# STATE OF CONNECTICUT
## DEPARTMENT OF TRANSPORTATION

RECONSTRUCTION OF I-95 OVER WEST RIVER
IN THE TOWNS OF
NEW HAVEN AND WEST HAVEN
STATE PROJECT NUMBER 092-522

VOLUME 1 : SUBSET 12

# ROADWAY BORING LOGS

PRINCIPAL ENGINEER (SEALED AND CERTIFIED) *

* THIS SIGNATURE BLOCK IS DEDICATED TO THE PRIME DISCIPLINE PRINCIPAL ENGINEER/ARCHITECT THAT IS RESPONSIBLE FOR CERTIFYING PLANS

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| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER
CADD ssc-01-12-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN
DRAWING TITLE: SUBSET COVER ROADWAY BORING LOGS

PROJECT NO.: 92-522
DRAWING NO.: SSC-01.12
SHEET NO.:

## BORING R-1 (1 OF 1)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-1 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 0+576.4 |
| E. Guven | DEPARTMENT OF TRANSPORTATION | Offset | 29.4 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202401.7 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 288600.1 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 6.05 | | | |
| Date Started: 7/22/2002 | | | |
| Date Finished: 7/22/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after ____ hours | | | |
| @ ____ m after ____ hours | | | |

| | Casing | | | | | Auger | | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Utilized | | | X | | | X | X | | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 - 0.60 | 1 | 0.60 | 0.30 | D | 10 | 16 | 17 | 21 | | Light brown f SAND, little f gravel, trace silt, trace roots, dry. |
| 1.52 - 2.12 | 2 | 0.60 | 0.48 | D | 10 | 12 | 13 | 15 | | Red brown f SAND, trace c sand, little silt, trace f gravel, dry. |
| 3.05 - 3.65 | 3 | 0.60 | 0.25 | D | 8 | 10 | 11 | 11 | | Light brown f-c SAND, trace silt, moist. |
| 4.57 - 5.17 | 4 | 0.60 | 0.20 | D | 7 | 7 | 11 | 13 | | Red brown f-c SAND, trace silt, trace f gravel, trace shells, |
| | | | | | | | | | 5.64 | gray silty sand lenses. |
| | | | | | | | | | 0.41 | |
| 6.10 - 6.70 | 5 | 0.60 | 0.56 | D | 2 | 3 | 3 | 5 | | Gray organic SILT interlayered with black PEAT, trace shells, trace f-c sand, wet. |
| 7.01 - 7.61 | 1 | 0.60 | 0.51 | UP | | | | | | Piston |
| 7.62 - 8.22 | 6 | 0.60 | 0.30 | D | 1 | 2 | 1 | 2 | | Gray organic SILT, trace shells. |
| 9.14 - 9.74 | 7 | 0.60 | 0.60 | D | 2 | 1 | 1 | 1 | | Gray organic SILT, trace shells. |
| 10.06 - 10.66 | 2 | 0.60 | 0.60 | UP | | | | | | Piston |
| 10.67 - 11.27 | 8 | 0.60 | 0.51 | D | 2 | 3 | 4 | 6 | 10.82 | Top 0.15m: Gray organic SILT. |
| | | | | | | | | | -4.77 | Bottom 0.36m: Gray f SAND, little silt, trace shells, wet. |
| 12.19 - 12.79 | 9 | 0.60 | 0.30 | D | 3 | 4 | 6 | 8 | | Gray f SAND, trace c sand, little silt, saturated. |
| | | | | | | | | | 12.79 | |
| | | | | | | | | | -6.75 | Bottom of Boring 12.79m. |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 12.79 | |
| | | | No. of Samples | |
| | | | 9D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-1 Sheet 1 of 1

## BORING R-2 (1 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-2 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 0+632.5 |
| E. Guven/E. Fulton/R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 27.6 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202388.5 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 288657.0 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 5.45 | | | |
| Date Started: 7/22/2002 | | | |
| Date Finished: 7/24/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after ____ hours | | | |
| @ ____ m after ____ hours | | | |

| | Casing | | | | | Auger | | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Utilized | | | X | | | X | X | | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 - 0.60 | 1 | 0.60 | 0.30 | D | 3 | 8 | 11 | 14 | | Light brown f SAND, trace f gravel, some silt, dry. |
| 1.52 - 2.12 | 2 | 0.60 | 0.15 | D | 6 | 8 | 9 | 11 | | Brown f SAND, trace c sand, trace silt, dry. |
| 3.05 - 3.65 | 3 | 0.60 | 4.57 | D | 8 | 18 | 30 | 26 | | Light brown f SAND, trace silt, gray silt lenses, moist. |
| 4.57 - 5.17 | 4 | 0.60 | 0.30 | D | 6 | 8 | 10 | 13 | | Light brown f SAND, trace silt, trace f gravel, moist. |
| 6.10 - 6.70 | 5 | 0.60 | 0.25 | D | 3 | 1 | 2 | 2 | | Top 0.20m: Light brown f SAND, trace silt, trace c sand, trace f gravel, trace shells. Bottom 0.05m: Gray/black silty PEAT, little f sand. |
| 7.01 - 7.61 | 1 | 0.60 | 0.00 | UP | | | | | | Piston, no recovery - too much sand. |
| 7.62 - 8.22 | 6 | 0.60 | 0.60 | D | 3 | 4 | 5 | 7 | 8.12 | Top 0.35m: Brown gray f SAND, trace silt. |
| | | | | | | | | | -2.67 | Bottom 0.25m: Gray organic SILT, trace fibers, trace shells, trace f sand. |
| 9.14 - 9.74 | 7 | 0.60 | 0.60 | D | 1 | 2 | 2 | 3 | | Top 0.07m: Gray f SAND, little silt, trace shells. Bottom 0.53m: Gray organic SILT, trace f sand, trace shells. |
| 9.75 - 10.35 | 2 | 0.60 | 0.45 | UP | | | | | | Piston |
| 10.36 - 10.96 | 8 | 0.60 | 0.60 | D | 2 | 2 | 2 | 3 | | Gray organic SILT, trace shells, trace fibers. |
| 12.19 - 12.79 | 9 | 0.60 | 0.60 | D | 1 | 2 | 2 | 2 | | Gray organic SILT, trace shells, trace fibers. |
| 12.80 - 13.40 | 3 | 0.60 | 0.55 | UP | | | | | | Piston |
| 13.41 - 14.01 | 10 | 0.60 | 0.60 | D | 2 | 3 | 4 | 5 | | Gray organic SILT, little f sand, trace shells. |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 17.36 | |
| | | | No. of Samples | |
| | | | 12D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-2 Sheet 1 of 2

## BORING R-2 (2 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-2 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 0+632.5 |
| E. Guven/E. Fulton/R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 27.6 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202388.5 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 288657.0 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 5.45 | | | |
| Date Started: 7/22/2002 | | | |
| Date Finished: 7/24/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after ____ hours | | | |
| @ ____ m after ____ hours | | | |

| | Casing | | | | | Auger | | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Utilized | | | X | | | X | X | | X | | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | | SS | | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 3 | 3 | 5 | 6 | 15.24 | Gray organic SILT, some f sand, with f sand lenses (thin, ~1mm). |
| | | | | | | | | | -9.79 | Bottom 0.05m: Gray SILT and f SAND, trace shells. |
| 16.76 - 17.36 | 12 | 0.60 | 0.27 | D | 7 | 10 | 12 | 13 | | Red brown f-c SAND, trace to little silt, trace f gravel. |
| | | | | | | | | | 17.36 | |
| | | | | | | | | | -11.91 | Bottom of Boring 17.36m. |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 17.36m | |
| | | | No. of Samples | |
| | | | 12D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-2 Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-03-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS - R-1 & R-2

PROJECT NO.: 92-522
DRAWING NO.: BOR-03
SHEET NO.:

