

9

**THE STATE OF SOUTH CAROLINA
IN THE COURT OF APPEALS**

APPEAL FROM DORCHESTER COUNTY
COURT OF COMMON PLEAS

THE HONORABLE DIANE S. GOODSTEIN
CIRCUIT COURT JUDGE

APPELLATE CASE NO. 2015-002198
CIVIL ACTION NO. 2012-CP-18-2001

RECEIVED

MAY 27 2016

SC Court of Appeals

R. H. Moore Company, Inc.,

versus

RESPONDENT,

Knight's Precast, Inc.; Tobias & West, LLC;
Eric W. Tobias, P.E.; Dorchester County Water
and Sewer Department; Underground Solutions, Inc.;
B.P. Barber and Associates, Inc. n/k/a URS Corporation;
and Utility Services Authority, LLC;

DEFENDANTS,

Of which Underground Solutions, Inc. is the

APPELLANT.

**RECORD ON APPEAL
VOLUME II OF II (pp. 436-634)**

Franklin J. Smith, Jr.
Carmen V. Ganjehsani
RICHARDSON, PLOWDEN & ROBINSON, PA
1900 Barnwell Street (29201)
Post Office Drawer 7788
Columbia, South Carolina 29202
(803) 771-4400
**ATTORNEYS FOR APPELLANT
UNDERGROUND SOLUTIONS, INC.**

W.H. Bundy, Jr.
M. Brent McDonald
SMITH BUNDY BYBEE & BARNETT, P.C.
1037 Chuck Dawley Blvd, #F100,
Mt Pleasant, South Carolina 29464
(843) 881-1623
**ATTORNEYS FOR RESPONDENT
R.H. MOORE COMPANY, INC.**

R.H. MOORE COMPANY, INC. V. UNDERGROUND SOLUTIONS, INC.

INDEX TO RECORD ON APPEAL

Volume I of II (Pages 1 -435)

I. ORDERS/JUDGMENTS	<u>PAGE</u>
Order on Motions for Summary Judgment, filed October 1, 2015.....	1
II. PLEADINGS	
Complaint, filed August 21, 2012.....	10
Third Amended Complaint, filed October 17, 2014.....	19
Exhibit A - Knight's Precast Quote for Sanitary Sewer Structures.....	32
Exhibit B – Contract between R.H. Moore and Dorchester County Water & Sewer Department	36
Exhibit C – Purchase Order to Knight's Precast	39
Exhibit D – Underground Solutions, Inc. Order Summary – HDD Pipe	41
Exhibit E – Affidavit of Theodore Padgett, PE	43
Exhibit F – Affidavit of Theodore Padgett, PE	46
Defendant Underground Solutions, Inc.'s Answer and Counterclaim, filed October 31, 2014	49
Reply of R.H. Moore Company, Inc. to the Third Amended Counterclaims of Underground Solutions, Inc. filed November 13, 2014.....	57
Plaintiff R.H. Moore Company, Inc.'s Motion for Summary Judgment, filed March 20, 2015.....	61
Defendant Underground Solutions, Inc.'s Motion for Summary Judgment, filed March 23, 2015.....	63
Defendant Underground Solutions, Inc.'s Memorandum in Support of its Motion for Summary Judgment, filed April 16, 2015	64
Exhibit A - Terms and Conditions of Sale.....	73

Exhibit B – Deposition Transcript of Dr. Gene Palermo..... (see p. 149 below)

III. TRANSCRIPTS

Transcript of Hearing held April 17, 2015	77
Deposition Transcript of Dr. Gene Palermo, dated October 14, 2014.....	149
Examination by Mr. Abeles	153
Cross-examination by Mr. Winton	200
Cross-examination by Mr. Newberry	201
Deposition Transcript of Steve Thornton, dated March 12, 2015	205
Examination by Mr. Smith	208
Examination by Mr. Blankenship	289
Examination by Mr. Frampton	296
Examination by Mr. Newberry	306
Examination by Ms. Graham	397
Re-examination by Mr. Frampton	417
Examination by Mr. Closser	421
Re-examination by Mr. Newberry	431
Re-examination by Ms. Graham.....	433
Re-examination by Mr. Closser	434

