NAVD 88 datum.)

130 Elm Street
P.O. Box 802
Old Saybrook, CT 06475
Tel 860.388.1224
Fax 860.388.4613
lastname@gncbengineers.com
gncbengineers.com

Site grade generally slopes downward from about El. 8 at the northwest corner (i.e. at Massachusetts Road) to about El. 2 along the east property. A manhole (with top flange at El. 1.6) and two 6 in. diameter clay pipes, having inverts at El. 0.4 (southeast pipe) and El. 0.03 (north pipe), drain this low

swale area. A paved driveway, from Massachusetts Road, connects to the detached garage along the north property line, and a stone gravel drive exists along the east low swale area.

The attached Drawing 1, "Test Boring Plan," shows the existing topography and site features as shown on a December 7, 2015 "Property and Topographic Survey," Drawing V1-1, prepared by Design Professionals, of South Windsor, Connecticut. Also shown are the locations of various utilities which connect to the building from Massachusetts Road; the water line, while not shown on the referenced plan, connects to the house from Massachusetts Road.

Current plans are to preserve and raise the existing house about 12 ft., to about El. 20.5. Existing grade around the house, ranging from about El. 7 (at the west corner) to El. 2.9 (at the east corner), is not expected to change.

SUBSURFACE CONDITIONS

Design Phase Test Borings: In order to determine subsurface soil conditions for foundation design, GNCB recommended, arranged for, and monitored a program of five test borings (B-1, B-2, B-3, B-3A, and B-3B). These explorations were drilled on February 4, 2016 at the approximate locations shown on Drawing 1. GNCB located the test borings in the field by taping from existing site features, and interpreted existing ground surface elevation from ground surface contours. Test boring logs, prepared by the contractor and reviewed by GNCB, are attached. Table I summarizes the subsurface conditions observed at each test boring; detailed soil descriptions are contained in the following report section.

General Borings, Inc. of Prospect, Connecticut, under contract to GNCB, completed the test borings using a special test boring rig mounted on a Case backhoe to advance 3-1/4 in. inside diameter hollow stem augers (HSAs). Soil samples (ASTM D 1586) were obtained generally at 5 ft. intervals; however, near continuous sampling was completed within the upper 12 ft. Test borings B-1 and B-2 were both drilled to refusal at 24 and 28 ft. respectively, while B-3, B-3A and B-3B were each less than 15 ft. deep.

Subsurface Soil and Water Conditions: Test borings revealed that subsurface conditions generally consist of three soil strata, a man-placed fill underlain by a thick deposit of outwash sand, which is further underlain by glacial till. Below the man-placed fill and above the outwash deposit, test borings B-3, B-3A, and B-3B revealed a relatively thin localized area of soft organic soil underlain by alluvium soil. These soil conditions are described below, progressing downward from ground surface:

GNCB
Consulting Engineers, P.C.

Thickness (ft.)	General Description
0.5 – 2.5	Medium dense red brown coarse to fine SAND, some silt, little to trace fine gravel (MAN-PLACED FILL)
0.0 to 5.0	Soft dark brown peaty ORGANIC SILT with interbedded layers of silty peat to fine sand, trace gravel (ORGANIC DEPOSIT)
0.0 to at least 3.5	Medium dense dark gray medium to fine SAND, trace organic silt and fibers (ALLUVIUM DEPOSIT)
Up to 24.0	Medium dense red-brown coarse to fine SAND, little gravel, trace silt grading to a silty fine SAND (OUTWASH DEPOSIT)
At least 2 ft.	Dense gray medium to fine SAND, little silt and gravel (GLACIAL TILL)

All the test borings encountered a layer of man-placed fill, which appears to blanket the site. The soft organic and alluvium soils, which we believe are associated with a former wetland area east of the property, were encountered only at B-3, B-3A, and B-3B; at this time, we are uncertain as to the total extent of these soils. The main soil type at the site, as encountered at B-1 to B-3, consists of a thick deposit of outwash sand; were penetrated, the sand ranged in thickness from 18.5 (at B-1) 24.0 ft. (at B-2). Both B-1 and B-2 terminated at HAS refusal, after penetrating a few feet into a deposit of glacial till directly below the outwash sand; the glacial till typically directly overlies bedrock. The top of possible bedrock at B-1 and B-2, as suggested by the auger refusals, were not confirmed by bedrock cores.

At the completion of the test borings, water was measured at each of the test borings to be at about El. 1. The water readings, however, were made over a relatively short period of time and may not represent the static groundwater level at the site. In any event, water levels vary with precipitation, season, and other factors. As a result, water levels encountered during and after construction may differ from those observed in the observation well and explorations.

FOUNDATION RECOMMENDATIONS FOR ELEVATED RESIDENCE

In our opinion, the existing man-placed fill and soft organic soils are not suitable to support the building frame of the elevated house. The naturally-deposited alluvium and thick outwash deposits are suitable bearing materials. Accordingly, we recommend that the new building foundations be supported on shallow spread footings bearing on the naturally deposited inorganic granular (alluvium or outwash) soils or on compacted structural fill

GNCB
Consulting Engineers, P.C.

that is placed on the natural soils after removing the existing man-placed fill and/or soft organic soil. However, footings bearing on the alluvium soils should be underlain by a 12 in. thick layer of compacted structural fill and a structural filter fabric, such as a Mirafi 500x. At each test boring, Table I summarizes the elevation and expected type of bearing soil that is suitable to support spread footings.

We recommended that any building footings be designed for an allowable soil bearing pressure of 1.3 times the least footing dimension, as measured in feet, up to a maximum of 4 kips per square foot (ksf). Subgrade preparation to remove existing man-placed fill or soft organic soil, and replacing it with compacted structural fill below the building footings, should be placed to a lateral limit equal to the thickness of fill below the footing plus 2 ft. The bottom of footings needs to be at least 3.5 ft. below the ground surface exposed to freezing.

We understand that design of the elevated house requires resistance of a lateral wind load. We recommend that this lateral load be resisted by the passive pressure on the horizontal edge of a continuous perimeter footing and as sliding friction at the bottom of building footings. It is our opinion that a design footing having a thickness of 16 in. and a base width of 2 ft. will have sufficient resistance to the total lateral load.

Structural fill for use below new shallow foundation footings, as needed to replace existing unsuitable man-placed fill, should consist of a well-graded sand and gravel that has a maximum percent finer by weight passing the No. 200 sieve of 8 percent. Structural fill should be placed in maximum 8 in. thick lifts and each lift compacted to a dry density at least 95 percent of the maximum dry density determined by ASTM D1557. We anticipate that compacted structural fill will need to be obtained from an off-site source.

Regarding construction, it is likely that some dewatering will be needed for footing excavations below about El. 1, such as at the east building corner.

Please give us a call if you have any questions or need additional information.

Very truly yours,

David L. Freed, P.E.
Geotechnical Associate

Enclosures:

Table I – Summary of Test Borings
Drawing 1 – Test Boring Plan
Test Boring Logs (B-1, B-2, B-3, B-3A, and B-3B)

GNCB
Consulting Engineers, P.C.

TABLE I

SUMMARY OF TEST BORINGS

FRASCARELLI RESIDENCE
32 MASSACHUSETTS ROAD, LYME CONNECTICUT

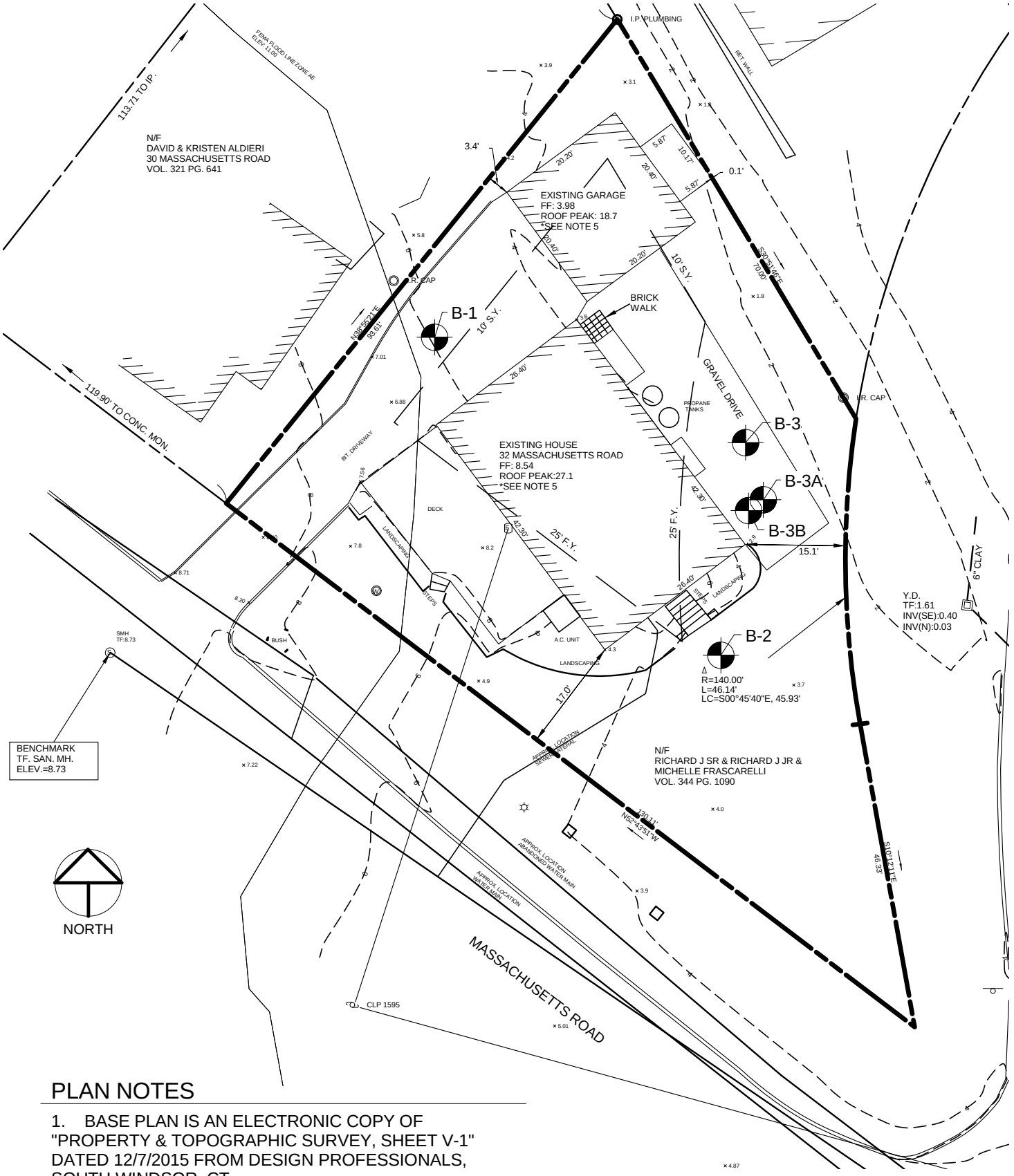
TEST BORING NO.	TOTAL DEPTH (FT.)	APPROX. ELEV. GROUND SURF. (FT.)	ELEV. WATER (FT.)	THICKNESS SOIL (Ft.)					ELEV. TOP SUITABLE BEARING (FT.)
				FILL	SOFT ORGANIC SOIL	ALLUVIUM	SAND AND GRAVEL	GLACIAL TILL	
B-1(R)	24.0	6.0	1.0	2.5	0.0	0.0	18.5	3.0	3.5 (SG)
B-2(R)	28.0	4.0	2.0	2.0	0.0	0.0	24.0	2.0	2.0 (SG)
B-3	9.0	2.0	1.0	1.0	5.0	1.0	2.0+	-	-4.0(A)
B-3A	7.0	2.5	1.0	1.0	2.5	3.5+	-	-	-1.0 (A)
B-3B	4.5	2.5	1.0	0.5	3.0	1.0+	-	-	+0.5(A)

(R) Test boring refusal

SG – Sand and Gravel
A – Alluvium

NOTES

1. Refer to Drawing 1 for location of test boring.
2. Elevations are in feet and refer to NAVD 88.
3. GNCB located test borings in the field and estimated ground surface elevations.



PLAN NOTES

1. BASE PLAN IS AN ELECTRONIC COPY OF "PROPERTY & TOPOGRAPHIC SURVEY, SHEET V-1" DATED 12/7/2015 FROM DESIGN PROFESSIONALS, SOUTH WINDSOR, CT.

LEGEND

B-1 — LOCATION OF TEST BORING DRILLED BY GENERAL BORINGS, INC. ON FEBRUARY 04, 2016.