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## BORING R-3 (1 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-3 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 0+692.5 |
| R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 27.7 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202378.6 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 288719.0 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 4.98 | | | |
| Date Started: 7/24/2002 | | | |
| Date Finished: 7/24/2002 | | | |
| Groundwater Observations | | | |
| @ ~4.11 m after ____ hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | |

| | B (st) | B (dt) | NX (st) | NV II (dt) |
|---|---|---|---|---|
| | 35 | 35 | 55 | 55 |
| Type | | | Diamond | |
| of Bit | | | Carbide | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 - 0.60 | 1 | 0.60 | 0.28 | D | 3 | 7 | 14 | 18 | | Light brown f SAND and SILT, trace f gravel, roots, dry. |
| | 1.52 - 2.12 | 2 | 0.60 | 0.41 | D | 10 | 10 | 12 | 12 | | Top 0.08m: Light brown f SAND and SILT, trace f gravel, roots, dry. Bottom 0.33m: Light brown f SAND, trace c sand, trace shells, trace silt, dry. |
| | 3.05 - 3.65 | 3 | 0.60 | 0.30 | D | 6 | 11 | 9 | 7 | | Light brown f SAND, trace c sand, trace shells, trace silt, moist. |
| 5 | 4.57 - 5.17 | 4 | 0.60 | 0.51 | D | 13 | 30 | 32 | 35 | | Top 0.46m: Light brown f-c SAND, trace silt, trace shells. Bottom 0.10m: Brown gray f-c SAND, little silt, trace f gravel. |
| | | | | | | | | | | 6.10 | |
| | 6.10 - 6.70 | 5 | 0.60 | 0.60 | D | 2 | 1 | 1 | 1 | -1.08 | Gray black silty PEAT, some fibers, trace f sand, trace shells. |
| | 7.62 - 8.22 | 6 | 0.60 | 0.51 | D | 2 | 3 | 3 | 4 | | Top 0.41m: Brown PEAT and gray SILT, strong odor. Bottom 0.10m: Gray organic SILT, some fibers, trace f sand. |
| | 9.14 - 9.74 | 1 | 0.60 | 0.60 | UP | | | | | | Piston. |
| 10 | 9.75 - 10.35 | 7 | 0.60 | 0.60 | D | 2 | 2 | 2 | 3 | | Top 0.25m: Gray f-c SAND, trace silt, trace shells, trace fibers. Bottom 0.36m: Gray organic SILT, trace shells, trace fibers, trace f sand. |
| | 10.67 - 11.27 | 8 | 0.60 | 0.43 | D | 1 | 1 | 1 | 1 | | Gray organic SILT, trace f sand, trace shells. |
| | 12.19 - 12.79 | 9 | 0.60 | 0.46 | D | 1 | 1 | 2 | 2 | | Gray organic SILT, trace f sand, trace shells. |
| | 12.80 - 13.40 | 2 | 0.60 | 0.00 | UP | | | | | | No Recovery, too much sand, hole collapsed, drillers mixing more mud. |
| | 13.72 - 14.32 | 10 | 0.60 | 0.46 | D | 2 | 1 | 2 | 2 | | Gray organic SILT, trace shells. |
| 15 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 9.75 | 17.36 | |
| | | | No. of Samples | |
| | | | 12D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-3

Sheet 1 of 2

## BORING R-3 (2 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-3 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 0+692.5 |
| R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 27.7 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202378.6 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 288719.0 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 4.98 | | | |
| Date Started: 7/24/2002 | | | |
| Date Finished: 7/24/2002 | | | |
| Groundwater Observations | | | |
| @ ~4.11 m after ____ hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | |

| | B (st) | B (dt) | NX (st) | NV II (dt) |
|---|---|---|---|---|
| | 35 | 35 | 55 | 55 |
| Type | | | Diamond | |
| of Bit | | | Carbide | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 2 | 2 | 3 | 6 | 15.54 | Top 0.46m: Gray organic silt, trace f sand lenses (~1mm), |
| | | | | | | | | | | -10.52 | Bottom 0.15m: Gray f SAND, some silt. |
| | 16.76 - 17.36 | 12 | 0.60 | 0.25 | D | 12 | 12 | 11 | 16 | | Red brown f SAND, trace silt. |
| | | | | | | | | | | 17.36 | |
| | | | | | | | | | | -12.34 | Bottom of Boring 17.36m. |
| 20 | | | | | | | | | | | |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 9.75 | 17.36 | |
| | | | No. of Samples | |
| | | | 12D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-3

Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT

DRAFTER: M.C. DEEGAN

CHECKED BY:

DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.

APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-04-092522.dgn PLOTTED 11/2/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS – R-3

PROJECT NO.: 92-522

DRAWING NO.: BOR-04

SHEET NO.:

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11/2/2012
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## BORING R-4 (1 OF 2)

| | | | |
|---|---|---|---|
| M. Jennett | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-4 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+126.8 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 29.7 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202399.1 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289158.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: 7.07 | | Casing | | | | Auger | | Mud | Sampler | | Core Barrel | | | | |
| Date Started: 8/21/2002 | Utilized | | | X | | | X | X | X | X | | | | | |
| Date Finished: 8/21/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) | |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 | |
| @ ~4.11 m after ____ hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | X | Diamond | | |
| @ m after ____ hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0.00 - 0.37 | 1 | 0.37 | 0.25 | D | 6 | 34 | 50/0.07m | | | Top 0.07m: Topsoil<br>Bottom 0.17m: Brown f SAND, some silt, little c sand, trace f gravel, trace roots, dry. Piece of gravel wedged in tip. |
| | 1.52 - 2.12 | 2 | 0.60 | 0.15 | D | 24 | 23 | 26 | 23 | | Light brown / brown f SAND and SILT, little c sand, trace f gravel, dry. Piece of f gravel wedged in tip. |
| | 3.05 - 3.65 | 3 | 0.60 | 0.48 | D | 16 | 16 | 16 | 16 | | Top 0.05m: Same as above.<br>Bottom 0.43m: Brown gray f SAND, trace c sand, trace f gravel, trace shells, trace silt, moist. |
| 5 | 4.57 - 5.17 | 4 | 0.60 | 0.15 | D | 6 | 6 | 6 | 3 | | Red brown f SAND, little silt, trace shells. |
| | 6.10 - 6.70 | 5 | 0.60 | 0.20 | D | 12 | 12 | 13 | 14 | | Top 0.15m: Brown gray f SAND, trace c sand, trace silt.<br>Bottom 0.05m: Gray f SAND, little silt. |
| | | | | | | | | | | 7.16 | |
| | 7.62 - 8.22 | 6 | 0.60 | 0.17 | D | 9 | 7 | 5 | 4 | -0.09 | Top 0.05m: Gray organic SILT, little f sand, trace clay, trace shells.<br>Bottom 0.12m: Brown gray f SAND, little c sand, little silt. |
| | 9.14 - 9.74 | 7 | 0.60 | 0.20 | D | 10 | 10 | 11 | 12 | | Brown gray f SAND, trace c sand, trace f gravel, trace shells, little silt. |
| 10 | | | | | | | | | | | |
| | 10.67-11.27 | 8 | 0.60 | 0.22 | D | 2 | 2 | 2 | 2 | | Dark gray organic SILT, trace clay, trace f sand, trace shells. pp=0.75, 0.75, 0.5 tons / ft$^2$ |
| | 11.58 - 12.18 | 1 | 0.60 | 0.55 | UP | | | | | | Piston |
| | 12.19 - 12.79 | 9 | 0.60 | 0.60 | D | 3 | 2 | 3 | 3 | | Gray organic SILT, trace to little clay, trace f sand, trace shells, few f sand lenses (very thin). pp=0.5, 0.5, 0.5 tons / ft$^2$ |
| | 13.72 - 14.32 | 10 | 0.60 | 0.60 | D | 1 | 1 | 1 | 1 | | Gray organic SILT, trace to little clay, trace f sand, trace shells, few f sand lenses (very thin). pp=0.5, 0.5, 0.5 tons / ft$^2$ |
| 15 | 14.63 - 15.23 | 2 | 0.60 | 0.00 | UP | | | | | | Piston - 0.12m of Brown gray f sand, some organic silt, trace |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-4

