CITY OF WEST HAVEN

BEACH STREET / FIRST AVENUE
ROADWAY IMPROVEMENTS PHASE 1
BID NO. 2020-02

*****

ADDENDUM NO. 1

A. GENERAL

1. The attention of all prospective bidders submitting proposals for the above referenced project is called to the following Addendum to the contract plans and specifications. The items set forth therein, whether of omission, addition, substitution, or clarification are all included in the proposed work.

2. Inclusion of this Addendum must be acknowledged by inserting its number on the appropriate page(s) of the Bid Forms. Failure to acknowledge any and all addenda in the above specified bid may be cause for rejection by the Owner on the grounds that it is non-responsive.

B. QUESTIONS / COMMENTS AND RESPONSES

1. Is there a contact person to direct questions to, and a cutoff date to get the questions in?

Questions can be submitted to Eric Zawatski at DTC, email address: eric.zawatski@teamdtc.com. Cuttoff date for questions will be March 13th at 4:00 pm.

2. Is there a copy of the Geotech report?

Geotech report included with addendum.

3. There appears to be no contract item for Deformed Steel Bars, are they to be included in Item 0506100 “Endwall/Wingwall (Site No. 1)”?

Yes, Item 0506100 “Endwall/Wingwall (Site No. 1)” includes Deformed Steel Bars in the lump sum price.

4. Please confirm that the excavation for Endwall/Wingwall (Site No. 1) will be paid under Item 0203000 “Structure Excavation – Earth (Complete).

Excavation for Endwall/Wingwall (Site No. 1) will be paid for under item 0203000 “Structure Excavation – Earth (Complete).

5. There appears to be no item for pervious structure backfill, is it required as backfill for the “Endwall/Wingwall (Site No. 1) and other endwalls, if so how would it be paid?

Pervious structure backfill will be paid for under item 0208701 Crushed Stone Backfill for all structures except "Endwall/Wingwall (Site No. 1). Pervious structure backfill for "Endwall/Wingwall" (Site No. 1) will be included in lump sum price for the item.

6. We can't locate where the item 0212000 "Subbase" is to be used on the project, all possible locations show Processed Aggregate Subbase (item No. 021300)

Item 0212000 Subbase was removed from project with quantity moved to item 0212300 Processed Aggregate Subbase. Processed Aggregate Subbase quantity now 1,775. See attached updated bid form.

END OF ADDENDUM NO. 1

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
West Haven, Connecticut

BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0201001		Clearing and Grubbing, per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
0202000		Earth Excavation, per Cubic Yard _____Dollars and _____cents ($_____)	CY	3,360	$
0202200		Channel Excavation, per Cubic Yard _____Dollars and _____cents ($_____)	CY	37	$
0202451	A	Test Pit, per Cubic Yard _____Dollars and _____cents ($_____)	CY	11	$
0202529		Cut Bituminous Concrete Pavement, per Linear Foot _____Dollars and _____cents ($_____)	LF	341	$
0203000		Structure Excavation - Earth (Complete), per Cubic Yard _____Dollars and _____cents ($_____)	CY	137	$
0204151	A	Handling Water _____Dollars and _____cents ($_____)	LS	LS	$
0205003		Trench Excavation 0' - 10' Deep, per Cubic Yard _____Dollars and _____cents ($_____)	CY	840	$
0205005		Trench Excavation 0' - 15' Deep, per Cubic Yard _____Dollars and _____cents ($_____)	CY	557	$
0205088	A	Excavation for Utility Removal, per Cubic Yard _____Dollars and _____cents ($_____)	CY	299	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
West Haven, Connecticut

BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0207000		Borrow, per Cubic Yard _____Dollars and _____cents ($_____)	CY	9,450	$
0207150	A	Lightweight Fill, per Cubic Yard _____Dollars and _____cents ($_____)	CY	4,200	$
0208602		Sand, per Cubic Yard _____Dollars and _____cents ($_____)	CY	289	$
0208701		Crushed Stone Backfill, per Cubic Yard _____Dollars and _____cents ($_____)	CY	91	$
0209001		Formation of Subgrade, per Square Yard _____Dollars and _____cents ($_____)	SY	4,226	$
0210200		Temporary Slope Protection, per Square Yard _____Dollars and _____cents ($_____)	SY	2,835	$
0210820		Water Pollution Control, per Estimated Cost __Forty Thousand_____Dollars and ____00/100_____cents ($___40,000.00_____)	EST	EST	$40,000
0212300		Processed Aggregate Subbase, per Cubic Yard _____Dollars and _____cents ($_____)	CY	1,775	$
0219003		Sediment Control System, per Linear Foot _____Dollars and _____cents ($_____)	LF	2,258	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
West Haven, Connecticut

BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0219011	A	Sediment Control System at Catch Basin, per Each _____Dollars and _____cents ($_____)	EA	20	$
0406171		HMA S0.5, per Ton _____Dollars and _____cents ($_____)	TON	870	$
0406172		HMA S0.375, per Ton _____Dollars and _____cents ($_____)	TON	158	$
0406236		Material for Tack Coat, per Gallon _____Dollars and _____cents ($_____)	GAL	232	$
0406999	A	Asphalt Adjustment Cost, Estimated Cost __Eleven Thousand_____Dollars and ____00/100_____cents ($___11,000.00_____)	EST	EST	$11,000
0506100	A	Endwall/Wingwall (Site No. 1), per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
0507001		Type "C" Catch Basin, per Each _____Dollars and _____cents ($_____)	EA	7	$
0507051		Type "C" Catch Basin Over 10' Deep, per Each _____Dollars and _____cents ($_____)	EA	2	$
0507169		Manhole - 8' Diameter Over 10' Deep, per Each _____Dollars and _____cents ($_____)	EA	1	$
0507224		Type "C-L" Catch Basin Top, per Each _____Dollars and _____cents ($_____)	EA	2	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
West Haven, Connecticut

BID PROPOSAL

Item No.	*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0507601	Manhole, per Each _____Dollars and _____cents ($_____)	EA	1	$
0507771	Reset Catch Basin, per Each _____Dollars and _____cents ($_____)	EA	2	$
0507897	Yard Drain, per Each _____Dollars and _____cents ($_____)	EA	5	$
0601000	Class A Concrete, per Cubic Yard _____Dollars and _____cents ($_____)	CY	16	$
0601100	Class C Concrete, per Cubic Yard _____Dollars and _____cents ($_____)	CY	46	$
0651001	Bedding Material, per Cubic Yard _____Dollars and _____cents ($_____)	CY	630	$
0651012	15" R.C. Pipe, per Linear Foot _____Dollars and _____cents ($_____)	LF	456	$
0651015	24" R.C. Pipe, per Linear Foot _____Dollars and _____cents ($_____)	LF	362	$
0651019	36" R.C. Pipe, per Linear Foot _____Dollars and _____cents ($_____)	LF	87	$
0651020	42" R.C. Pipe, per Linear Foot _____Dollars and _____cents ($_____)	LF	72	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
West Haven, Connecticut

BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0651300	A	Slip-on Flat Bottom 'Duck Bill' Check Valve, per Each _____Dollars and _____cents ($_____)	EA	1	$
0651885		12" High Density Polyethylen Pipe (Smooth Interior), per Linear Foot _____Dollars and _____cents ($_____)	LF	194	$
0652015		36" RC Culvert End, per Each _____Dollars and _____cents ($_____)	EA	1	$
0703011		Intermediate RipRap, per Cubic Yard _____Dollars and _____cents ($_____)	CY	420	$
0755009		Geotextile, per Square Yard _____Dollars and _____cents ($_____)	SY	614	$
0811001		Concrete Curbing, per Linear Foot _____Dollars and _____cents ($_____)	LF	2,000	$
0815001		Bituminous Concrete Lip Curbing, per Linear Foot _____Dollars and _____cents ($_____)	LF	163	$
0910052	A	Merrit Parkway Guiderail, per Linear Foot _____Dollars and _____cents ($_____)	LF	793	$
0911476	A	Merrit Parkway End Anchorage - Type I, per Each _____Dollars and _____cents ($_____)	EA	2	$
0913000		Remove Chain Link Fence, per Linear Foot _____Dollars and _____cents ($_____)	LF	74	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
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BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0913022		6' Chain Link Fence with Barbed Wire, per Linear Foot _____Dollars and _____cents ($_____)	LF	74	$
0913022		6' Polyvinyl Chloride Chain Link Fence, per Linear Foot _____Dollars and _____cents ($_____)	LF	79	$
0913310	A	Remove and Reset Wood Stockade Fence, per Linear Foot _____Dollars and _____cents ($_____)	LF	63	$
0913866	A	Remove and Relocate Electric Gate, per Lump Sum _____Dollars and _____cents ($_____)	EA	1	$
0913993	A	Remove and Reset Metal Decorative Fence, per Linear Foot _____Dollars and _____cents ($_____)	LF	524	$
0921001		Concrete Sidewalk, per Square Foot _____Dollars and _____cents ($_____)	SF	4,520	$
0921005		Concrete Sidewalk Ramp, per Square Foot _____Dollars and _____cents ($_____)	SF	226	$
0921039		Dectectable Warning Strip, per Each _____Dollars and _____cents ($_____)	EA	1	$
0922501		Bituminous Concrete Driveway, per Square Yard _____Dollars and _____cents ($_____)	SY	152	$
0924002		Concrete Driveway Ramp, per Square Foot _____Dollars and _____cents ($_____)	CY	7	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
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Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0939001		Sweeping for Dust Control, per Hour _____Dollars and _____cents ($_____)	HR	525	$
0942001		Calcium Chloride for Dust Control, per Ton _____Dollars and _____cents ($_____)	TON	3	$
0943001		Water for Dust Control, per Million Gallons _____Dollars and _____cents ($_____)	MGAL	315	$
0944000		Furnishing and Placing Topsoil, per Square Yard _____Dollars and _____cents ($_____)	SY	3,696	$
0949043		Removing, Replanting and Mulching Trees, Shrubs, Vines and Ground Cover Plants, per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
0950005		Turf Establishment - Lawn, per Square Yard _____Dollars and _____cents ($_____)	SY	345	$
0950016	A	Wetland Grass Establishment, per Square Yard _____Dollars and _____cents ($_____)	SY	53	$
0950202	A	Shoreline Grass Establishment, per Square Yard _____Dollars and _____cents ($_____)	SY	578	$
0969060	A	Construction Field Office, Small, per Month _____Dollars and _____cents ($_____)	MO	8	$
0970006		Trafficperson (Municipal Police Officer), Estimated Cost __One Hundred Twenty Six Thousand_____Dollars and _____00/100_____cents ($___126,000.00_____)	EST		$126,000