2 — EXISTING GROUND SURFACE CONTOURS SHOWN ON BASE PLAN

GNCB Consulting Engineers, P.C.
130 ELM STREET
POST OFFICE BOX 802
OLD SAYBROOK
CONNECTICUT 06475
PHONE: 860 388 1224
FAX: 860 388 4613
GNCBENGINEERS.COM

FRASCARELLI RESIDENCE
32 MASSACHUSETTS RD, SOUTH LYME, CT

TEST BORING PLAN

SCALE: 1" = 20 FT. MARCH 2016

SHEET 1 OF 1

CLIENT: GNCB Consulting Engineers

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

FOREMAN/DRILLER: John Wyant

SOIL ENGINEER

PROJECT NAME: Frascarelli Residence

INSPECTOR: Garry Jacobson

LOCATION: South Lyme, CT

DESIGN ENGINEER

Surface Elevation: 6.0

GBI JOB NO. 14-16

	TYPE	S Auger		Casing	Sampler	Core Bar
Date Started: 2/4/16		H Auger		HA	S . S.	
Date Finished: 2/4/16	Size I. D.			3-1/4"	1-3/8"	
Groundwater Observations	Hammer				140 LBS.	Bit
AT 5.0 AFTER 0.0 HRS	Fall				30"	
AT AFTER HRS						

Hole No. B-1

Line & Station

Offset L R

N Coordinate

E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											.1'	2" Asphalt
		1.0-3.0	1	24	7	SS	2	1	1	2	2.5'	1) Very loose-Brown fine-coarse SAND, little silt and fine-medium GRAVEL. Fill to 2.5'
		3.0-5.0	2	24	14	SS	4	7	16	21		
5												2) Medium-Light brown fine-coarse SAND and fine-medium GRAVEL.
		5.0-7.0	3	24	20	SS	4	10	8	13		3) Medium-Brown fine-coarse SAND and fine-medium GRAVEL.
											SAND	
10											AND	
		10.0-12.0	4	24	18	SS	3	4	5	7	GRAVEL.	4) Loose-Tan fine-medium SAND, trace coarse sand.
15												
		15.0-17.0	5	24	24	SS	2	5	11	13		5) Medium-Gray fine-medium SAND, grading to fine sand. (note1)
20												
		20.0-21.7	6	20	20	SS	6	20	35	20/2"	21.0' TILL	6) Medium-Gray-brown fine-medium SAND.
												Bottom 8" -Tan gravelly coarse to fine SAND, with decomposed cobble.
25											24.0' EOB	Auger refused at 24.0'
												END OF BORING 24.0'
30												Note1-Running sand encountered at 20.0', however a head of water stabilized conditions.
35												
40												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet

Feet in Earth 24 Feet in Rock 0 No. of Samples 6 **Hole No.** B-1

SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON

PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

SHEET 1 OF 1

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

CLIENT: GNCB Consulting Engineers

FOREMAN/DRILLER: John Wyant

INSPECTOR: Garry Jacobson

Surface Elevation: 4.0

Date Started: 2/4/16

Date Finished: 2/4/16

Groundwater Observations

AT 2.0 AFTER 0.0 HRS

AT AFTER HRS

PROJECT NAME: Frascarelli Residence

LOCATION: South Lyme, CT

GBI JOB NO. 14-16

SOIL ENGINEER

DESIGN ENGINEER

TYPE	S Auger		Casing	Sampler	Core Bar
	H Auger		HA	S . S.	
Size I. D.			3-1/4"	1-3/8"	
Hammer				140 LBS.	Bit
Fall				30"	

Hole No. B-2

Line & Station

Offset L R

N Coordinate

E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0-2.0	1	24	3	SS	1	2	3	6	FILL 2.0'	1) Loose-TOPSOIL
		2.0-4.0	2	24	8	SS	6	14	20	16		2) Dense-Brown fine-coarse SAND and GRAVEL.
5												
		5.0-7.0	3	24	14	SS	4	5	6	6		3) Medium-Light brown fine-coarse SAND, some fine-medium gravel.
		7.0-9.0	4	24	18	SS	3	6	5	6	SAND AND GRAVEL	4) Medium-Same as S-3, except gray laminated fine sand from 8.5'-9.0'
10												
		10.0-12.0	5	24	8	S	3	8	22	25		5) Dense-Brown fine-coarse SAND and fine-medium GRAVEL.
15												
		15.0-17.0	6	24	18	SS	2	5	6	10		6) Medium-Brown changing to rust brown , Same as S-5
20												
		20.0-22.0	7	24	14	SS	6	5	6	7		7) Medium-Gray fine-coarse SAND, some silt. Running sand at 22.0'
25												
		25.0-27.0	8	24	14	SS	21	22	18	15	26.0'	8) Very dense-Top 8" Gray fine-medium SAND, trace gravel and silt.
											TILL 28.0' EOB	8) Very dense-Olive-brown fine-coarse SAND and fine-medium GRAVEL, trace little silt. (moderately bonded) Auger refused at 28.0'
30												
												END OF BORING 28.0'
35												
40												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet

Feet in Earth 27 Feet in Rock 0 No. of Samples 8 **Hole No.** B-2

SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON

PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

SHEET 1 OF 1

CLIENT: GNCB Consulting Engineers

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

FOREMAN/DRILLER: John Wyant

SOIL ENGINEER

PROJECT NAME: Frascarelli Residence

INSPECTOR: Garry Jacobson

LOCATION: South Lyme, CT

DESIGN ENGINEER

Surface Elevation: 2.0

GBI JOB NO. 14-16

	TYPE	S Auger		Casing	Sampler	Core Bar	
Date Started: 2/4/16		H Auger		HA	S . S.		**Hole No.** B-3
Date Finished: 2/4/16							Line & Station
Groundwater Observations	Size I. D.			3-1/4"	1-3/8"		Offset L R
AT 1.0 AFTER 0.0 HRS	Hammer				140 LBS.	Bit	N Coordinate
AT AFTER HRS	Fall				30"		E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											1.0'	12" GRAVEL (FILL)
		1.0-3.0	1	24	18	SS	3	2	1	1		1) Very soft-Organic SILT, PEAT, AND FIBERS.
											ORGANIC SOIL	
		3.0-5.0	2	24	14	SS	2	5	5	5		2) Very stiff-Same as S-1
5												Bottom-Fine-medium SAND and
		5.0-7.0	3	24	10	SS	4	4	3	3	6.0'	GRAVEL.
											7.0'	3) Top 6" Loose-Dark brown silty PEAT.
		7.0-9.0	4	24		SS	3	4	7	7	OUTWASH	race gravel.
											9.0'	Bottom 4" Gray fine-medium SAND,
10											EOB	trace organic silt and fibers (ALLUVIUM)
												4) Medium-Orange-brown fine-coarse SAND and fine-medium GRAVEL, trace silt. (OUTWASH)
												END OF BORING 9.0'
15												
20												
25												
30												
35												
40												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet

Feet in Earth 9 Feet in Rock 0 No. of Samples 4 **Hole No.** B-3

SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON

PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

SHEET 1 OF 1

CLIENT: GNCB Consulting Engineers

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

FOREMAN/DRILLER: John Wyant

SOIL ENGINEER

PROJECT NAME: Frascarelli Residence

INSPECTOR: Garry Jacobson

LOCATION: South Lyme, CT

DESIGN ENGINEER

Surface Elevation: 2.5

GBI JOB NO. 14-16

	TYPE	S Auger		Casing	Sampler	Core Bar	Hole No. B-3A
Date Started: 2/4/16		H Auger		HA	S . S.		Line & Station
Date Finished: 2/4/16	Size I. D.			3-1/4"	1-3/8"		Offset L R
Groundwater Observations	Hammer				140 LBS.	Bit	N Coordinate
AT 1.5 AFTER 0.0 HRS	Fall				30"		E. Coordinate
AT AFTER HRS							

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
											1.0'	(augered to 3.0', Fill to 1.0'
											ORGANIC 3.5'	1) Top 2" Soft-Dark brown silty PEAT. (ORGANIC SOIL)
		3.0-5.0	1	24	3	SS	6	6	12	10	ALLUVIUM	1) Medium-Fine-medium SAND and GRAVEL, trace peat.
5												2) Medium-Dark brown fine-coarse SAND and fine-medium GRAVEL.
		5.0-7.0	2	2	8	SS	13	3	7	8	7.0'	
											EOB	END OF BORING 7.0'
10												
15												
20												
25												
30												
35												
40												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet

Feet in Earth 7 Feet in Rock 0 No. of Samples 2 **Hole No.** B-3A

SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON

PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

SHEET 1 OF 1

General Borings, Inc.

P. O. BOX 7135 PROSPECT, CT 06712

CLIENT: GNCB Consulting Engineers

FOREMAN/DRILLER: John Wyant

INSPECTOR: Garry Jacobson

Surface Elevation: 2.5

Date Started: 2/4/16

Date Finished: 2/4/16

Groundwater Observations

AT 1.5 AFTER 0.0 HRS

AT AFTER HRS

PROJECT NAME: Frascarelli Residence

LOCATION: South Lyme, CT

GBI JOB NO. 14-16

SOIL ENGINEER

DESIGN ENGINEER

TYPE	S Auger		Casing	Sampler	Core Bar
	H Auger		HA	S . S.	
Size I. D.			3-1/4"	1-3/8"	
Hammer				140 LBS.	Bit
Fall				30"	

Hole No. B-3B

Line & Station

Offset L R

N Coordinate

E. Coordinate

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. IN	REC. IN	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12 18	18 24	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
		0.5-2.5	1	24	18	SS	1	2	1	2	.5'	6" Gravel
											ORGANIC	1) Very soft-Brown medium-fine
		2.5-4.5	2	24	8	SS	4	6	7	9	3.5'	sandy organic SILT.
											4.5'	2) Top 4" Same as S-1
5											EOB	2) Medium-Bottom 4" Dark brown gravelly coarse-fine SAND, (Alluvium)
												END OF BORING 4.5'
10												
15												
20												
25												
30												
35												
40												

From Ground Surface to Feet Used in. Casing Then in. Casing For Feet

Feet in Earth 4.5 Feet in Rock 0 No. of Samples 2 **Hole No.** B-3B

SAMPLE TYPE CODING: SS = DRIVEN C = CORE A = AUGER U = UNDISTURBED PISTON

PROPORTIONS USED: TRACE = 1-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

13-Dewatering

Pump Intake And Outlet Protection (PuP)

Definition
Structures or other protective devices into which or on which intake and discharge hoses are placed during pumping operations.

Purpose
- To reduce the amount of sediments taken up by a pump during dewatering operations.
- To prevent soil erosion due to scouring and the resuspension of detained sediments at the point of pump discharge.

Applicability
Wherever dewatering is required by means of pumping such as cofferdams, building foundations, utility line installation (or repair) and pond construction or rehabilitation.

Planning Considerations
There is no specific design for this measure. The pump intake protection shown in **Figure PuP-1** and **Figure PuP-2** illustrate basic design concepts which when implemented during dewatering operations reduce sediment uptake.

Typically, pump intakes are installed in sumps that have been excavated below the grade such that water drains away from the active construction area. The location and size of sumps are dependent upon the field conditions found at the time of construction and dewatering operations. The expected conditions and potential sump needs should be noted on the plans. The sumps may require relocation as work progresses.

The pump outlet protection shown in **Figure PuP-3** illustrate basic design concepts which when implemented during dewatering operations reduces soil erosion and resuspension of sediments.

Specifications

Sizing Pumping Sumps
Determine the size of the pumping sump based upon the volume of water required to be pumped and the size of the pump. When using portable sediment storage tanks, the sump shall be capable of storing the amount of water that enters the dewatering site during time that it takes to switch portable sediment storage tanks.

For dewatering trenches, cofferdams and foundation excavations the sump is typically excavated 2 feet or more below the grade of the proposed work.

For pond rehabilitation the sump shall be a minimum of 2 feet below the pond bottom, depending upon the dewatering needs of material to be removed from the pond. Size of the sump is dependent upon conditions in the pond.

Installation
1. Determine if a sump is needed and the appropriate method of pump intake and outlet protection.

2. Where standing water is encountered in the area of a proposed sump, begin dewatering the site by floating the pump intake at the water's surface. Carefully monitor water levels to prevent the uptake of bottom sediments.

3. Excavate the sump within or adjacent to the area to be dewatered. Install pump intake and outlet protection before pumping begins.

4. Installation of the pump intake protection should conform to pumping rates and the general design concepts. **Figure PuP-1** shows a typical sump and intake constructed of stone imbedded with a perforated stand pipe. It is generally used where there is no need to frequently move the pumping sump or where the stone can be used on site for bedding material. In some instances the prefiltration of discharge waters may be enough to reduce or eliminate the need for a dewatering basin or portable sediment tank. **Figure PuP-2** shows a typical sump and intake that calls for lining (rather than filling) the pumping

sump with stone and attaching a strainer to the suction hose so that the hose is suspended off the bottom of the pumping sump and is protected against pumping bottom sediments. This design is useful when frequent relocation of the pumping sump is anticipated. However, it does not reduce the need for a dewatering basin.

5. The pump outlet protection shall adequately dissipate the energy of the discharge so as to prevent erosion and the resuspension of sediments at the point of discharge. **Figure PuP-3** illustrates an example of pump outlet protection. Pump outlet protection is required even if the discharge is to a pumping settling basin.