Sheet 1 of 2

## BORING R-4 (2 OF 2)

| | | | |
|---|---|---|---|
| M. Jennett | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-4 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+126.8 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 29.7 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202399.1 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289158.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: 7.07 | | Casing | | | | Auger | | Mud | Sampler | | Core Barrel | | | | |
| Date Started: 8/21/2002 | Utilized | | | X | | | X | X | X | X | | | | | |
| Date Finished: 8/21/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) | |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 | |
| @ ~4.11 m after ____ hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | | |
| @ m after ____ hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | clay, trace shells. |
| | 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 2 | 2 | 3 | 4 | | Gray organic SILT, trace to little clay, trace shells, trace f sand. pp=0.75, 0.75, 0.75 tons / ft$^2$ |
| | 16.76 - 17.36 | 3 | 0.60 | 0.60 | UP | | | | | | Piston |
| | 17.37 - 17.97 | 12 | 0.60 | 0.30 | D | 2 | 2 | 4 | 4 | | Gray organic SILT, trace f sand, little clay, trace shells. |
| | | | | | | | | | | 18.14 | |
| | 18.29 - 18.89 | 13 | 0.60 | 0.15 | D | 7 | 2 | 9 | 14 | -11.07 | Gray brown f SAND, little silt, trace shells, wet. |
| 20 | 19.81 - 20.41 | 14 | 0.60 | 0.30 | D | 10 | 13 | 17 | 10 | | Red brown f SAND, some f-c gravel, trace to little silt, wet. |
| | | | | | | | | | | 20.41 | |
| | | | | | | | | | | -13.34 | Bottom of Boring 20.41m. |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-4

Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT

DRAFTER: M.C. DEEGAN

CHECKED BY:

DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.

APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-05-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS – R-4

PROJECT NO.: 92-522

DRAWING NO.: BOR-05

SHEET NO.:

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11/12/2012
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## BORING R-5 (1 OF 2)

| | | | |
|---|---|---|---|
| M. Jennett | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-5 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+130.4 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 11.2 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202440.2 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289157.6 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | | Parsons Brinckerhoff Quade & Douglas, Inc. |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| Surface Elevation: 8.24 | | Casing | | | | Auger | | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date Started: 8/8/2002 | Utilized | | | X | | | X | X | X | X | | | | |
| Date Finished: 8/9/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~4.11 m after ____ hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 0-0.46: Asphalt |
| | 0.60 - 1.22 | 1 | 0.60 | 0.36 | D | 27 | 36 | 42 | 31 | | Top 0.20m: Brown f SAND, little silt, trace c sand, trace f gravel, dry. |
| | 1.52 - 2.12 | 2 | 0.60 | 0.30 | D | 52 | 22 | 22 | 32 | | Light brown f SAND, little silt, trace c sand, trace f gravel, dry. |
| | 3.05 - 3.65 | 3 | 0.60 | 0.46 | D | 6 | 11 | 17 | 21 | | Light brown f SAND, mostly f, trace silt, trace shells, moist. |
| 5 | 4.57 - 5.17 | 4 | 0.60 | 0.30 | D | 17 | 15 | 12 | 15 | | Brown f SAND, little silt, wet. |
| | 6.10 - 6.70 | 5 | 0.60 | 0.30 | D | 10 | 16 | 19 | 21 | | Light brown f SAND, trace c sand, trace silt, wet. |
| | 7.62 - 8.22 | 6 | 0.60 | 0.25 | D | 13 | 17 | 15 | 18 | | Light brown f SAND, trace c sand, little silt, wet. |
| | 9.14 - 9.74 | 7 | 0.60 | 0.18 | D | 7 | 17 | 12 | 19 | | Gray f SAND, trace silt. |
| 10 | | | | | | | | | | | |
| | 10.67 - 11.27 | 8 | 0.60 | 0.20 | D | 10 | 14 | 14 | 14 | | Brown gray f SAND, trace c sand, trace silt, one (~0.64cm) organic silt lense. |
| | | | | | | | | | | 11.73 | |
| | 12.19 - 12.79 | 9 | 0.60 | 0.60 | D | 4 | 6 | 6 | 10 | -3.49 | Gray organic SILT, trace shells, trace fibers. pp= 1.25, 1.25, 1.25 tons / ft$^2$ |
| | 13.11 - 13.71 | 1 | 0.60 | 0.15 | UP | | | | | | Piston |
| | 13.72 - 14.32 | 10 | 0.60 | 0.51 | D | WOR | WOR | 2 | 4 | | Gray organic SILT, trace shells, trace fibers, very high plasticity. |
| 15 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 21.94 | |
| | | | No. of Samples | |
| | | | 15D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-5
Sheet 1 of 2

## BORING R-5 (2 OF 2)

| | | | |
|---|---|---|---|
| M. Jennett | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-5 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+130.4 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 11.2 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202440.2 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289157.6 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | | Parsons Brinckerhoff Quade & Douglas, Inc. |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| Surface Elevation: 8.24 | | Casing | | | | Auger | | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date Started: 8/8/2002 | Utilized | | | X | | | X | X | X | X | | | | |
| Date Finished: 8/9/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~4.11 m after ____ hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 3 | 4 | 5 | 7 | | Gray organic SILT, trace clay, trace shells, trace fibers. pp=0.5, 0.5, 0.5 tons / ft$^2$ |
| | 16.15 - 16.75 | 2 | 0.60 | 0.00 | UP | | | | | | Piston - (Lost sample after it was pulled up.) |
| | 16.76 - 17.36 | 3 | 0.60 | 0.00 | UP | | | | | | Piston - No recovery. |
| | 17.37 - 17.97 | 12 | 0.60 | 0.41 | D | 1 | 2 | 2 | 4 | | Top 0.20m: Gray organic SILT, trace shells. Bottom 0.20m: Gray organic SILT, trace clay, trace shells. |
| | 18.29 - 18.89 | 13 | 0.60 | 0.36 | D | 3 | 5 | 7 | 7 | | Gray organic SILT, some f sand, trace shells. pp=1.5, 1.25, 1.25 tons / ft$^2$ |
| | | | | | | | | | | 19.20 | |
| 20 | 19.81 - 20.41 | 14 | 0.60 | 0.36 | D | 7 | 9 | 21 | 25 | -10.96 | Light brown f SAND, trace silt. |
| | 21.34 - 21.94 | 15 | 0.60 | 0.56 | D | 16 | 10 | 19 | 21 | | Red brown f SAND, little silt. |
| | | | | | | | | | | 21.94 | |
| | | | | | | | | | | -13.70 | Bottom of Boring 21.94m. |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 21.94 | |
| | | | No. of Samples | |
| | | | 15D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-5
Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER
CADD bor-06-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN
DRAWING TITLE: BORINGS - R-5

PROJECT NO.: 92-522
DRAWING NO.: BOR-06
SHEET NO.:

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11/12/2012
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## BORING R-6 (1 OF 2)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-6 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+178.8 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 24.9 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202410.8 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289210.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 6.37 | | | |
| Date Started: 7/31/2002 | | | |
| Date Finished: 7/31/2002 | | | |
| Groundwater Observations | | | |
| @ ~3.35 m after hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 - 0.60 | 1 | 0.60 | 0.25 | D | 3 | 2 | 11 | 8 | | Top 0.10m: Topsoil. Bottom 0.15m: Brown f SAND, some silt, trace c sand, trace f gravel, dry. |
| 1.52 - 2.12 | 2 | 0.60 | 0.50 | D | 10 | 14 | 17 | 17 | | Light brown f SAND, trace c sand, trace silt, dry. |
| 3.05 - 3.65 | 3 | 0.60 | 0.50 | D | 6 | 3 | 3 | 4 | | Top 0.15m: Gray/brown f-c SAND, trace silt, trace clay. Bottom 0.35m: Red brown f SAND, little to some silt, wet. |
| 4.57 - 5.17 | 4 | 0.60 | 0.30 | D | 7 | 9 | 9 | 10 | | Gray brown f-c SAND, mostly f, trace silt, trace f gravel, moist. |
| 6.10- 6.70 | 5 | 0.60 | 0.20 | D | 3 | 2 | 2 | 3 | | Gray brown f-c SAND, mostly f, little silt, trace clay, trace shells, wet. |
| | | | | | | | | | 7.16 | |
| 7.62 - 8.22 | 6 | 0.60 | 0.30 | D | 10 | 13 | 19 | 17 | -0.79 | Top 0.05m: Gray organic SILT, little f sand, trace shells. Bottom 0.25m: Gray brown f-c SAND, mostly f, little (gray) silt, trace clay. |
| 9.14 - 9.74 | 7 | 0.60 | 0.50 | D | 2 | 2 | 3 | 2 | | Gray organic SILT, trace to little clay, trace to little shells, trace f sand, stiff. pp=0.75, 1.0, 1.0 tons / ft$^2$ |
| 10.06 - 10.66 | 1 | 0.60 | 0.45 | UP | | | | | | Piston |
| 10.67 - 11.27 | 8 | 0.60 | 0.60 | D | 1 | 2 | 2 | 1 | | Gray organic SILT, trace shells, trace f sand, trace clay, soft. pp= 0, 0.25, 0.25 tons / ft$^2$ |
| 12.19 - 12.79 | 9 | 0.60 | 0.60 | D | 1 | 1 | 2 | 1 | | Gray organic SILT, trace shells, trace f sand, trace clay, soft. |
| 13.11 - 13.71 | 2 | 0.60 | 0.00 | UP | | | | | | Piston - No Recovery. |
| 13.72 - 14.32 | 10 | 0.60 | 0.60 | D | 1 | 2 | 3 | 2 | | Gray organic SILT, little clay, trace shells. |

| Casing Size | From | To | Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-6 Sheet 1 of 2

## BORING R-6 (2 OF 2)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-6 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+178.8 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 24.9 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202410.8 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289210.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 6.37 | | | |
| Date Started: 7/31/2002 | | | |
| Date Finished: 7/31/2002 | | | |
| Groundwater Observations | | | |
| @ ~3.35 m after hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|
| 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 1 | 2 | 2 | 3 | | Gray organic SILT, trace shells, very high plasticity. pp=0.00, 0.00, 0.00 tons / ft$^2$ |
| 16.76 - 17.36 | 12 | 0.60 | 0.60 | D | 3 | 3 | 4 | 4 | | Gray organic SILT, trace shells. pp=0.00, 0.00, 0.00 tons / ft$^2$ |
| | | | | | | | | | 17.67 | |
| 18.29 - 18.89 | 13 | 0.60 | 0.50 | D | 10 | 13 | 13 | 15 | -11.30 | Red brown f SAND, trace to little silt. |
| 19.81 - 20.41 | 14 | 0.60 | 0.55 | D | 19 | 26 | 28 | 31 | | Top 0.20m: Gray f SAND, little silt. Bottom 0.35m: Red brown f SAND, little silt. |
| | | | | | | | | | 20.41 | |
| | | | | | | | | | -14.04 | Bottom of Boring 20.41. |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-6 Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-07-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS – R-6

PROJECT NO.: 92-522
DRAWING NO.: BOR-07
SHEET NO.:

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11/12/2012
t:\v8cadd\projects\pb18735\fd\highway\contract_sheets\bor-07-092522.dgn

## BORING R-7 (1 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-7 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+202.9 |
| R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 42.2 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202480.8 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289223.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 3.94 | | | |
| Date Started: 7/25/2002 | | | |
| Date Finished: 7/25/2002 | | | |
| Groundwater Observations | | | |
| @ ~2.59 m after ____ hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 - 0.60 | 1 | 0.60 | 0.30 | D | 10 | 10 | 11 | 12 | | Top 0.05m: Brown f SAND and SILT, roots (topsoil) Bottom 0.25m: Light brown f-c SAND, some silt, trace f-c gravel, dry. |
| | 1.52 - 2.12 | 2 | 0.60 | 0.30 | D | 5 | 5 | 5 | 11 | | Brown f SAND, trace c sand, trace shells, ~1.27 cm silt seam (brown gray), moist. |
| | 3.05 - 3.65 | 3 | 0.60 | 0.30 | D | 2 | 14 | 17 | 17 | | Top 0.15m: Brown f SAND, trace c sand, trace silt, trace shells. Bottom 0.15m: Gray f SAND, wet. |
| 5 | 4.57 - 5.17 | 4 | 0.60 | 0.36 | D | 7 | 17 | 17 | 19 | | Gray f SAND, trace shells, with ~1.27 cm black f-m sand lense, trace silt. |
| | 6.10 - 6.70 | 5 | | 0.00 | D | | | | | | 5.94m - 6.40m: Hit boulder. |
| | | | | | | | | | | 7.01 | |
| | 7.62 - 8.22 | 6 | 0.60 | 0.60 | D | 1 | 2 | 1 | 1 | 3.07 | Gray organic SILT, trace f sand, trace shells. |
| | 8.53 - 9.13 | 1 | 0.60 | 0.60 | UP | | | | | | Piston. |
| | 9.14 - 9.74 | 7 | 0.60 | 0.41 | D | 1 | 1 | 1 | 2 | | Gray organic SILT, trace f sand. |
| 10 | | | | | | | | | | | |
| | 10.67 - 11.27 | 8 | 0.60 | 0.46 | D | 1 | 1 | 1 | 1 | | Gray organic SILT, trace f sand, trace shells. |
| | 11.58 - 12.18 | 2 | 0.60 | 0.00 | UP | | | | | | Piston - No Recovery. |
| | 12.19 - 12.79 | 9 | 0.60 | 0.51 | D | 1 | 1 | 1 | 2 | | Gray organic SILT, trace f sand, trace shells, very high plasticity. |
| | 13.72 - 14.32 | 10 | 0.60 | 0.53 | D | 2 | 1 | 2 | 2 | | Gray organic SILT, trace f sand, trace shells. |
| 15 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 15.84 | |
| | | | No. of Samples | |
| | | | 11D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-7 Sheet 1 of 2

## BORING R-7 (2 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-7 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+202.9 |
| R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 42.2 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202480.8 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289223.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 3.94 | | | |
| Date Started: 7/25/2002 | | | |
| Date Finished: 7/25/2002 | | | |
| Groundwater Observations | | | |
| @ ~2.59 m after ____ hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Casing blows per half meter) | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 3 | 4 | 8 | 8 | 15.70 | Top 0.46m: Gray organic SILT, trace f sand, trace shells. |
| | | | | | | | | | | -11.76 | Bottom 0.15m: Gray f SAND, some silt, trace shells. |
| | | | | | | | | | | 15.84 | |
| | | | | | | | | | | -11.90 | Bottom of Boring 15.84m. |
| 20 | | | | | | | | | | | |
| 25 | | | | | | | | | | | |
| 30 | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 15.84 | |
| | | | No. of Samples | |
| | | | 11D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-7 Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-08-092522.dgn PLOTTED 11/2/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS - R-7

PROJECT NO.: 92-522
DRAWING NO.: BOR-08
SHEET NO.:

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11/2/2012
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## BORING R-8 (1 OF 2)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-8 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+217.0 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 8.3 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202449.8 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289243.0 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 7.86 | | | |
| Date Started: 8/8/2002 | | | |
| Date Finished: 8/8/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | DEPTH IN METERS FROM - TO | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 0-0.30m: Asphalt |
| | | 0.30 - 0.70 | 1 | 0.40 | 0.10 | D | 22 | 31 | 50/0.10m | | | Brown f-c SAND, trace f gravel, trace silt, c gravel wedged in tip, dry. |
| | | 1.52 - 2.12 | 2 | 0.60 | 0.40 | D | 15 | 17 | 21 | 22 | | Light brown f SAND, trace c sand, trace silt, dry. |
| | | 3.05 - 3.65 | 3 | 0.60 | 0.15 | D | 14 | 16 | 16 | 19 | | Red brown / brown f SAND, trace to little silt, trace c sand, trace f gravel, moist. |
| 5 | | 4.57 - 5.17 | 4 | 0.60 | 0.25 | D | 4 | 6 | 8 | 8 | | Light brown f SAND, trace to little silt, trace f gravel, moist. |
| | | 6.10 - 6.70 | 5 | 0.60 | 0.15 | D | 9 | 12 | 14 | 15 | | Brown / gray f SAND, trace silt, wet. |
| | | 7.62 - 8.22 | 6 | 0.60 | 0.20 | D | 5 | 3 | 10 | 11 | | Gray f SAND, some silt, wet, 0.02m organic silt lense, with trace shells. |
| | | 9.14 - 9.74 | 7 | 0.60 | 0.20 | D | 14 | 14 | 16 | 15 | | Gray f SAND, little silt, trace shells. |
| 10 | | | | | | | | | | | 10.21 | |
| | | | | | | | | | | | -2.35 | |
| | | 10.67 - 11.27 | 8 | 0.60 | 4.57 | D | 5 | 8 | 3 | 3 | | Top 0.27m: Black organic SILT and f SAND, trace f gravel, little wood. Bottom 0.10m: Gray organic SILT, little clay, trace f sand, trace shells, trace fibers. |
| | | 11.58 - 12.18 | 1 | 0.60 | 0.00 | UP | | | | | | Piston - No Recovery |
| | | 12.19 - 12.79 | 9 | 0.60 | 0.60 | D | 3 | 4 | 4 | 4 | | Gray orgainc SILT, little clay, trace shells. pp= 0.75, 0.75, 0.75 tons / ft$^2$ |
| | | 13.10 - 13.70 | 2 | 0.60 | 0.60 | UP | | | | | | Piston |
| 15 | | 13.71 - 14.31 | 10 | 0.60 | 0.60 | D | 1 | 1 | 2 | 2 | | Gray orgainc SILT, little clay, trace shell, trace fibers. |

| Casing | | | Meters of | |
|---|---|---|---|---|
| Size | From | To | Earth | Rock |
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-8
Sheet 1 of 2

## BORING R-8 (2 OF 2)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-8 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+217.0 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 8.3 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202449.8 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289243.0 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 7.86 | | | |
| Date Started: 8/8/2002 | | | |
| Date Finished: 8/8/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | DEPTH IN METERS FROM - TO | SAMPLE NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15.24 - 15.84 | 11 | 0.60 | 0.45 | D | 2 | 3 | 2 | 6 | | Gray orgainc SILT, little clay, trace shell, trace fibers. |
| | | 16.15 - 16.75 | 3 | 0.60 | 0.60 | UP | | | | | | Piston |
| | | 16.76 - 17.36 | 12 | 0.60 | 0.50 | D | 4 | 3 | 6 | 6 | | Gray organic SILT, little f sand, trace clay, trace shells. |
| | | | | | | | | | | | 17.83 | |
| | | | | | | | | | | | -9.97 | |
| | | 18.29 - 18.89 | 13 | 0.60 | 0.07 | D | 11 | 13 | 15 | 18 | | Gray f SAND, some silt. |
| 20 | | 19.81 - 20.41 | 14 | 0.60 | 0.30 | D | 12 | 18 | 19 | 22 | | Red brown SILT and f SAND, trace clayey silt seams (very thin), saturated, rapid dilatancy. |
| | | | | | | | | | | | 20.41 | |
| | | | | | | | | | | | -12.55 | Bottom of Boring 20.41m. |
| 25 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |

| Casing | | | Meters of | |
|---|---|---|---|---|
| Size | From | To | Earth | Rock |
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/3UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-8
Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER
CADD bor-09-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN
DRAWING TITLE: BORINGS – R-8

PROJECT NO.: 92-522
DRAWING NO.: BOR-09
SHEET NO.:

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11/12/2012
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## BORING R-9 (1 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-9 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+260.3 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 27.4 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202423.3 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289292.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 6.08 | | | |
| Date Started: 7/29/2002 | | | |
| Date Finished: 7/29/2002 | | | |
| Groundwater Observations | | | |
| @ ~2.74 m after ____ hours | | | |
| @ m after ____ hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | | X | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | SAMPLE DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.00 - 0.60 | 1 | 0.60 | 0.30 | D | 3 | 5 | 6 | 6 | | Top 0.10m: Topsoil. Light brown f SAND, little silt, trace m-c sand, trace f gravel, dry. |
| | | 1.52 - 2.12 | 2 | 0.60 | 0.36 | D | 7 | 10 | 11 | 11 | | Red brown f SAND, trace silt, dry. |
| | | 3.05 - 3.65 | 3 | 0.60 | 0.30 | D | 4 | 13 | 16 | 17 | | Top 0.03m: Red brown f SAND, little silt, wet. Middle 0.10m: Gray SILT, little f sand, wet. Bottom 0.18m: Light brown f SAND, trace silt, wet. |
| 5 | | 4.57 - 5.17 | 4 | 0.60 | 0.46 | D | 7 | 11 | 10 | 12 | | Light brown f-c SAND, trace silt, wet. |
| | | 6.10 - 6.70 | 5 | 0.60 | 0.20 | D | 9 | 13 | 14 | 15 | | Brown gray f-c SAND, trace silt, wet. |
| | | 7.62 - 8.22 | 6 | 0.60 | 0.15 | D | 6 | 6 | 6 | 6 | 8.69 | Brown gray f-c SAND, trace silt, interlayered with gray organic SILT, little shells, trace f sand, wet. |
| 10 | | 9.14 - 9.74 | 7 | 0.60 | 0.60 | D | 1 | 1 | 1 | 1 | -2.61 | Gray organic SILT, little clay, little shells, trace f sand. pp=0.75, 0.75, 1.0 tons / ft$^2$ |
| | | 10.67 - 11.27 | 8 | 0.60 | 0.60 | D | 1 | 2 | 1 | 1 | | Gray orgainic SILT, little clay, trace shells, trace f sand. |
| | | 12.19 - 12.79 | 9 | 0.60 | 0.60 | D | 1 | 2 | 2 | 1 | | Gray organic SILT, trace clay, trace f sand, trace shells. pp=0.5, 0.75, 0.5 tons / ft$^2$ |
| | | 13.11 - 13.71 | 2 | 0.60 | 0.60 | UP | | | | | | Piston |
| | | 13.72 - 14.32 | 10 | 0.60 | 0.56 | D | 1 | 1 | 2 | 1 | | Gray organic SILT, trace clay, trace f sand, trace shells. pp=0.5, 0.75, 0.5 tons / ft$^2$ |
| 15 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 14D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-9
Sheet 1 of 2