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
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BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
0971001	A	Maintenance and Protection of Traffic, per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
0975004		Mobilization and Project Closeout, per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
0976002		Barricade Warning Lights - High Intensity _____Dollars and _____cents ($_____)	DAY	1,991	$
0978002		Traffic Drum, per Each _____Dollars and _____cents ($_____)	EA	66	$
0979003		Construction Barricade - Type III, per Each _____Dollars and _____cents ($_____)	EA	12	$
0980001		Construction Staking, per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
1003916	A	Remove and Relocate Light Standard, per Each _____Dollars and _____cents ($_____)	EA	1	$
1206023	A	Removal and Relocation of Existing Signs, per Lump Sum _____Dollars and _____cents ($_____)	LS	LS	$
1210101		4" White Epoxy Resin Pavement Markings, per Linear Foot _____Dollars and _____cents ($_____)	LF	2,672	$
1210102		4" Yellow Epoxy Resin Pavement Markings, per Linear Foot _____Dollars and _____cents ($_____)	LF	2,216	$

BEACH ST / FIRST AVE ROADWAY IMPROVEMENTS
West Haven, Connecticut

BID PROPOSAL

Item No.		*Description and Unit Price Written in Words and Figures*	*Unit*	*Qty*	*Computed Total*
1210105		Epoxy Resin Pavement Markings, Symbols and Legends, per Square Foot _____Dollars and _____cents ($_____)	SF	124	$
1220027		Construction Signs, per Square Foot _____Dollars and _____cents ($_____)	SF	300	$

TOTAL BID **$** _____

Written in Words

_____ dollars and _____ cents

DR. CLARENCE WELTI, P.E., P.C.

GEOTECHNICAL ENGINEERING

227 Williams Street · P.O. Box 397
Glastonbury, CT 06033-0397

(860) 633-4623 / FAX (860) 657-2514

October 2, 2015

Mr. J. Andrew Bevilaqua, P.E.
Manager Civil Engineering
Diversified Technology Consultants
556 Washington Avenue
North Haven, CT 06473

Re: Raising/Reconstruction of Beach Street from Morse Avenue to Monahan Place
West Haven, CT; Geotechnical Study

Dear Andrew:

1.0 Herewith are boring data pertaining to the above. Seven borings were drilled to a maximum depth of 13 feet along the roadway to permit evaluation of the existing pavement section and the proposed section with the raised grades .Two borings were drilled to a depth of 21 feet at possible culvert replacement locations. *The borings were drilled by Clarence Welti Associates, Inc. and sampling was conducted by this firm solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed by Dr. Clarence Welti, P.E., P.C. to evaluate subsurface environmental conditions.*

2.0 The **subject project** pertains to raising the grade on Beach Street to above the 100 year flood level (Elev. 10.7) and reconstructing the pavement. Part of the project will include possible replacement of two culverts along the roadway. The raising of the roadway will cause consolidation of an organic silt stratum beneath sections of the roadway, particularly at the proposed culvert installations. The low areas of the roadway have about 10" of bituminous concrete, which would indicate that a long term settlement process involving consolidation of organic strata has been occurring for some time.