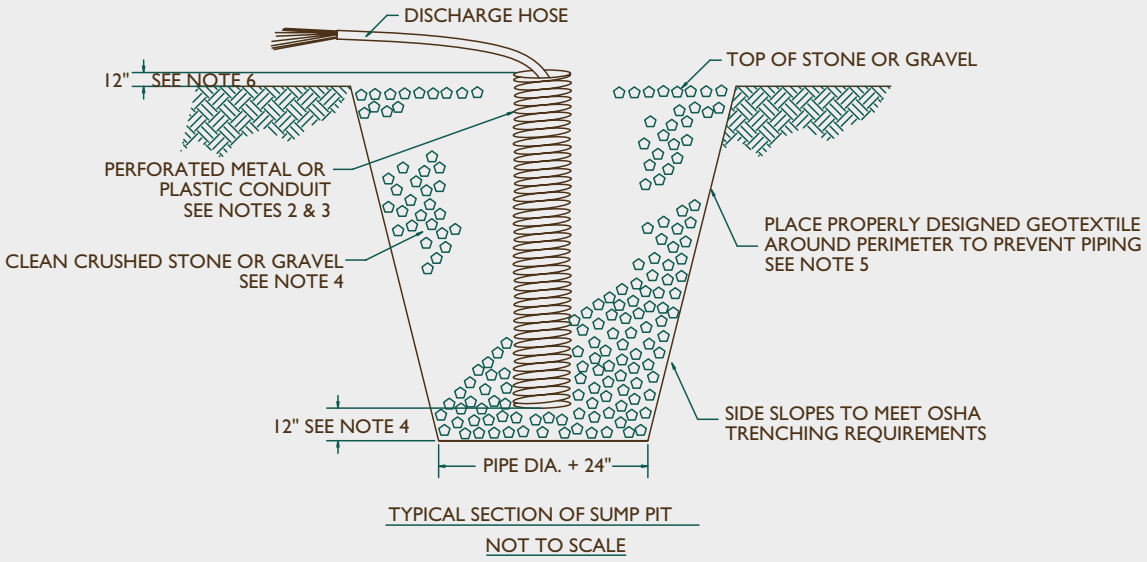
Operation

Monitor pumping operations and adjust pumping rates as needed to keep the construction area dewatered, and minimize pumping sediment.

Maintenance

Inspect the pumping sump, pump intake protection and pump discharge conditions frequently during dewatering operations for proper functioning of equipment.

Figure PuP-1 Pump Intake Protection Using Stone Filled Sump with Standpipe



TYPICAL SECTION OF SUMP PIT

NOT TO SCALE

1. OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
2. THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATION SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
4. CRUSHED STONE OR GRAVEL SHALL BE NO SMALLER THAN CT DOT #67 SIZE NOR LARGER THAN CT DOT #3 SIZE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

Source: USDA-NRCS

Figure PuP-2 Pump Intake Protection Using Sump with Strainer

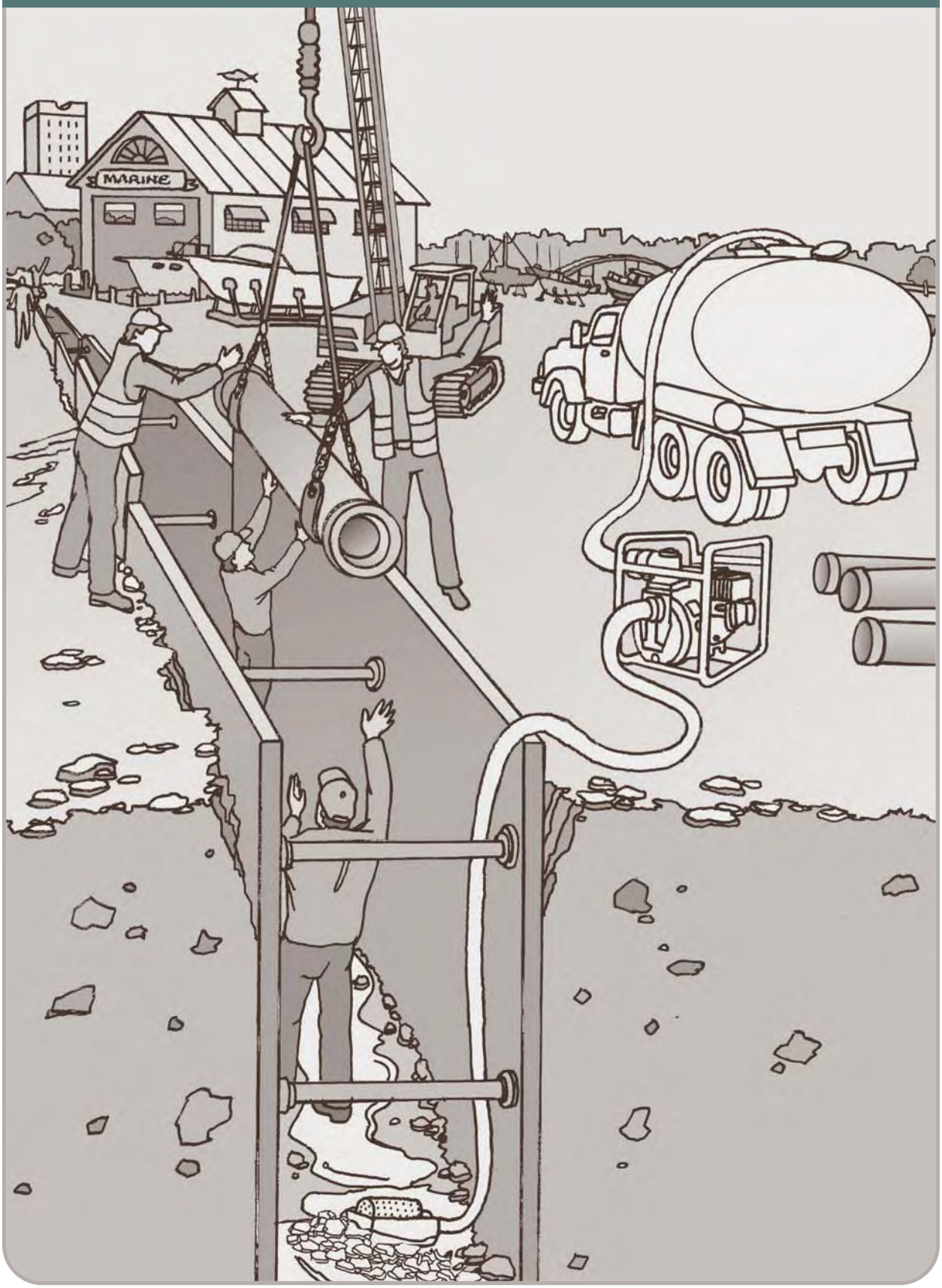
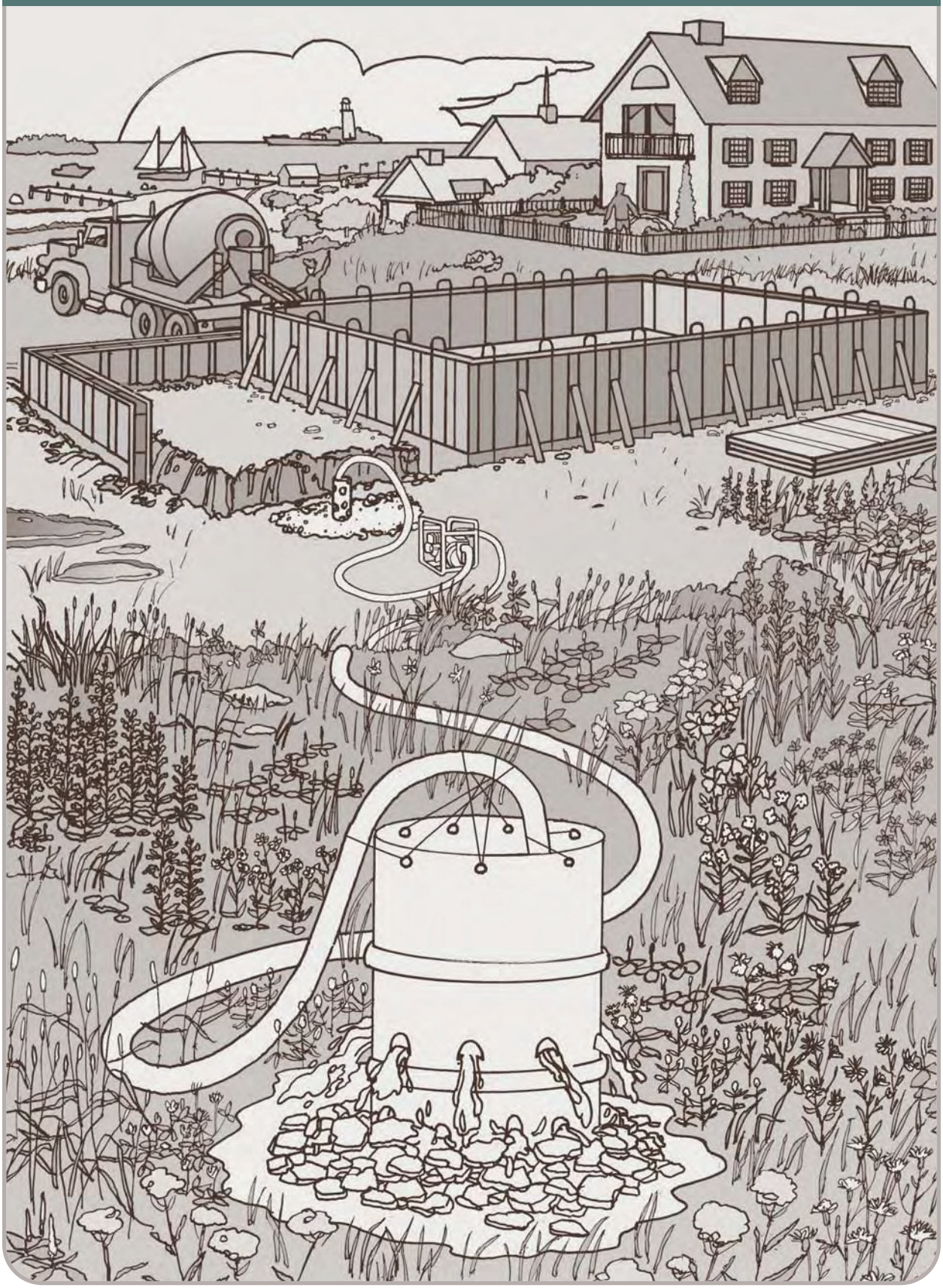


Figure PuP-3 Examples of Pump Outlet Protection



13-Dewatering

Pumping Settling Basin (PSB)

Definition
An enclosed sediment barrier or excavated pit constructed with a stable inlet and outlet such that sediment laden water from pumping operations is de-energized and temporarily stored, allowing sediments to be settled and/or filtered out before being released from the construction site.

Purpose
To allow for the settlement of sediment from pumping operations prior to the water being discharged.

Applicability
- When a pump discharge from a construction area is sediment laden.
- Not for use with hydraulic dredging operations in open waters. (See **Dewatering of Earth Materials** measure).

Specifications

Materials
Whenever used in this measure:

hay bale barriers shall meet those required in the ***Hay Bale Barrier*** *measure.*

geotextile shall meet that required in the ***Geotextile Silt Fence*** *measure, and*

pump surge energy dissipators shall be provided and capable of sufficiently de-energizing pump discharges to prevent scour and remain in place (See ***Pump Intake and Outlet Protection*** *measure).*

Sizing
Pumping settling basins are sized to have a minimum retention time of 2 hours. Use the following formula to determine the storage volume required:

$$\text{Cubic feet of storage required} = \text{Pump Discharge Rate (g.p.m.)} \times 16$$

For sites where available storage is insufficient at the planned pumping rate, the maximum pumping rate is determined from the following formula:

$$\text{Pump Discharge Rate (g.p.m.)} = \frac{\text{Cubic feet of storage available}}{16}$$

In calculating the capacity, include the volume available from the floor of the basin to the crest of the outlet control.

Location

Locate the pumping settling basin on the site such that surface water is directed away from the pumping settling basin (See **Temporary Water Diversion** measure).