## BORING R-9 (2 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-9 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+260.3 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 27.4 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202423.3 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289292.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 6.08 | | | |
| Date Started: 7/29/2002 | | | |
| Date Finished: 7/29/2002 | | | |
| Groundwater Observations | | | |
| @ ~2.74 m after ____ hours | | | |
| @ m after ____ hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | | X | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | SAMPLE DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15.24 - 15.84 | 11 | 0.60 | 0.60 | D | 2 | 3 | 4 | 7 | | Gray orgainic SILT, little clay, trace f sand, trace shells, few f sand lenses in tip. pp=0.75, 1.0, 1.0 tons / ft$^2$ |
| | | 16.76 - 17.36 | 12 | 0.60 | 0.25 | D | 4 | 4 | 4 | 5 | 17.67 | Gray orgainic SILT, little clay, trace f sand, trace shells. pp=1.0, 1.0, 0.5 tons / ft$^2$ |
| | | 18.29 - 18.89 | 13 | 0.60 | 0.38 | D | 14 | 15 | 17 | 23 | -11.59 | Red brown SILT, some f sand. |
| 20 | | 19.81 - 20.41 | 14 | 0.60 | 0.25 | D | 13 | 16 | 21 | 26 | | Top 0.10m: Gray SILT, trace shells. Bottom 0.15m: Red brown f SAND, some silt. |
| | | | | | | | | | | | 20.41 -14.33 | Bottom of Boring 20.41m. |
| 25 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 20.41 | |
| | | | No. of Samples | |
| | | | 3A/11D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-9
Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER
CADD bor-10-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN
DRAWING TITLE: BORINGS – R-9

PROJECT NO.: 92-522
DRAWING NO.: BOR-10
SHEET NO.:

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11/12/2012
t:\v8cadd\projects\pb18735\fd\highway\contract_sheets\bor-10-092522.dgn

## BORING R-10 (1 OF 2)

| | | | |
|---|---|---|---|
| M. Jennett | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-10 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+399.9 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 6.5 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202485.4 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289422.1 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 5.41 | | | |
| Date Started: 8/6/2002 | | | |
| Date Finished: 8/7/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after ____ hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Depth in meters from - to) | Casing blows per half meter | Sample No. | Pen. m | Rec. m | Type | Blows per 0.15 meters on sampler 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | Strata change: depth, elev. | Field identification of soil, remarks (incl. color, loss of wash water, etc.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Top 0.56m: Asphalt. |
| 0.60 - 1.20 | | 1 | 0.60 | 0.15 | D | 15 | 7 | 8 | 28 | | Brown f-c SAND, mostly f, little silt, trace f-c gravel, dry. |
| 1.52 - 2.12 | | 2 | 0.60 | 0.36 | D | 17 | 36 | 50 | 54 | | Brown f-c SAND, mostly f, little silt, trace f-c gravel, moist. |
| 3.05 - 3.65 | | 3 | 0.60 | 0.46 | D | 8 | 26 | 29 | 31 | | Top 0.20m: Red brown f SAND, little silt, moist. Bottom 0.25m: Brown gray f SAND, little silt, trace c sand, trace f gravel. |
| 4.57 - 5.17 | 5 | 4 | 0.60 | 0.46 | D | 12 | 13 | 12 | 21 | | Top 0.10m: Brown f SAND, mostly f, little silt, trace f gravel. Bottom 0.36m: Brown gray f SAND, trace silt, moist. |
| | | | | | | | | | | | (Drove 6.10m of casing, used 300 lb. hammer for bottom 1.22m) |
| 6.10 - 6.70 | | 5 | 0.60 | 0.05 | D | 7 | 10 | 15 | 19 | | Red brown f SAND, little silt, trace c sand, wet. |
| | | | | | | | | | | 7.16 | |
| 7.62 - 8.22 | | 6 | 0.60 | 0.60 | D | 4 | 4 | 5 | 6 | -1.75 | Black/Dark gray organic SILT, trace clay interlayered with black/olive brown fiberous PEAT, trace to little silt. |
| 9.14 - 9.74 | 10 | 1 | 0.60 | 0.60 | UP | | | | | | Piston |
| 10.67 - 11.27 | | 7 | 0.60 | 0.60 | D | 2 | 1 | 1 | 2 | | Gray organic SILT, little clay, trace shells, trace f sand. |
| 11.58 - 12.18 | | 2 | 0.60 | | UP | | | | | | Piston |
| 12.19 - 12.79 | | 8 | 0.60 | 0.46 | D | 4 | 1 | 2 | 2 | | Gray organic SILT, little clay, trace shells, trace f sand. |
| | | | | | | | | | | 13.72 | |
| 13.72 - 14.32 | 15 | 9 | 0.60 | 0.60 | D | 4 | 4 | 2 | 2 | -7.58 | Gray SILT and f SAND, trace shells. |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 6.10 | 20.41 | |
| | | | No. of Samples | |
| | | | 13D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-10 Sheet 1 of 2

## BORING R-10 (2 OF 2)

| | | | |
|---|---|---|---|
| R. Posa | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-10 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202485.4 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289422.1 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |
| Surface Elevation: 5.41 | | | |
| Date Started: 8/6/2002 | | | |
| Date Finished: 8/7/2002 | | | |
| Groundwater Observations | | | |
| @ ~5.64 m after ____ hours | | | |
| @ m after hours | | | |

| | Casing | Auger | Mud | Sampler | | Core Barrel | | | |
|---|---|---|---|---|---|---|---|---|---|
| Utilized | | X | X | X | X | | | | |
| Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Depth in meters from - to) | Casing blows per half meter | Sample No. | Pen. m | Rec. m | Type | Blows per 0.15 meters on sampler 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | Strata change: depth, elev. | Field identification of soil, remarks (incl. color, loss of wash water, etc.) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15.24 - 15.84 | | 10 | 0.60 | 0.60 | D | 4 | 6 | 9 | 9 | | Top 0.10m: Gray SILT, some f sand, trace shells. Bottom 0.51m: Black silty PEAT interlayered with olive brown silty PEAT. |
| 16.76 - 17.36 | | 11 | 0.60 | 0.51 | D | WOR | WOR | WOR | 6 | | Top 0.10m: Red brown f-c SAND, trace silt. Bottom 0.41m: Red brown f SAND, some silt, saturated, rapid dilatancy. |
| 18.29 - 18.89 | | 12 | 0.60 | 0.25 | D | 10 | 10 | 13 | 14 | | Red brown f SAND and SILT, saturated, rapid dilatancy. |
| 19.81 - 20.41 | 20 | 13 | 0.60 | 0.46 | D | 9 | 12 | 16 | 16 | | Red brown f SAND and SILT, few clayey silt seams (very thin), one silt lense (~0.16cm). |
| | | | | | | | | | | 20.41 -15.00 | Bottom of Boring 20.41m. |
| | 25 | | | | | | | | | | |
| | 30 | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 6.10 | 20.41 | |
| | | | No. of Samples | |
| | | | 13D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-10 Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS – R-10

PROJECT NO.: 92-522
DRAWING NO.: BOR-11
SHEET NO.:

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11/12/2012
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## BORING R-11 (1 OF 1)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-11 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+424.5 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 21.4 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202463.7 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289452.3 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: 3.41 | | | Casing | | | Auger | | Mud | Sampler | | Core Barrel | | | |
| Date Started: 8/1/2002 | Utilized | | | X | | | X | X | X | X | | | | |
| Date Finished: 8/1/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~2.59 m after hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 0.15m: Asphalt, 0.45m: Gray f gravel. |
| | | 0.60 - 0.83 | 1 | 0.23 | 0.15 | D | 60 | 50/0.08m | | | | Top 0.08m: Red brown f-c SAND, little silt, trace c gravel. |
| | | | | | | | | | | | | Bottom 0.08m: Light brown f-c SAND, little silt, trace f-c gravel. |
| | | | | | | | | | | | | Gravel wedged in tip. |
| | | 1.52 - 2.12 | 2 | 0.60 | 0.30 | D | 27 | 25 | 19 | 27 | | Red brown f SAND, trace c sand, trace silt, trace c gravel. |
| | | 3.05 - 3.65 | 3 | 0.60 | 0.51 | D | 2 | 1 | 1 | 1 | 3.20 | Top 0.15m: Brown gray f SAND, trace c sand, trace to little silt. |
| | | | | | | | | | | | -0.21 | Bottom 0.36m: Black gray organic SILT, some f sand inter- |
| | | | | | | | | | | | | layered with black PEAT, trace wood. |
| 5 | | 3.96 - 4.56 | 1 | 0.60 | | UP | | | | | | Piston |
| | | 4.57 - 5.17 | 4 | 0.60 | 0.46 | D | 2 | 3 | 3 | 3 | | Top 0.10m: Black f SAND and SILT, little shells, trace wood, |
| | | | | | | | | | | | | covered in black creosote. |
| | | | | | | | | | | | | Bottom 0.36m: Gray organic SILT, some fibers, little clay. |
| | | 6.10 - 6.70 | 5 | 0.60 | 0.60 | D | 1/0.30m | | 1/0.3m | | | Gray organic SILT, trace shells, trace clay, trace f sand, soft. |
| | | 7.01 - 7.61 | 2 | 0.60 | | UP | | | | | | Piston |
| | | 7.62 - 8.22 | 6 | 0.60 | 0.51 | D | 2 | 3 | 2 | 2 | | Gray organic SILT, trace clay, trace f sand, trace shells, soft. |
| | | 9.14 - 9.74 | 7 | 0.60 | 0.56 | D | 3 | 2 | 2 | 2 | | Gray organic SILT, little clay, trace f sand, trace shells, soft. |
| 10 | | | | | | | | | | | 10.21 | |
| | | | | | | | | | | | -6.80 | |
| | | 10.67 - 11.27 | 8 | 0.60 | 0.60 | D | 1 | 7 | 15 | 18 | | Top 0.15m: Gray / dark brown f SAND, some silt, wet. |
| | | | | | | | | | | | | Bottom 0.46m: Red brown f SAND, some silt, moist. |
| | | 12.19 - 12.79 | 9 | 0.60 | 0.46 | D | 7 | 9 | 15 | 26 | | Red brown f SAND, some silt. |
| | | | | | | | | | | | 12.79 | |
| | | | | | | | | | | | -9.38 | Bottom of Boring 12.79m. |
| 15 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 12.79 | |
| | | | No. of Samples | |
| | | | 9D/2UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-11 Sheet 1 of 1

## BORING R-12 (1 OF 2)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-12 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+460.1 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 5.8 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202498.2 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289480.8 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: 5.38 | | | Casing | | | Auger | | Mud | Sampler | | Core Barrel | | | |
| Date Started: 8/6/2002 | Utilized | | | X | | | X | X | X | X | | | | |
| Date Finished: 8/7/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~4.11 m after hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 0-0.56m: Asphalt |
| | | 0.60 - 1.20 | 1 | 0.23 | 0.13 | D | 26 | 50/0.08m | | | | Brown f-c SAND, mostly f, little silt, trace f-c gravel, dry. |
| | | 1.52 - 2.12 | 2 | 0.60 | 0.36 | D | 13 | 17 | 17 | 17 | | Top 0.05: Brown f SAND, trace c sand, little silt, trace f |
| | | | | | | | | | | | | gravel, dry. |
| | | | | | | | | | | | | Bottom 0.30: Light brown f SAND, trace silt. |
| | | 3.05 - 3.65 | 3 | 0.60 | 0.46 | D | 12 | 12 | 18 | 20 | | Top 0.08: Brown f SAND, trace c sand, little silt, trace f-c |
| | | | | | | | | | | | | gravel, ~0.64cm layer of shells. |
| | | | | | | | | | | | | Bottom 0.30: Red brown f SAND, trace silt, dry. |
| 5 | | 4.57 - 5.17 | 4 | 0.60 | 0.36 | D | 11 | 12 | 10 | 8 | | Gray brown f SAND, trace c sand, trace silt, wet. |
| | | | | | | | | | | | 5.49 | |
| | | | | | | | | | | | -0.11 | |
| | | 6.10 - 6.70 | 5 | 0.60 | 0.51 | D | 3 | 2 | 1 | 2 | | Top 0.25m: Red brown f SAND, some silt. |
| | | | | | | | | | | | | Bottom 0.25m: Olive brown fiberous PEAT, little (gray) silt, |
| | | | | | | | | | | | | trace f sand. |
| | | 6.71 - 7.31 | 1 | 0.60 | 0.60 | UP | | | | | | Piston |
| | | 7.32 - 7.92 | 6 | 0.60 | 0.46 | D | 1/0.30m | | 1 | 2 | | Gray organic SILT, trace shells, trace fibers, trace clay. |
| | | 9.14 - 9.74 | 7 | 0.60 | 0.46 | D | 1 | 2 | 2 | 3 | 9.45 | Top 0.30m: Same as above. (Sample jar S-6A) |
| 10 | | | | | | | | | | | -4.07 | Bottom 0.15m: Gray f SAND, some silt. (Sample jar S-6B) |
| | | 10.67 - 11.27 | 8 | 0.60 | 0.36 | D | 9 | 7 | 13 | 13 | | Red brown f SAND, little silt. |
| | | 12.19 - 12.79 | 9 | 0.60 | 0.30 | D | 7 | 7 | 8 | 8 | | Red brown f SAND, some silt. |
| | | 13.72 - 14.32 | 10 | 0.60 | 0.30 | D | 8 | 8 | 10 | 10 | | Red brown f SAND, little to some silt. |
| 15 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 18.90 | |
| | | | No. of Samples | |
| | | | 4A/9D/1UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-12 Sheet 1 of 2

## BORING R-12 (2 OF 2)

| | | | |
|---|---|---|---|
| W. Conroy | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-12 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+460.1 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 5.8 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202498.2 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289480.8 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: 5.38 | | | Casing | | | Auger | | Mud | Sampler | | Core Barrel | | | |
| Date Started: 8/6/2002 | Utilized | | | X | | | X | X | X | X | | | | |
| Date Finished: 8/7/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~4.11 m after hours | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| D E P T H | Casing blows per half meter | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15.24 - 15.84 | 11 | 0.60 | 0.30 | D | 17 | 17 | 17 | 14 | | Red brown f SAND, little silt. |
| | | 16.76 - 17.36 | 12 | 0.60 | 0.46 | D | 15 | 10 | 10 | 10 | | Red brown f SAND, little silt. |
| | | 18.29 - 18.89 | 13 | 0.60 | 0.41 | D | 11 | 14 | 13 | 11 | | Red brown f SAND, some silt. |
| | | | | | | | | | | | 18.89 | |
| | | | | | | | | | | | -13.51 | Bottom of Boring 18.89m. |
| 20 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 18.89 | |
| | | | No. of Samples | |
| | | | 13D/1UP | |

NOTES: Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test

PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-12 Sheet 2 of 2

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-12-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS – R-11 & R-12

PROJECT NO.: 92-522
DRAWING NO.: BOR-12
SHEET NO.:

6:35:17 PM
11/12/2012
t:\v8cadd\projects\pb18735\fd\highway\contract_sheets\bor-12-092522.dgn