2.1 The major issue with the proposed raising of the roadway will be the probable settlements due to organic silt consolidation and possible mitigation. The organic silt is similar to marine organic silt deposits at Silver Sands in Milford to the south and west. Water contents have been taken on representative samples of the organic material to establish an approximate consolidation coefficient.

3.0 The **soils cross section** beneath existing fills and organic material is a stratified sand with trace to some silt. The following table provide an overview of sections at each boring with the proposed filling. Typically the potential primary consolidation will related to the future loading (P_2) versus he

existing loading (P_1) with the formulation as follows:

S = Consolidation = $C_c/(1 + e_o)$ Log P_2/P_1 x thickness of organic stratum, C_c = Consolidation Coefficient and e_o = initial voids ratio

It should be noted that in organic deposits there is secondary consolidation due to decomposition or other reasons. This would normally be about 25% of the primary consolidation.

Boring No &. Ground Elev	Bituminous Concrete Thickness	Existing Fill Depth	Organic Silt Thickness	Proposed Rise of Existing Grade Ratio P_2/P_1
B-1 @ Elev. 8.2	3"	0	0	2.5'; 1.30
B-2 @ Elev. 6.5	3"	0	0	4.2'; 1.62
B-3 @ Elev. 6.5	4"	7'; 2' below water	4'	4.2'; 1.86
B-4 @ Elev.6.5	6"	5'	0	4.2'; 1.62
B-5 @ Elev.5±	10"	5'	3'	5.7'; 2.14
B-6 @ Elev. 4±	10"	7' ; 4 below water	10'	6.7'; 2.34
B-7 @ Elev. 4±	10"	5'	10'	6.7'; 2.68
B-8 @ Elev. 6.0	10"	4'	6'	4.7'; 1.78
B-9 @ Elev. 6.0	10"	4.5'	6'	4.7; 1.78

Laboratory water content tests indicate the organic silt has an average water content of about 115%. With a specific gravity of 2.5 this would indicate an e_o of 2.88. An approximate value of C_c can be assumed from the equation $C_c = 0.30 (e_o - 0.27) = 0.78$. Using this value the value of $C_c/(1 + e_o) = 0.2$.

Using ordinary fill at 120 pcf and filling to Elev. 10.7, the area from Morse Avenue to 1700 feet north, the primary consolidation settlements would be less than 3" (maximum at B-3). For 200 feet at each culvert crossing (see borings B-6 thru B-9) the settlement could approach 8" (worst case at B-6 where there is 10± feet of organic silt). It would be possible to mitigate the latter settlement. This process would include excavating 3 to 4 feet of the existing fill (placing in fills at other areas) and replacing it with an embankment of expanded shale, with a unit weight of about 60 pcf. The new total weight at midpoint of the 10± foot thick on the organic stratum would be about 1,100 psf versus the existing of about 800 psf. The estimated primary consolidation would be reduced to about 3".

The fill apart from the areas near the culverts can be with ordinary fill meeting CTDOT specification up the under side of the pavement section.

4.0 Criteria for Pavement Design is generally as follows:

1. For truck access depth of pavement layers in accordance with AASHTO criteria

2. Regarding frost protection shall include frost free materials to 3/4 of the frost depth occurring in 90% of the years. Typically frost depths in the last five years has been less than 24". This would indicate a required frost free depth of about 16"

3. Maintain water level below any gravel subbase.

4.1 The existing pavement section apart from areas with excessive settlement was 3" to 4" of bituminous concrete over 8 to 9" of bank run gravel on loose to medium compact fine to coarse sand with trace silt. This section of roadway does not appear have significant distress at least in term longitudinal cracking in driving lanes. The major truck loading may be to the town WWTP. It is not clear if the pavement section is to be with the typical town section or designed based on a particular traffic number.

4.2 Frost protection this would probably be 16+" if ordinary fill with up to 30% silt was placed. If sand or gravel was used for the new embankment, the frost free material above the water table would up to 5 feet.

4.3. Typically for bituminous concrete pavement on a compacted non-frost susceptible sand sub-grade (CBR of 15± and Mr of 11,500± psi) there should be at least 12" of compacted processed stone base in two courses to provide a stable hard surface on which the bituminous concrete can be compacted. This would provide equivalent CBR of about 50 and an Mr of at least 25,000 psi. With 4" of bituminous concrete this would allow for 20 - 18 kip equivalent axle loadings per day for 20 years.

4.3.1 It would be possible to use 6" of reclaimed pavement and base as apart of 12" of processed stone base.

4.4 Regarding concrete pavements such pavements should be at least 7" thick in truck areas, placed atop a 12" of compacted Gravel Subbase. For concrete pavements solely for passenger cars the concrete shall be 5" thick on 12" of gravel subbase.