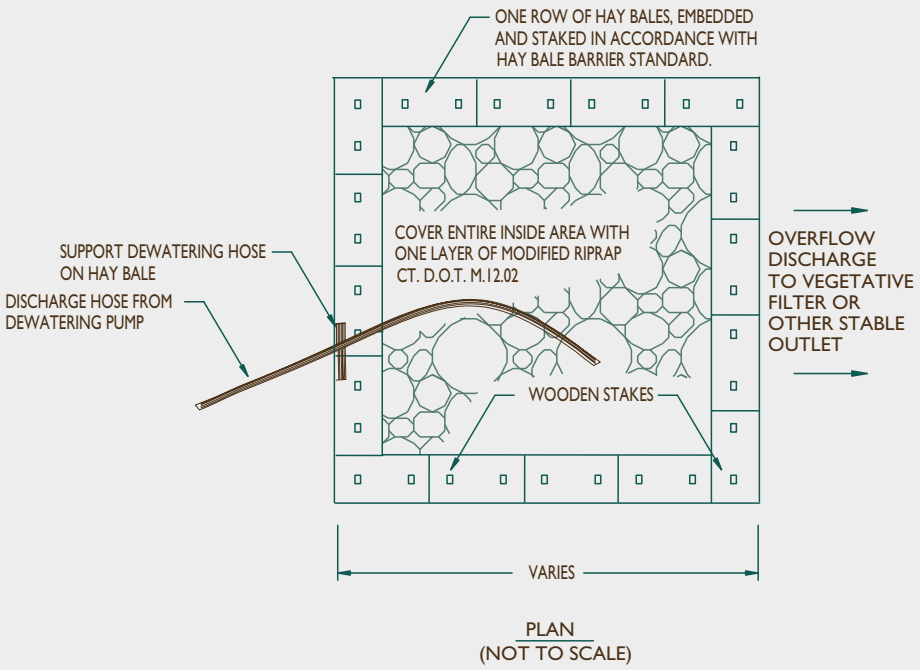
Installation

All dewatering basins, regardless of type, contain a water/sediment storage area, an energy dissipator for pump discharges entering the basin (See **Pump Intake and Outlet Protection** measure and an emergence overflow that provides for a stable filtration surface through which water may leave the basin. Pump discharge is located at a point in the dewatering basin that is farthest from the basin outlet.

Depending upon existing soil conditions and side slopes of excavated pumping settling basin, soil stabilization may be required. The excavation may be lined with geotextile or stone to help reduce scour and to prevent the erosion of soil from within the structure.

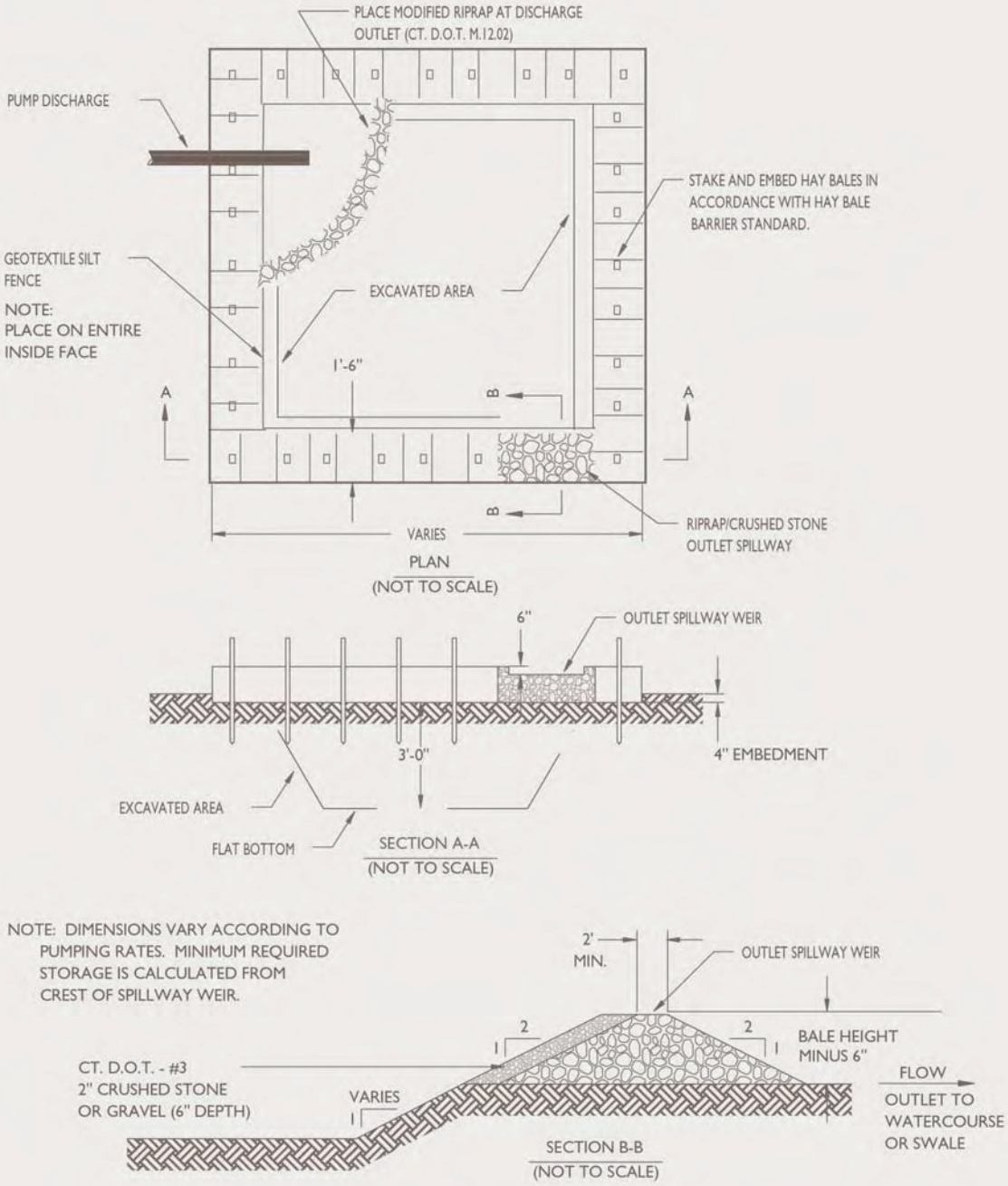
Type I - Small Volumes: Consist of an above ground enclosure created by a **Hay Bale Barrier**. See **Hay Bale Barrier** measure for material specifications and general installation requirements. This type of basin is located only on flat grades and is limited for use by its storage volume where the anticipated sediment delivery would not require cleaning and the expected use is for a very short duration. For calculating storage use the top of the lowest hay bale on the perimeter to the crest of the outlet control. An example of use for this type of basin would be a dewatering operation for a trench where no adequate vegetated filter exists (See **Vegetated Filter** measure) before the discharge enter into critical area such as a wetland, watercourse, street

Figure PSB-1 Example of Type I Pumping Settling Basin



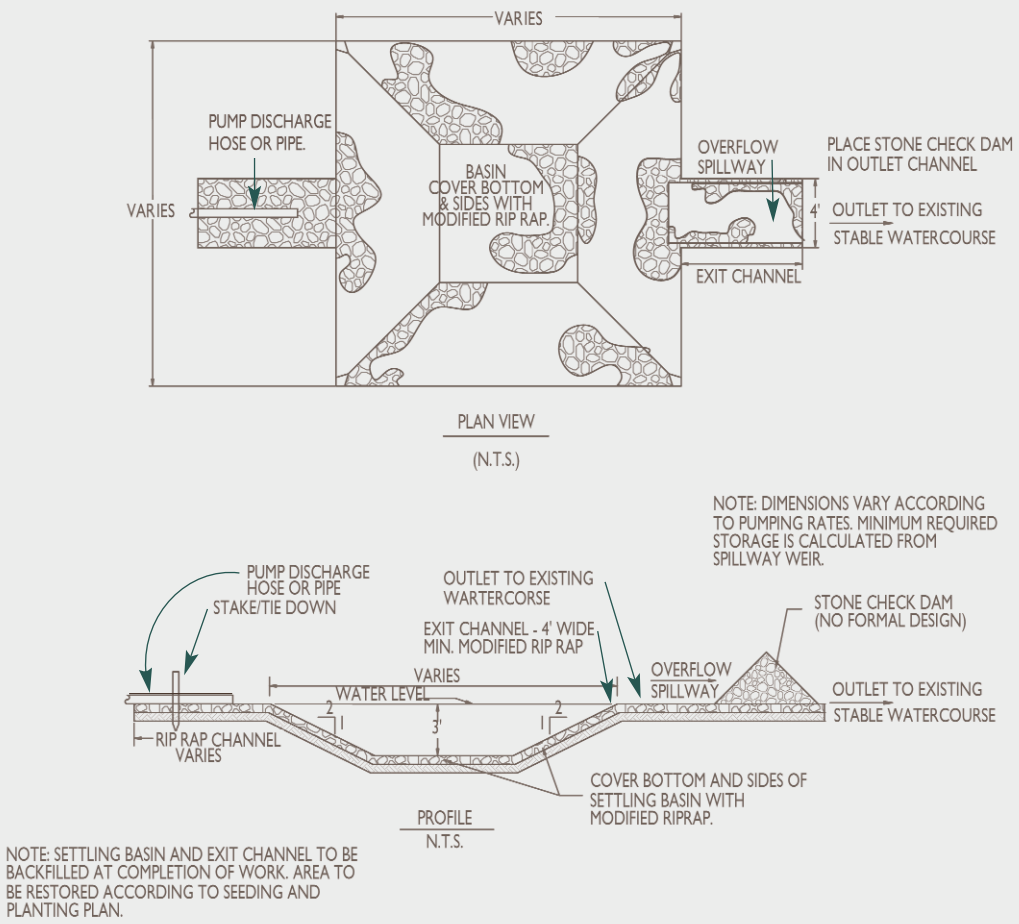
Source: USDA-NRCS

Figure PSB-2 Example of Type II Dewatering Settling Basin



Source: USDA-NRCS

Figure PSB-3 Example of Type III Pumping Settling Basin



Source: USDA-NRCS

13-Dewatering

Portable Sediment Tank (PST)

Definition
A tank or container into which sediment laden water is pumped in order to trap and retain the sediment before discharging the water or to transport the sediment laden water to an approved location for further treatment.

Purpose
To trap and retain sediment.

Applicability
- When a pump discharge from a construction area is sediment laden and space limitations prevent the use of a pumping settling basin.
- For sites with severe space limitations, a portable sediment tank may be used to transport the sediment laden water to an approved location.

Planning Considerations
Typically used with cofferdam dewatering associated with bridge repair work, utility work or in the redevelopment of urban areas.

When pumping requirements are expected to exceed the two hour storage capacity of the sediment tank and pumping cannot be discontinued for the length of time needed to drain the tank properly at the pumping site, consider using two or more portable sediment tanks that may be alternately filled, moved and drained at an acceptable location. Former milk trucks or water trucks have been used for this purpose where off-site disposal has allowed for off-site dewatering basins or adequate filtration by vegetative buffers. Do not use a tank that was formerly used for contaminated or hazardous materials.

When a portable dewatering tank is to be used next to a cofferdam, the weight of the tank and maximum volume of water and associated structures must be considered when constructing the cofferdam to ensure the structural stability of the cofferdam. Alternately, if the cofferdam has already been built, before placing any tank adjacent to the cofferdam, consider the cofferdam's ability to remain structurally stable when the tank is full.

Specifications

Materials
The tank is a structure constructed of steel, sturdy wood or other material suitable for handling the pressure exerted by the volume of water to be stored. The pump discharge into the tank shall be located at a point in the portable sediment tank that is farthest from the tank outlet. The outlet of the tank shall be equipped with an energy dissipator.

Location
Locate non-portable sediment tanks for ease of clean-out and disposal of the trapped sediment, and to minimize the interference with construction activities and pedestrian traffic.

Tank Sizing for On-Site Discharges
For discharging the portable sediment tank directly, size the tank to have a minimum retention time of at least 2 hours. Use the following formula to determine the storage volume required:

Cubic feet of storage required = *Pump Discharge Rate (g.p.m.) x 16*

When the tank size available is insufficient at the planned pumping rate, maximum pumping rate is determined from the following formula:

$$\textit{Pump Discharge Rate (g.p.m.)} = \frac{\textit{Cubic feet of storage available}}{16}$$

An example of a typical sediment tank is shown on **Figure PST-1**. Other container designs may be used if the storage volume is adequate and is approved by the regulating agency.

When the tank size available cannot meet the 2-hour storage requirement and reduced pumping rates are not practical, then several tanks may be alternately filled and drained with pumping rates restricted to meet tank transport, draining and return times.