## BORING R-13 (1 OF 2)

| | | | |
|---|---|---|---|
| E. Del Priore | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-13 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+474.9 |
| R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 35.3 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202530.4 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289488.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: | 2.36 | | Casing | | | Auger | | Mud | Sampler | | Core Barrel | | | | |
| Date Started: | 7/26/2002 | Utilized | | | X | | | X | X | X | | | | | |
| Date Finished: | 7/26/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~2.13 m after hours | | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Elev.) | Casing blows per half meter | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.00 - 0.60 | 1 | 0.60 | 0.20 | D | 2 | 4 | 6 | 7 | | Brown f SAND, some silt, roots. |
| | | 1.52 - 2.12 | 2 | 0.60 | 0.25 | D | 3 | 4 | 5 | 3 | 2.12 | Gray f SAND, some silt, trace fibers. |
| | | | | | | | | | | | 0.24 | (Gray organic SILT between samples 2 and 3.) |
| | | | | | | | | | | | 3.05 | |
| | | 3.05 - 3.65 | 3 | 0.60 | 0.56 | D | 2 | 2 | 9 | 7 | -0.69 | Gray f SAND, some silt, trace fibers. |
| 5 | | 4.57 - 5.17 | 4 | 0.60 | 0.60 | D | 3 | 5 | 7 | 10 | | Red brown f SAND, little silt. |
| | | 6.10 - 6.70 | 5 | 0.60 | 0.36 | D | 5 | 7 | 9 | 8 | | Red brown f SAND, little silt. |
| | | 7.62 - 8.22 | 6 | 0.60 | 0.41 | D | 6 | 8 | 8 | 10 | | Red brown f SAND, little silt. |
| 10 | | 9.14 - 9.74 | 7 | 0.60 | 0.30 | D | 9 | 13 | 17 | 18 | | Red brown f SAND, some silt. |
| | | 10.67 - 11.27 | 8 | 0.60 | 0.30 | D | 10 | 14 | 16 | 20 | | Red brown f SAND, some silt. |
| | | 12.19 - 12.79 | 9 | 0.60 | 0.25 | D | 7 | 8 | 11 | 13 | | Red brown f SAND, some silt, trace f gravel. |
| 15 | | 13.72 - 14.32 | 10 | 0.60 | 0.25 | D | 8 | 9 | 12 | 12 | | Red brown f SAND, some silt. |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 15.84 | |
| | | | No. of Samples | |
| | | | 11D | |

NOTES: Bombardier Rig - Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-13
Sheet 1 of 2

## BORING R-13 (2 OF 2)

| | | | |
|---|---|---|---|
| E. Del Priore | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-13 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+474.9 |
| R. Sharp | DEPARTMENT OF TRANSPORTATION | Offset | 35.3 LT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202530.4 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289488.5 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: | 2.36 | | Casing | | | Auger | | Mud | Sampler | | Core Barrel | | | | |
| Date Started: | 7/26/2002 | Utilized | | | X | | | X | X | X | | | | | |
| Date Finished: | 7/26/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~2.13 m after hours | | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Elev.) | Casing blows per half meter | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15.24 - 15.84 | 11 | 0.60 | 0.33 | D | 7 | 6 | 9 | 11 | | Red brown f SAND, little to some silt. |
| | | | | | | | | | | | 15.84 | |
| | | | | | | | | | | | -13.48 | Bottom of Boring 15.84 m. |
| 20 | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 4.57 | 15.84 | |
| | | | No. of Samples | |
| | | | 11D | |

NOTES: Bombardier Rig - Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a wire winch.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-13
Sheet 2 of 2

## BORING R-14 (1 OF 1)

| | | | |
|---|---|---|---|
| J. Muccino | SM - 001 - M REV. 1/94 BORING REPORT | Hole No. | R-14 |
| DRILLER | STATE OF CONNECTICUT | Line & Station | I-95 1+505.1 |
| E. Fulton | DEPARTMENT OF TRANSPORTATION | Offset | 23.0 RT |
| INSPECTOR | TOWN: New Haven / West Haven, CT | N. Coordinate | 202480.5 |
| Parsons Brinckerhoff Quade & Douglas, Inc. | PROJECT NAME: Reconstruction I-95 Over West River | E. Coordinate | 289531.2 |
| SOILS ENGINEER | PROJECT NUMBER: 92-533 | Parsons Brinckerhoff Quade & Douglas, Inc. | |
| | BORING CONTRACTOR: General Borings, Inc. | PRIME DESIGNER | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Elevation: | 2.90 | | Casing | | | Auger | | Mud | Sampler | | Core Barrel | | | | |
| Date Started: | 8/2/2002 | Utilized | | | X | | X | X | X | 4 | | | | | |
| Date Finished: | 8/2/2002 | Type | BW | NW | HW | Pipe | Solid | Hollow | Bentonite | SS | UP | B (st) | B (dt) | NX (st) | NV II (dt) |
| Groundwater Observations | | Size I.D. (mm) | 60 | 76 | 100 | 64 | | 150 | X | 36 | | 35 | 35 | 55 | 55 |
| @ ~4.11 m after hours | | Hammer (kg) | 136 | 136 | 136 | 136 | | | Bit | 63.5 | | Type | | Diamond | |
| @ m after hours | | Fall (m) | 0.6 | 0.6 | 0.6 | 0.6 | | | 0.80 mm | 0.76 | | of Bit | | Carbide | |

| DEPTH (Elev.) | Casing blows per half meter | DEPTH IN METERS FROM - TO | NO. | PEN. m | REC. m | Type | BLOWS PER 0.15 METERS ON SAMPLER 0 - 0.15 | 0.15 - 0.30 | 0.30 - 0.45 | 0.45 - 0.60 | STRATA CHANGE: DEPTH, ELEV. | FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.00 - 0.60 | 1 | 0.60 | 0.30 | D | 5 | 6 | 5 | 7 | | Top 0.10m: Topsoil |
| | | | | | | | | | | | | Bottom 0.20m: Red brown f SAND, trace c sand, few f gravel, |
| | | | | | | | | | | | | trace silt, dry. |
| | | 1.52 - 2.12 | 2 | 0.60 | 0.30 | D | 9 | 5 | 8 | 8 | | Red brown f SAND, little silt, dry. |
| | | | | | | | | | | | 2.59 | |
| | | | | | | | | | | | 0.31 | |
| | | 3.05 - 3.65 | 3 | 0.60 | 0.48 | D | 4 | 5 | 5 | 5 | | Olive brown very fiberous PEAT, little (gray) silt, trace f sand, |
| | | | | | | | | | | | | trace clay, dry. |
| 5 | | 4.57 - 5.17 | 4 | 0.60 | 0.41 | D | 1 | 1 | 2 | 2 | | Top 0.15m: Gray organic SILT, some f sand, trace fibers. |
| | | | | | | | | | | | | Bottom 0.25m: Gray organic SILT interlayered with PEAT, little |
| | | | | | | | | | | | 5.64 | f sand. |
| | | 6.10 - 6.70 | 5 | 0.60 | 0.51 | D | 5 | 7 | 15 | 19 | -2.74 | Red brown / brown SILT and f SAND, saturated. |
| | | 7.62 - 8.22 | 6 | 0.60 | 0.46 | D | 9 | 13 | 16 | 19 | | Red brown SILT, little to some f sand, trace clayey silt seams |
| | | | | | | | | | | | | (very thin). |
| | | 9.14 - 9.74 | 7 | 0.60 | 0.51 | D | 11 | 15 | 18 | 23 | | Red brown SILT, little to some f sand, trace clayey silt seams |
| 10 | | | | | | | | | | | 9.74 | (very thin). |
| | | | | | | | | | | | -6.84 | Bottom of Boring 9.74m. |
| 15 | | | | | | | | | | | | |

| Casing Size | From | To | Meters of Earth | Rock |
|---|---|---|---|---|
| 100 mm | 0 | 3.05 | 9.74 | |
| | | | No. of Samples | |
| | | | 7D | |

NOTES: Backhoe Rig - Raising and dropping of the 140-lb (63.5kg) safety hammer was accomplished using a rope and pulley system.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 -10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Hole No. R-14
Sheet 1 of 1

| REV. | DATE | DESCRIPTION | SHEET. NO |
|---|---|---|---|
| | | REVISIONS | |

NOT TO SCALE

DESIGNER: R. P. TALBOT
DRAFTER: M.C. DEEGAN
CHECKED BY:
DATE CHECKED:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: PB AMERICAS, INC.
APPROVED BY: DATE:

PROJECT TITLE: RECONSTRUCTION OF I-95 OVER WEST RIVER

CADD bor-13-092522.dgn PLOTTED 11/12/2012

TOWN: NEW HAVEN / WEST HAVEN

DRAWING TITLE: BORINGS – R-13 & R-14

PROJECT NO.: 92-522
DRAWING NO.: BOR-13
SHEET NO.:

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