5.0 Regarding the two culverts and possible replacements, it appears that the inverts could fall atop the organic silt. To address this possibility the excavation for the culverts should extend at least 18" below the culverts. A 6" to 8" thick concrete mud slab should be placed atop the organic silt with crushed ½" stone on a geotextile atop the mud slab. As cited above, the fill in these areas should be with the 60 pcf expanded shale material to minimize future settlements.

6.0 This report has been prepared for specific application to the subject project in accordance with generally accepted soil and foundation engineering practices. No other warrantee, expressed or

implied, is made. In the event of that any changes in the nature, design and location of the structures are planned, the conclusions and recommendations in this report should not be considered valid unless such changes are reviewed and conclusions of this report are modified and verified in writing.

The analyses and recommendations submitted in this report are based in part upon data obtained from referenced explorations. The extent of variations between explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

Dr. Clarence Welti, P. E., P. C. should perform a general review of the final design and specifications in order that the geotechnical design recommendations may be properly interpreted and implemented as they
were intended.

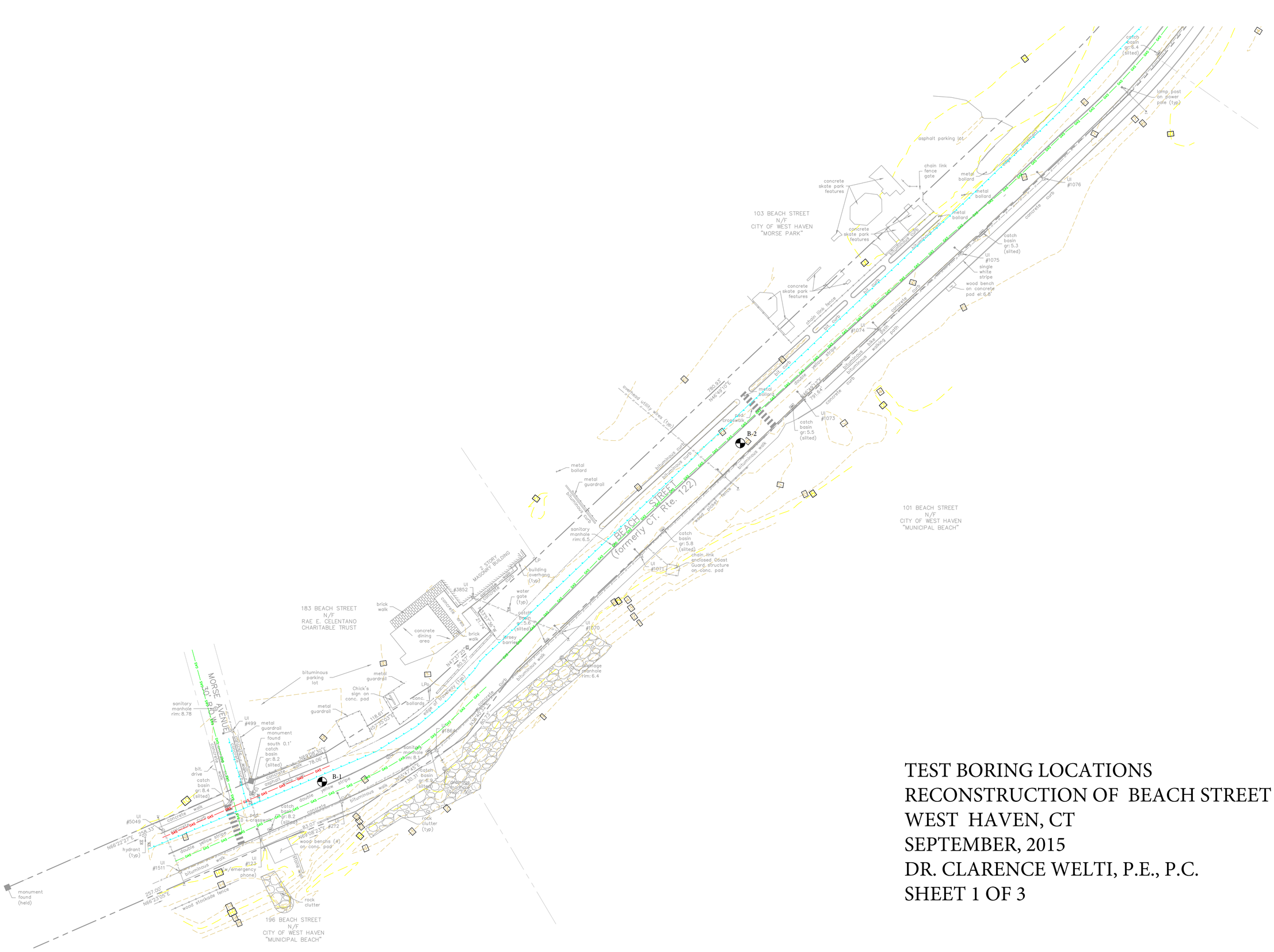
If you have any questions, please call me.