Operation

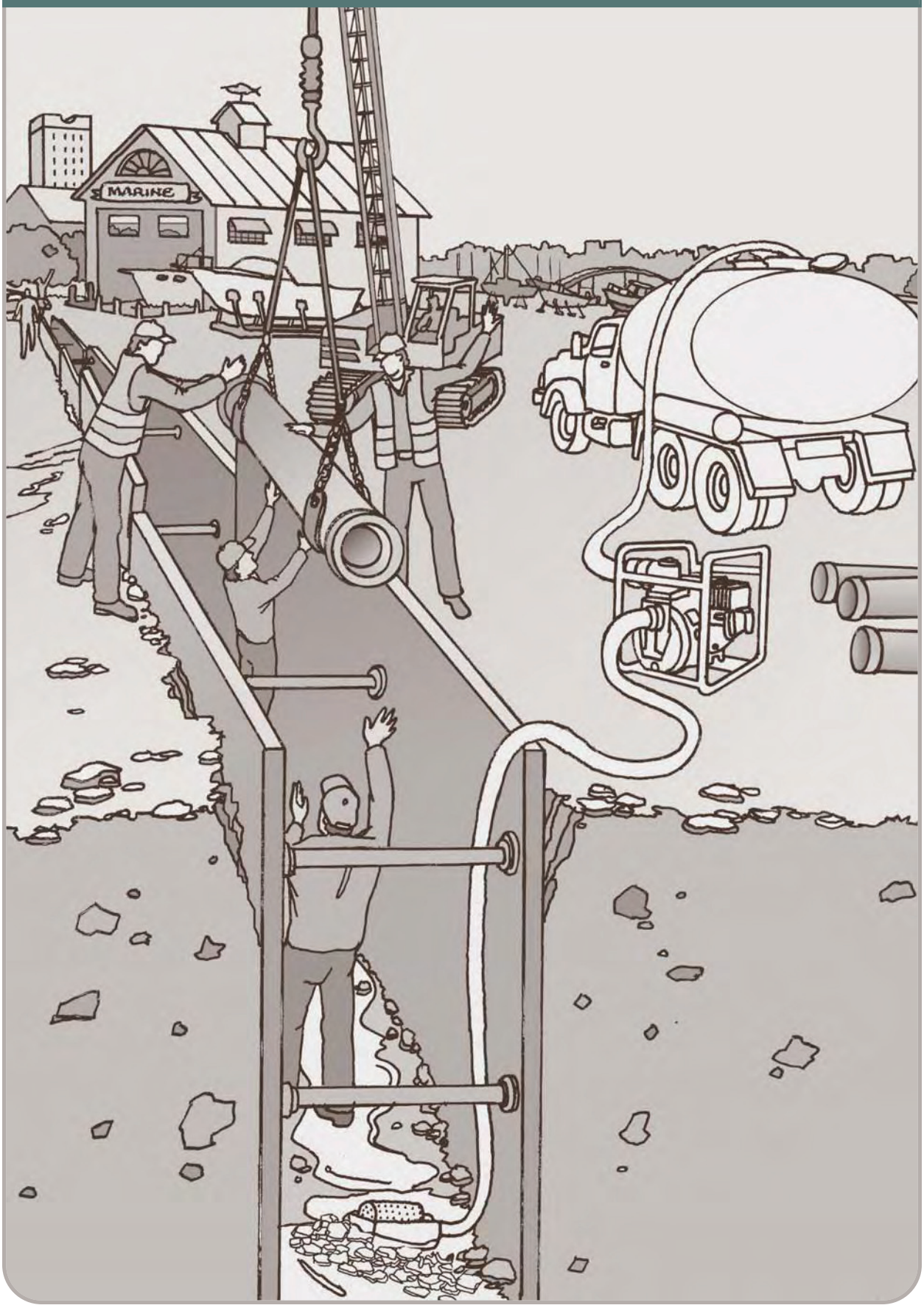
Once the water level nears the top of the tank, either shut off the pump while the tank drains and additional capacity is made available, or transport the tank to an appropriate disposal site.

Maintenance

Inspect the sediment tank continuously during use. For a tank that is discharging water while the pumping operation is ongoing and when the wet storage area has lost one half of its volume to sediment build up, discontinue pumping and remove accumulated sediments or replace the tank. For a tank that is used to transport the pumped water to a location distant from the pumping operation, discontinue pumping long enough to change the tank.

Any transported discharge of water and cleaning of the tank shall be done in such a manner as to prevent sediment laden water from reaching a wetland, watercourse or paved travelway.

Figure PST-1 Portable Sediment Tank In Operation



13-Dewatering

Dewatering of Earth Materials (DWM)

Definition
A procedure that uses a perimeter earthen berm and excavation to create a containment area where excessively wet soil is placed to allow for the draining of water or evaporation of excessive moisture.

Purpose
To dry soil sufficiently so that it may be regraded or transported.

Applicability
- When excavating saturated soils that are too wet to transport or to be contained with geotextile silt fence or hay bales.
- Not for dewatering contaminated soils. Handling of contaminated soils shall comply with the directives of the regulating agency (e.g. DEP and EPA).

Planning Considerations
Select a containment site that will be large enough to contain the anticipated volume of material to be dewatered and any perimeter berm. Locate the containment area so that the material being dewatered does not interfere with other construction activities and can be left for the time necessary for dewatering. Avoid wetlands, watercourses, drainageways and wooded areas. Sandy and gravelly material will generally dewater quicker than fine silts and clays, particularly if the containment area is gently sloping. The containment area can be divided into cells to allow for alternating use of the cells.

Design Criteria
An engineered design is required if (1) the berm for the containment area exceeds 3 feet in height above stripped, natural or original ground, or (2) the volume of materials needing dewatering exceeds 200 cubic yards at any one time. Use standard engineering practices.

Sizing
Size the containment area by the volume and type of material to be dewatered and the length of time that the material will remain stockpiled. Design the containment berm to withstand any anticipated loads.

Site Selection
Select a site where the slope is 8% or flatter. Do not locate on previously filled ground. Give preference to sites with well drained soils. An underdrain may be needed to improve the dewatering function of a containment area located on poorly drained soils.

Specifications
1. Strip and stockpile the topsoil from the containment area.

2. Divert surface water away from containment area as necessary (See **Temporary Diversion** Measure).

3. Construct the berm around the containment area with suitable soils. Certain types of soils are subject to instability upon saturation or loading and must be avoided. Examples of these soils include fine sands, silt loams, clay, peat and mucks. Sites containing such soils may require the borrowing of more suitable material from off site for berm construction.

4. Install a geotextile silt fence to filter the discharge from the disturbed area if an inadequate vegetated filter exists between the disturbed containment area and any wetland, watercourse or storm drain inlet. (See **Vegetated Filter** measure).

5. Place the saturated soil within the containment area such that drainage can occur.

Maintenance
Inspect containment area and associated sediment controls on a daily basis while dewatering operations are active. When dewatering operations are not active, inspect weekly or immediately after 0.5 inch of rain within a 24 hour period.

If the containment berm fails, determine the cause of the failure. If the berm failed due to overtopping, repair the berm and any damage caused by the berm failure and reduce usage of the containment area such that overtopping is prevented. If the berm experienced an internal structural failure, cease using the containment area, add additional controls to contain eroded sediments, repair the damage caused by the berm failure, and before repairing the berm have the dewatering operation reviewed by an engineer for repair requirements. Repair and clean out perimeter erosion and sediment controls as needed.

After dewatering operations are completed, regrade the containment area to a finished grade and stabilize in accordance with the planned use of the area .

Figure DW-1 Example of Non-Engineered Dewatering Containment Area for Dewatering Earth Materials

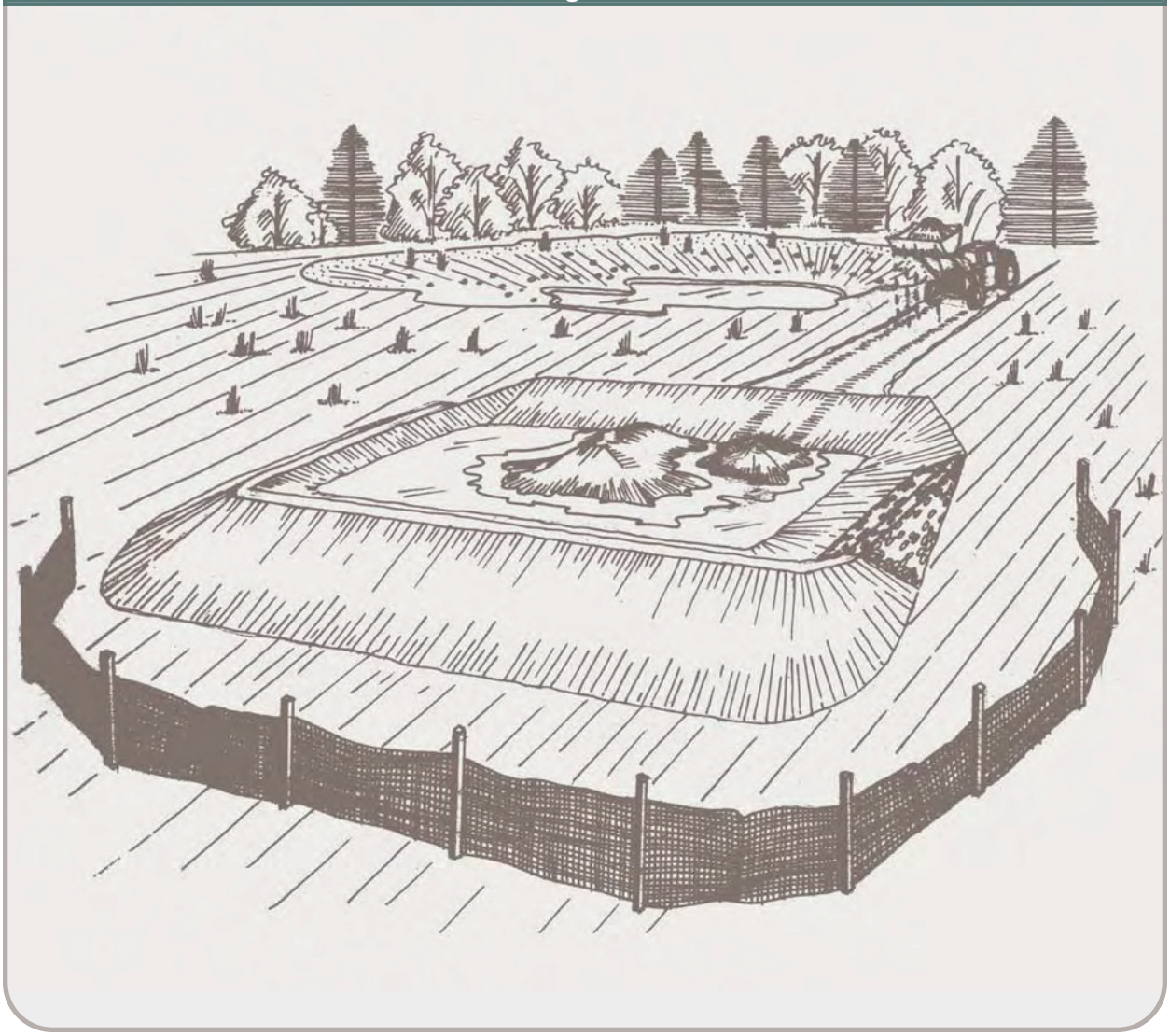
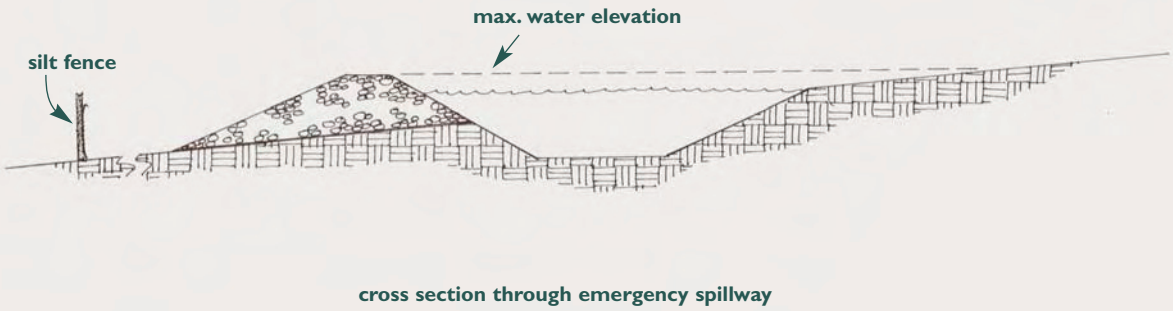
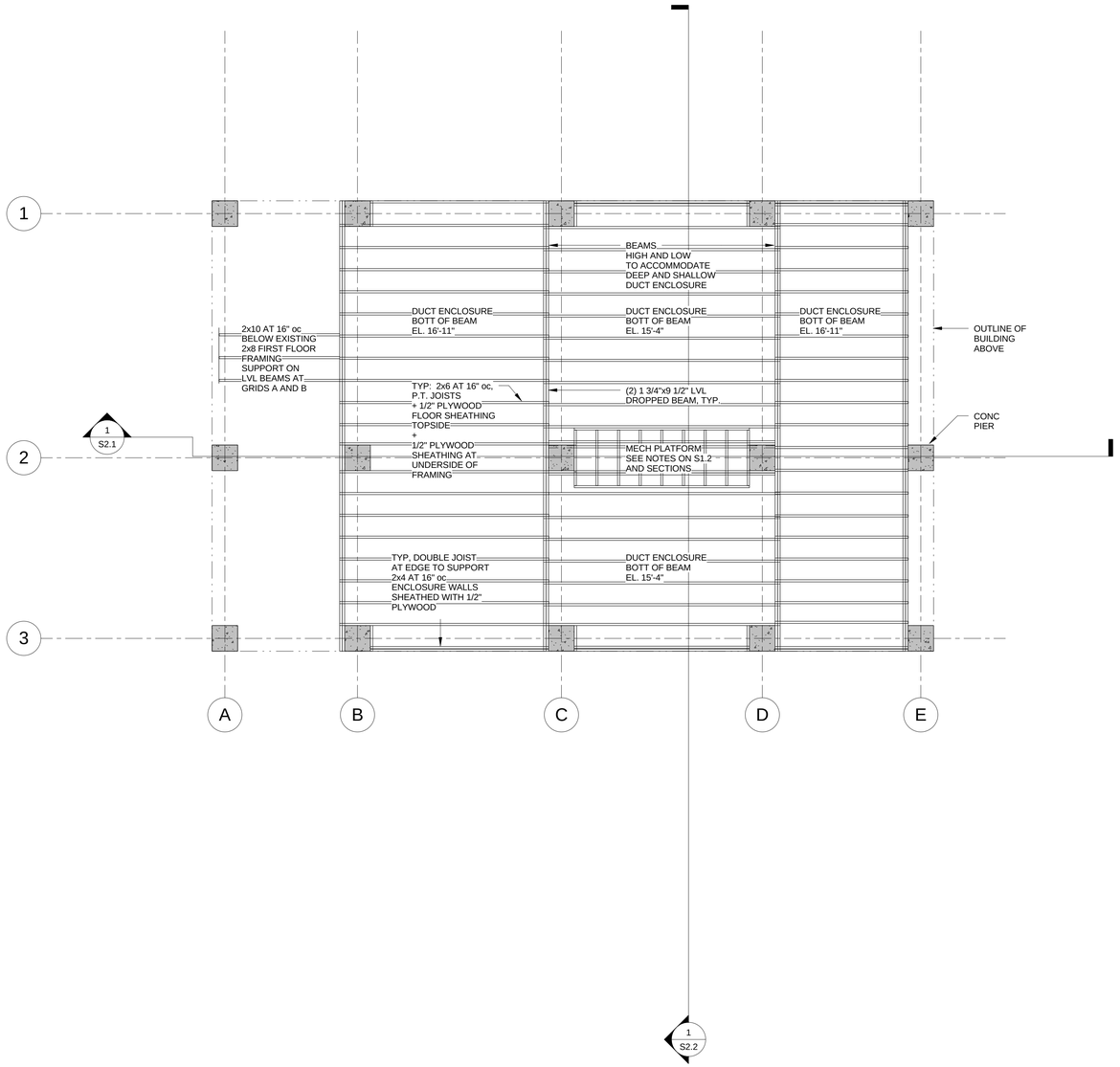