Very truly yours,

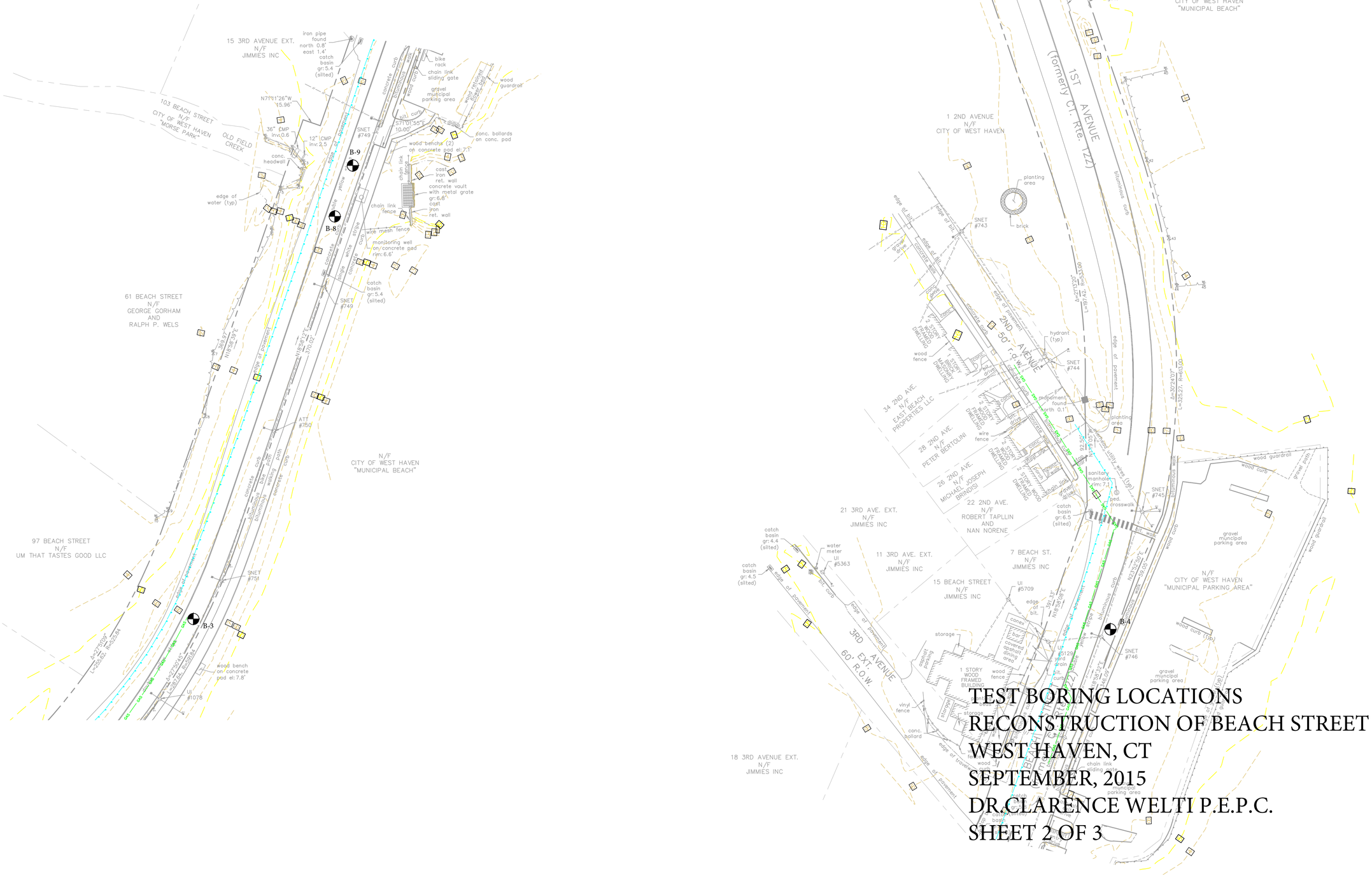
Clarence Welti, PhD, P. E.
President Dr. Clarence Welti. P. E., P. C.

APPENDIX

Test Boring Location Plans
+
Test Boring Logs



TEST BORING LOCATIONS
RECONSTRUCTION OF BEACH STREET
WEST HAVEN, CT
SEPTEMBER, 2015
DR. CLARENCE WELTI, P.E., P.C.
SHEET 1 OF 3



TEST BORING LOCATIONS
RECONSTRUCTION OF BEACH STREET
WEST HAVEN, CT
SEPTEMBER, 2015
DR.CLARENCE WELTI P.E.P.C.
SHEET 2 OF 3

TEST BORING LOCATIONS
RECONSTRUCTION OF BEACH STREET
WEST HAVEN, CT
SEPTEMBER, 2015
DR. CLARENCE WELTI, P.E., P.C.
SHEET 3 OF 3

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 8.2
HOLE NO. B-1

GROUND WATER OBSERVATIONS
AT 8.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT 0.25	
	1	8-5-3-3	1.00'-3.00'		DARK BR. FINE-CRS. SAND, SOME GRAVEL, LITTLE SILT 1.0	
					BR. FINE-CRS. SAND, TRACE TO LITTLE SILT, TRACE FINE GRAVEL	
	2	3-3-3-3	3.00'-5.00'			5
5	3	2-2-3-2	5.00'-7.00'			
	4	3-4-3-4	7.00'-9.00'			0
	5	2-4-4-4	9.00'-11.00'			
10	6	4-4-4-4	11.00'-13.00'			
					BOTTOM OF BORING @ 13.0' 13.0	-5
15						
						-10
20						
						-15
25						
						-20
30						
						-25
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-1**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 6.5
HOLE NO. B-2

GROUND WATER OBSERVATIONS
AT 5.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT 0.25	
	1	6-5-4-5	1.00'-3.00'		GREY FINE-CRS. SAND AND GRAVEL, TRACE SILT 1.0	5
					BR. FINE-CRS. SAND, TRACE SILT & FINE GRAVEL	
	2	6-6-6-6	3.00'-5.00'			
5	3	2-2-4-4	5.00'-7.00'			0
	4	4-4-4-4	7.00'-9.00'			
	5	2-3-2-2	9.00'-11.00'			
10	6	3-3-3-3	11.00'-13.00'			-5
					BOTTOM OF BORING @ 13.0' 13.0	
15						-10
20						-15
25						-20
30						-25
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-2**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 6.5
HOLE NO. B-3

GROUND WATER OBSERVATIONS
AT 5.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT 0.33	
	1	11-15-11-6	1.00'-3.00'		DARK BR. FINE-CRS. SAND, SOME GRAVEL, TRACE SILT 1.0	5
					DARK BR. FINE-MED. SAND, LITTLE SILT & GRAVEL - FILL	
					2.5	
	2	3-3-5-5	3.00'-5.00'		BR. FINE-CRS.SAND, TRACE SILT	
5	3	3-3-4-3	5.00'-7.00'			0
					7.0	
					DARK GREY ORGANIC SILT	
	4	1-0-1-1	9.00'-11.00'			
10					11.0	-5
	5	0-0-2-2	11.00'-13.00'		BR. FINE-CRS.SAND, TRACE SILT	
					13.0	
					BOTTOM OF BORING @ 13.0'	
15						-10
20						-15
25						-20
30						-25
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-3**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 6.5
HOLE NO. B-4

GROUND WATER OBSERVATIONS
AT 5.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-3-4-5	0.00'-2.00'		TOPSOIL 0.50	
					DARK BR. FINE-MED. SAND, SOME SILT, TRACE GRAVEL & ASPHALT - FILL	5
	2	4-2-2-1	2.00'-4.00'		2.5	
					DARK BR. FINE SAND, SOME SILT, TRACE WOOD	
	3	1-1-1-2	4.00'-6.00'			
5					5.0	
					BR. FINE-MED. SAND, LITTLE SILT	0
	4	1-1-1-3	6.00'-8.00'			
					8.0	
	5	4-6-7-7	8.00'-10.00'		BR. FINE-CRS.SAND, TRACE SILT	
10						
	6	4-4-6-5	10.00'-12.00'		11.0	
					BR. FINE SAND AND SILT	-5
					12.0	
					BOTTOM OF BORING @ 12.0'	
15						-10
20						-15
25						-20
30						-25
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-4**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 5
HOLE NO. B-5

GROUND WATER OBSERVATIONS
AT 4.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT 0.83	5
	1	4-2-2-3	1.00'-3.00'		BR. FINE-CRS.SAND, LITTLE SILT 1.0	
					BR. FINE SAND, SOME SILT - FILL	
	2	3-2-1-1	3.00'-5.00'			
5	3	1-0-0-0	5.00'-7.00'		DARK GREY/BR. ORGANIC SILT 5.0	0
	4	0-0-2-2	7.00'-9.00'		BR. FINE SAND, LITTLE SILT 8.0	
	5	3-3-3-5	9.00'-11.00'			
10	6	3-3-4-5	11.00'-13.00'			-5
					BOTTOM OF BORING @ 13.0' 13.0	
15						-10
20						-15
25						-20
30						-25
35						-30