Figure DW-1A Cross Section – Example of Non–Engineered Dewatering Containment Area for Dewatering Earth Materials





1 PLATFORM AND DUCT ENCLOSURE FRAMING PLAN
1/4" = 1'-0"

CAPITAL STUDIO
architects LLC
1379 MAIN STREET EAST HARTFORD CT. 06108
860.289.3262 fax. 860.289.3163

THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OORR)

GENERAL RENOVATIONS for the FRASCARELLI RESIDENCE APPLICATION No. 2440 32 MASSACHUSETTS ROAD SOUTH LYME, CT 06376

Consultants:
GNCB Consulting Engineers, P.C.
130 ELM STREET
POST OFFICE BOX 802
OLD SAYBROOK
CONNECTICUT 06475
PHONE: 860 388 1224
FAX: 860 388 4613
GNCBENGINEERS.COM

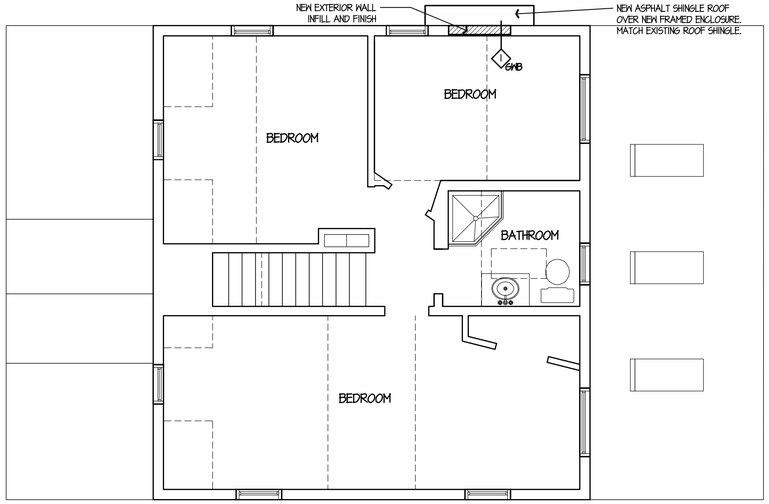
date	description	no.

revisions

REVISED FOR ADDENDUM 07JULY2016

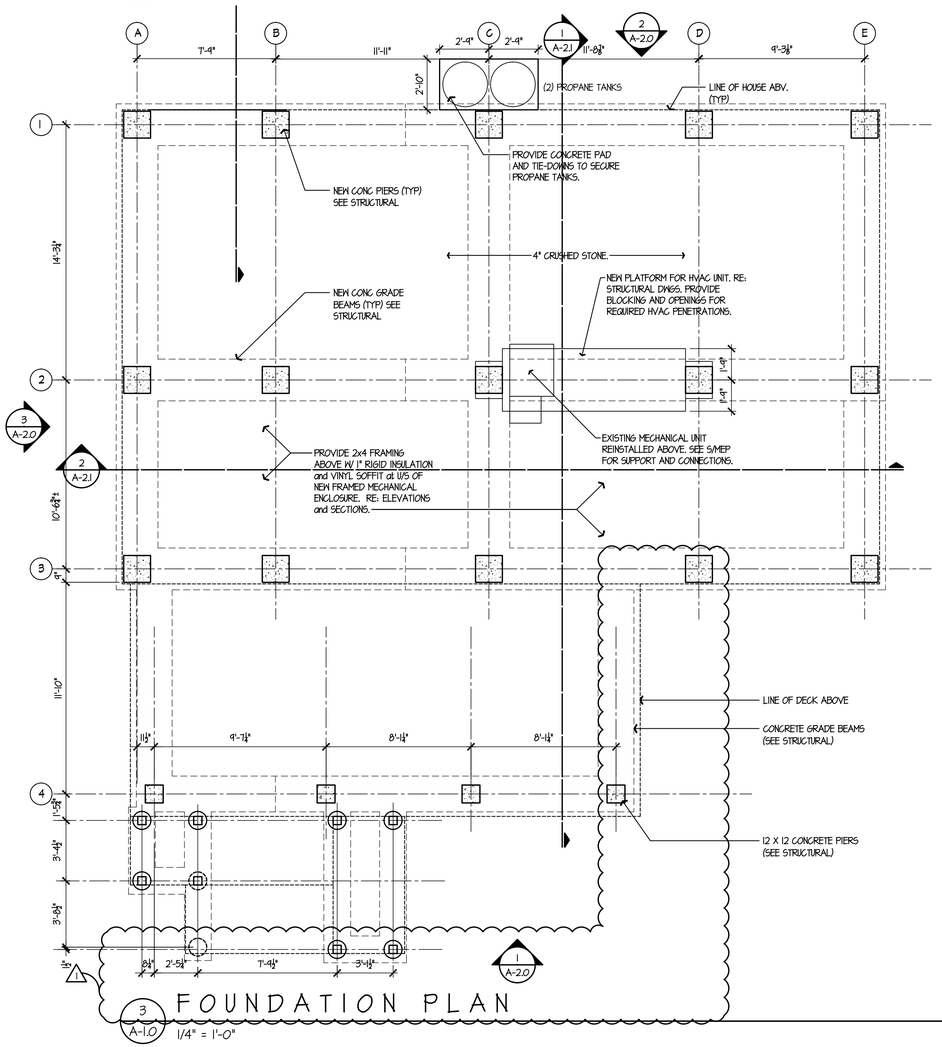
S1.1 A

date	05 MAY 2016	
drawn	RLB	
scale	As Indicated	
checked	CCB	
project no.	1347-51	GNCB#
application no.	2440	Project Number 15013



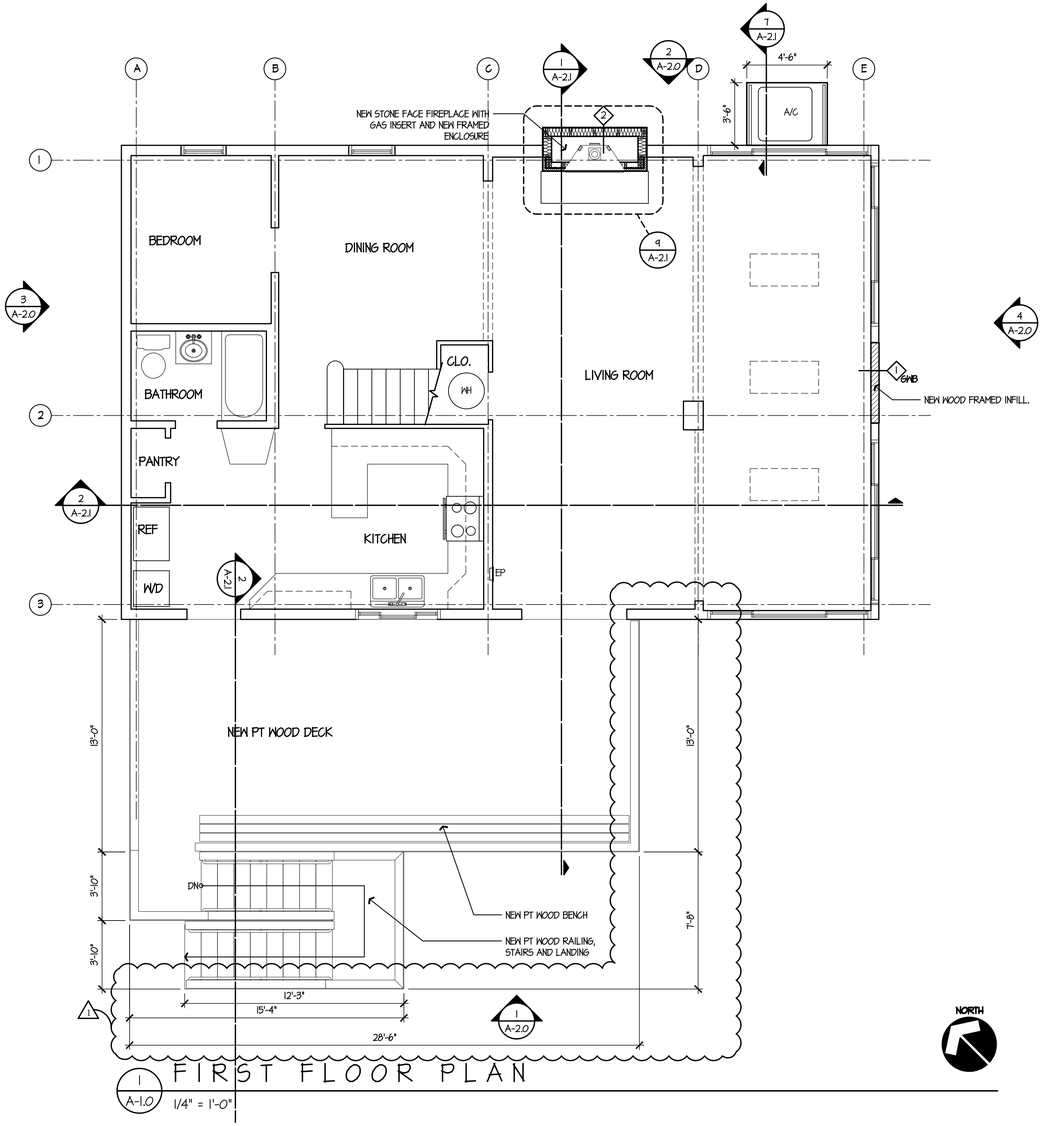
2 A-1.0 SECOND FLOOR PLAN

1/4" = 1'-0"



3 A-1.0 FOUNDATION PLAN

1/4" = 1'-0"



1 A-1.0 FIRST FLOOR PLAN

1/4" = 1'-0"

CAPITAL STUDIO
architects LLC
1379 MAIN STREET EAST HARTFORD CT. 06108
860.289.3262 fax 860.289.3163

THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OORR)

GENERAL RENOVATIONS for the FRASCARELI RESID. APPLICATION No. 2440
32 Massachusetts Road
South Lyme, CT 06376