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-5**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 4
HOLE NO. B-6

GROUND WATER OBSERVATIONS
AT 3.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/23/15
FINISH DATE 9/23/15

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT	
					0.83	
	1	4-6-4-4	1.00'-3.00'		DARK BR. FINE-CRS.SAND, LITTLE SILT, TRACE GRAVEL	
					2.0	
					BR. FINE-MED. SAND, TRACE SILT - FILL	
	2	2-2-1-1	3.00'-5.00'			
					4.0	0
5					BR. FINE SAND, LITTLE SILT - FILL	
	3	W-0-H	5.00'-7.00'			
					7.0	
	4	W-O-H	7.00'-9.00'		DARK GREY/BR. ORGANIC SILT	
						-5
	5	W-O-H	9.00'-11.00'			
10						
	6	W-O-H	11.00'-13.00'			
	7	W-O-H	13.00'-15.00'			-10
15						
	8	W-O-H	15.00'-17.00'			
					17.5	
	9	1-2-2-3	17.00'-19.00'		BR. FINE SAND, LITTLE SILT	
						-15
	10	3-3-4-3	19.00'-21.00'			
20						
					21.0	
					BOTTOM OF BORING @ 21.0'	
						-20
25						
						-25
30						
						-30
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-6**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 4
HOLE NO. B-7

GROUND WATER OBSERVATIONS
AT 3.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/23/15
FINISH DATE 9/23/15

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT	
					0.83	
	1	4-5-4-6	1.00'-3.00'		GREY/BR. FINE-CRS.SAND, LITTLE SILT	
					1.5	
					BR. FINE-CRS.SAND, TRACE SILT & SHELLS - FILL	
	2	3-3-0-1	3.00'-5.00'			0
5					5.0	
	3	W-O-H	5.00'-7.00'		DARK GREY/BR. ORGANIC SILT, TRACE ROOTS	
	4	W-0-H	7.00'-9.00'			-5
	5	W-0-H	9.00'-11.00'			
10	6	W-O-H	11.00'-13.00'			
					13.0	
					BOTTOM OF BORING @ 13.0'	-10
15						
						-15
20						
						-20
25						
						-25
30						
						-30
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 | HOLE NO. **B-7**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 6
HOLE NO. B-8

GROUND WATER OBSERVATIONS
AT 4.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT	
					0.83	5
	1	6-6-6-5	1.00'-3.00'		GREY/BR. FINE-CRS. SAND, LITTLE SILT, TRACE GRAVEL - FILL	
	2	3-3-1-1	3.00'-5.00'			
					4.0	
5					DARK GREY/BR. ORGANIC SILT, TRACE WOOD	0
	3	1-0-0-0	5.00'-7.00'			
	4	0-0-0-1	7.00'-9.00'			
	5	1-4-10-14	9.00'-11.00'			
10					10.0	
					DARK BR. FINE-CRS. SAND, SOME SILT, LITTLE GRAVEL	-5
	6	8-8-7-10	11.00'-13.00'			
					13.0	
					BOTTOM OF BORING @ 13.0'	
15						-10
20						-15
25						-20
30						-25
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-8**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
DTC

PROJECT NAME
BEACH STREET
LOCATION
WEST HAVEN, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75'		1.375"	
HAMMER WT.			140 lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV. 6
HOLE NO. B-9

GROUND WATER OBSERVATIONS
AT 5.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 9/22/15
FINISH DATE 9/22/15

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0					ASPHALT	
					0.83	5
	1	6-11-14-9	1.00'-3.00'		DARK BR. FINE-CRS. SAND, LITTLE SILT & GRAVEL - FILL	
	2	4-12-3-1	3.00'-5.00'			
					4.5	
5					DARK GREY ORGANIC SILT, LITTLE ROOTS & WOOD	0
	3	2-0-0-1	5.00'-7.00'			
	4	0-0-0-1	7.00'-9.00'			
	5	0-0-0-0	9.00'-11.00'			
10					11.0	-5
	6	0-0-2-4	11.00'-13.00'		BR. FINE SAND, LITTLE SILT	
15	7	2-4-6-6	15.00'-17.00'			-10
20	8	3-11-10	20.00'-21.50'			-15
					21.5	
					BOTTOM OF BORING @ 21.5'	
25						-20
30						-25
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-9**