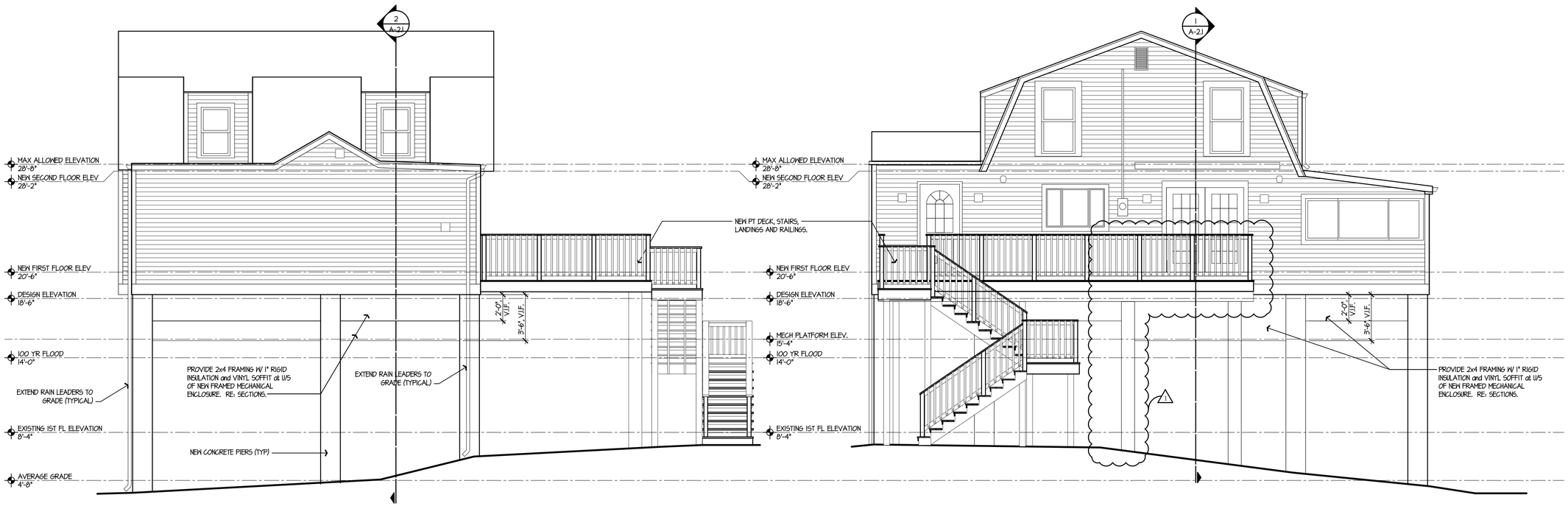
date	description	no.
07.07.16	ADDENDUM NO. 2	1

revisions

FLOOR PLANS

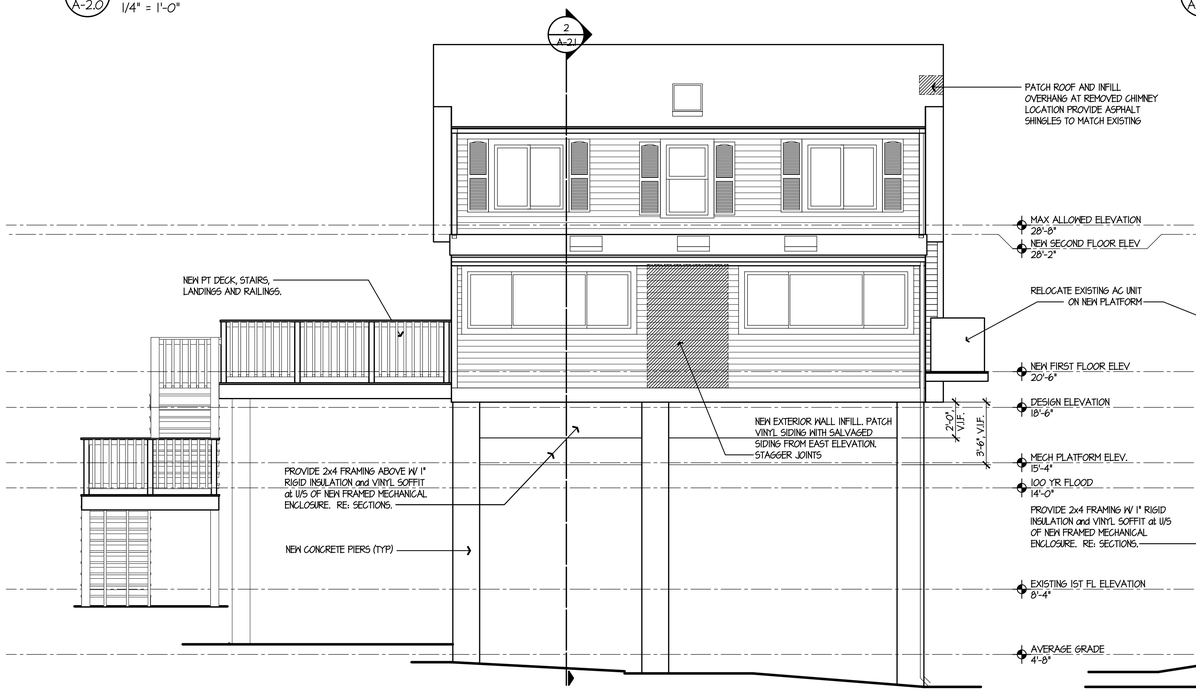
A-1.0

date	5 MAY 2016
drawn	PSR
scale	AS SHOWN
checked	JP/DH
project no.	1341-51
application no.	2440



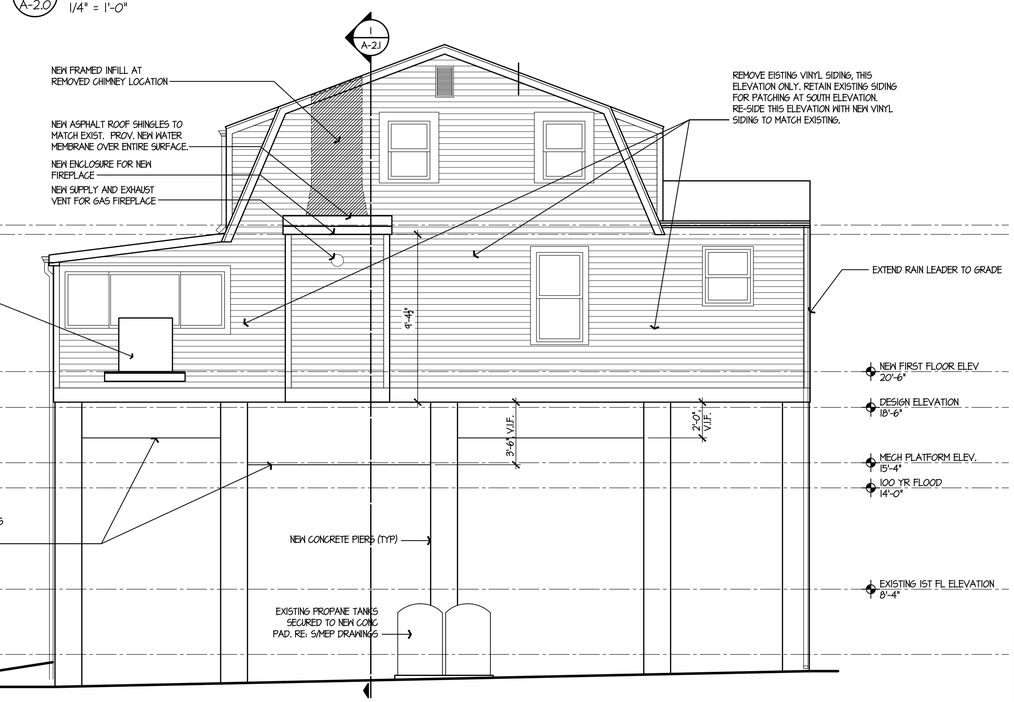
3 A-2.0 NORTH ELEVATION

1/4" = 1'-0"



1 A-2.0 WEST ELEVATION

1/4" = 1'-0"



4 A-2.0 SOUTH ELEVATION

1/4" = 1'-0"

2 A-2.0 EAST ELEVATION

1/4" = 1'-0"

CAPITAL STUDIO
architects LLC
1379 MAIN STREET EAST HARTFORD CT. 06108
860.289.3262 fax 860.289.3163

THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OORR)

GENERAL RENOVATIONS for the FRASCARELI RESID. APPLICATION No. 2440
32 Massachusetts Road
South Lyme, CT 06376

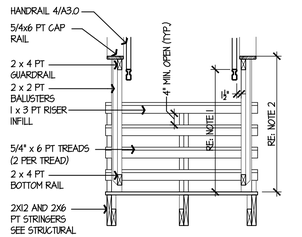
date	description	no.
07.07.16	ADDENDUM NO. 2	1

revisions

ELEVATIONS

A-2.0

date	5 MAY 2016
drawn	PSR
scale	AS SHOWN
checked	JP/DH
project no.	1347-51
application no.	2440

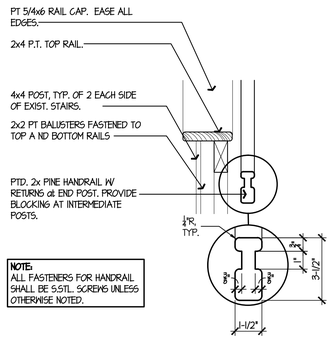


NOTE 1 - HANDRAIL MIN. HEIGHT 34" - MAX HEIGHT 38"
NOTE 2 - GUARDRAIL MIN. HEIGHT 36"

HANDRAIL TO BE LOCATED MIN. 1-1/2" BELOW GUARDRAIL

5 A-3.0 **STAIR SECTION**

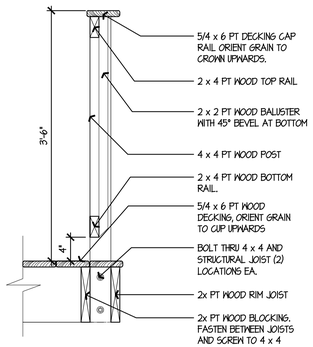
SCALE: 1/2" = 1'-0"



NOTE:
ALL FASTENERS FOR HANDRAIL SHALL BE S.S.TL. SCREWS UNLESS OTHERWISE NOTED.

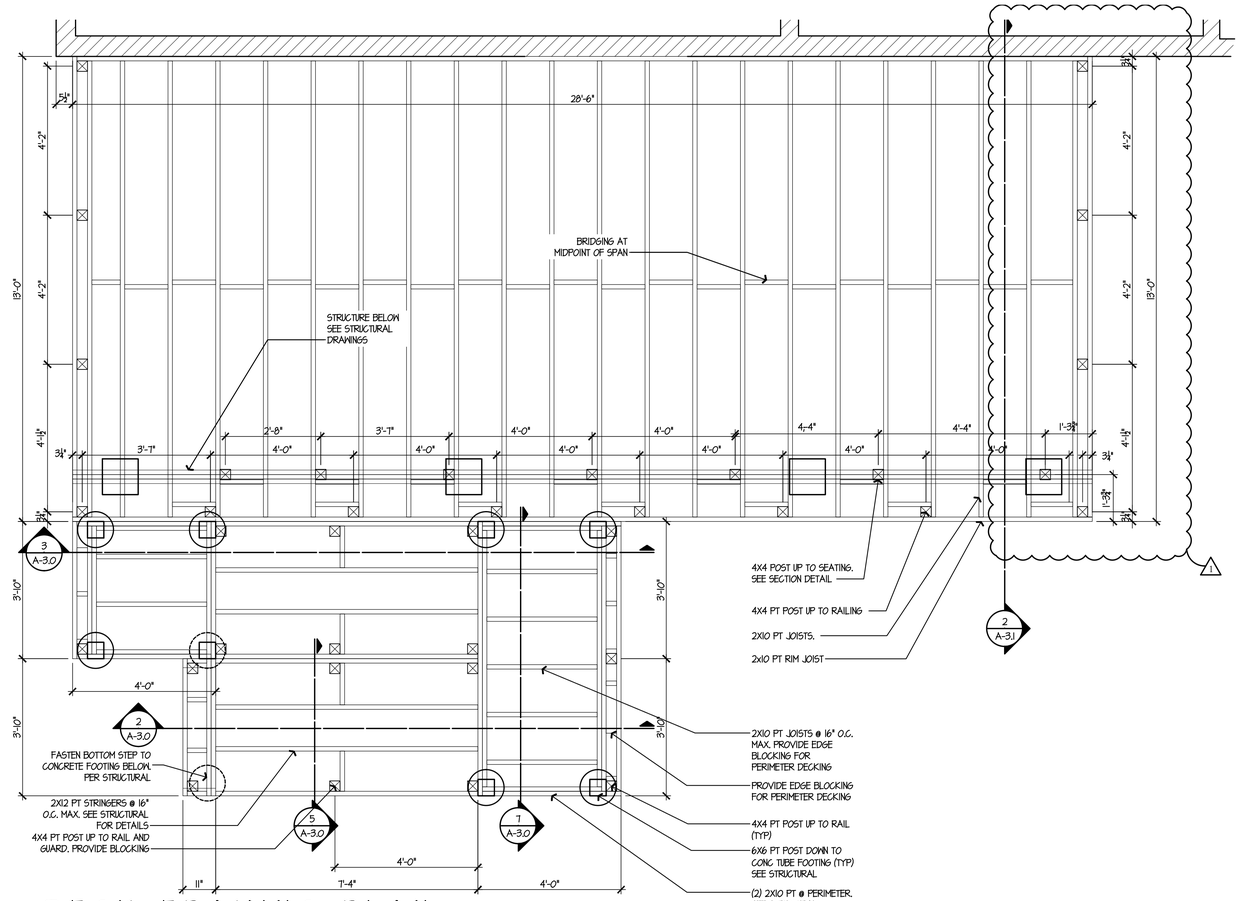
4 A-3.0 **HANDRAIL DETAIL**

1-1/2" = 1'-0"



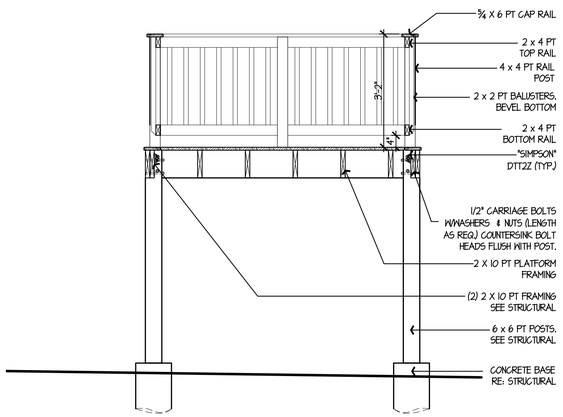
6 A-3.0 **GUARD RAIL DETAIL**

1" = 1'-0"



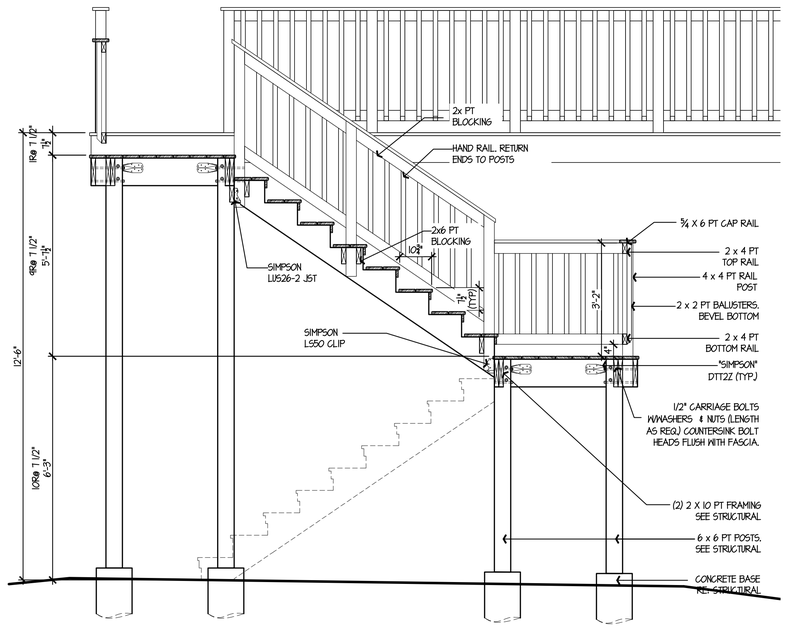
1 A-3.0 **DECK FRAMING PLAN**

1/2" = 1'-0"



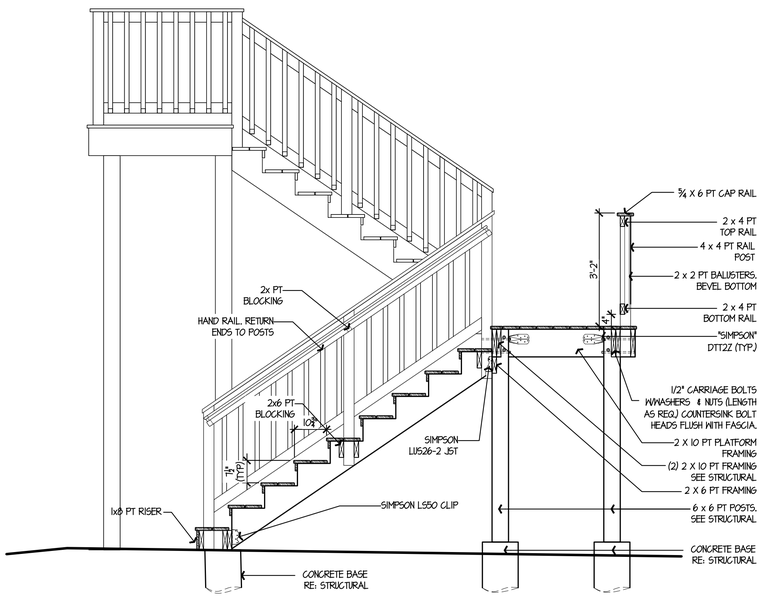
7 A-3.0 **LANDING SECTION**

SCALE: 1/2" = 1'-0"



3 A-3.0 **STAIR SECTION**

SCALE: 1/2" = 1'-0"



2 A-3.0 **STAIR SECTION**

SCALE: 1/2" = 1'-0"

CAPITAL STUDIO
architects LLC
1379 MAIN STREET EAST HARTFORD CT. 06108
860.289.3262 fax 860.289.3163

THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OORR)

GENERAL RENOVATIONS for the FRASCARELI RESID. APPLICATION No. 2440
32 Massachusetts Road
South Lyme, CT 06376

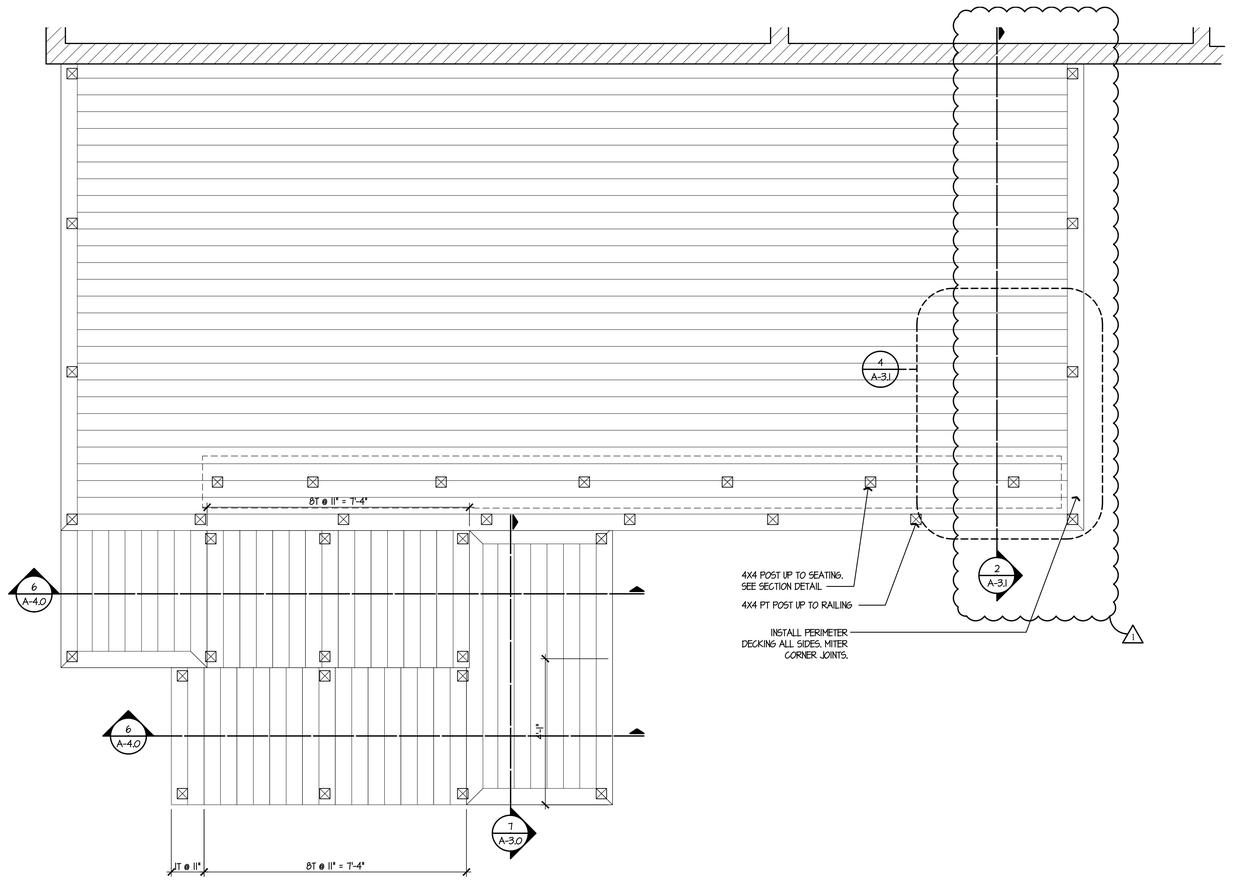
date	description	no.
07.07.16	ADDENDUM NO. 2	1

revisions

DECK AND STAIR DETAILS

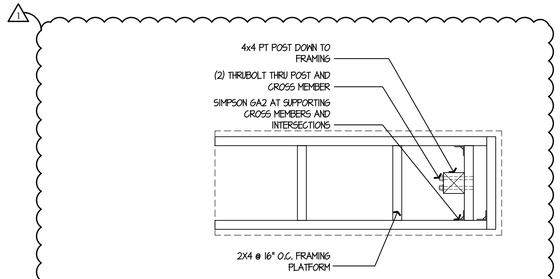
A-3.0

date	5 MAY 2016
drawn	PSR
scale	AS SHOWN
checked	JP/DH
project no.	1347-51
application no.	2440



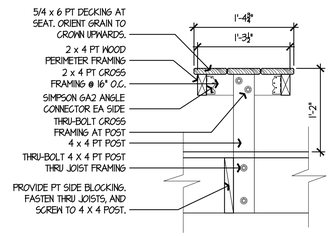
1 A-3.1 DECKING PLAN

1/2" = 1'-0"



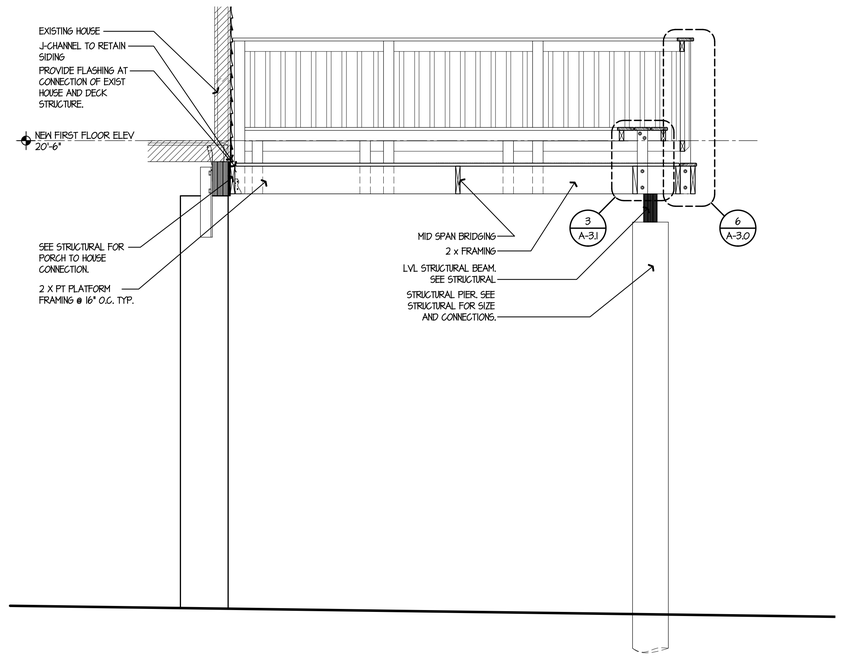
4 A-3.1 DECK SEATING FRAMING

1" = 1'-0"



3 A-3.1 DECK SEATING DETAIL

1" = 1'-0"



2 A-3.1 DECK SECTION

SCALE: 1/2" = 1'-0"

CAPITAL STUDIO
architects LLC
1379 MAIN STREET EAST HARTFORD CT. 06108
860.289.3262 fax 860.289.3163

THE STATE OF CONNECTICUT DEPARTMENT OF HOUSING (DOH) COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY (CDBG-DR) OWNER OCCUPIED REHABILITATION and REBUILDING PROGRAM (OORR)

GENERAL RENOVATIONS for the FRASCARELI RESID.
APPLICATION No. 2440
32 Massachusetts Road
South Lyme, CT 06376

date	description	no.
07.07.16	ADDENDUM NO. 2	1

revisions

DECK AND MISC. DETAILS

A-3.1

date	5 MAY 2016
drawn	PSR
scale	AS SHOWN
checked	JP/DH
project no.	1347-51
application no.	2440