Volume II of II (Pages 436-634)

Deposition Transcript of Gary Shepherd, dated April 16, 2015	436
Direct Examination by Mr. McDonald	440
Cross-examination by Mr. Newberry	488

Cross-examination by Mr. Blankenship	491
Re-examination by Mr. McDonald.....	492
Re-cross examination by Mr. Newberry.....	495
Deposition Transcript of Bradley S. King, dated April 16, 2015	498
Direct Examination by Mr. McDonald.....	502
Cross-examination by Mr. Newberry	564
Re-examination by Mr. McDonald.....	573
IV. EXHIBITS	
Affidavit of Henry Moore.....	575
Exhibit A – Horizontal Directional Drilling Sections	577
Exhibit C - Contract between R.H. Moore and Utility Services Authority	605
Exhibit 9 to Deposition of Gary Shepherd –Purchase Order.....	619
Exhibit 19 to Deposition of Steve Thornton – Plaintiff’s Answers to Interrogatories from Utility Services Authority, LLC	620
E-mail dated October 19, 2015 from Mr. Smith to counsel of record regarding jury trial court roster.....	633
V. CERTIFICATE OF COUNSEL.....	634

STATE OF SOUTH CAROLINA IN THE COURT OF COMMON PLEAS
COUNTY OF DORCHESTER FIRST JUDICIAL CIRCUIT

R.H. MOORE COMPANY, INC.,

Plaintiff,

-vs-

Case No.:
2012-CP-18-2001

KNIGHT'S PRECAST, INC., TOBIAS & WEST, LLC, ERIC W.
TOBIAS, P.E., DORCHESTER COUNTY WATER AND SEWER
DEPARTMENT, UNDERGROUND SOLUTIONS, INC. AND B.P.
BARBER & ASSOCIATES, INC. n/k/a URS CORPORATION, and
UTILITY SERVICES AUTHORITY, LLC,

Defendants.

THE DEPOSITION OF GARY SHEPHERD,
taken on behalf of the Defendant, on April 16, 2015
commencing at 11:52 a.m., at the Law Offices of Smith,
Bundy, Bybee & Barnett, 1037 Chuck Dawley Blvd., Bldg.
F, Mt. Pleasant, South Carolina, 29464.

Reported by: Douglas K. Liperote
 Spectrum Reporting Services

A P P E A R A N C E S

FOR THE PLAINTIFF:

M. BRENT MCDONALD, Esq.
Smith, Bundy, Bybee & Barnett
1037 Chuck Dawley Blvd., Bldg. F
Mt. Pleasant, SC 29464
(843) 881-1626

FOR THE DEFENDANT KNIGHT'S PRECAST, INC.:

ZACK CLOSSER, Esq.
Smith & Closser
7455 Cross County Road, Suite 1
N. Charleston, SC
(843) 760-0220
ssmith@scnlaw.com

FOR THE DEFENDANT UNDERGROUND SOLUTIONS:

JARED GARRAUX, Esq.
Richardson Plowden
1900 Barnwell Street
Columbia, SC 29201
(803) 771-4400
JGarraux@richardsonplowden.com

FOR THE DEFENDANT TOBIAS & WEST/ERIC TOBIAS, P.E.:

C. ROBIN GRAHAM, Esq.
Carlock, Copeland & Stair
40 Calhoun Street, Suite 400
Charleston, SC 29401
(843) 727-0307
rgraham@carlockcopeland.com

FOR THE DEFENDANT DORCHESTER COUNTY WATER & SEWER:

JOHN G. FRAMPTON, Esq.
Attorney at Law
201 Johnston Street
St. George, SC 29477
jframpton@dorchestercounty.net

1 Appearances continued:

2

3 FOR THE DEFENDANT UTILITY SERVICES AUTHORITY:

4 REYNOLDS H. BLANKENSHIP, Esq.
5 Walker Reibold
6 3321 Forest Drive, Suite One
7 Columbia, SC 29204
8 (803) 767-6985
9 rblankenship@Walkerreibold.net

10

11 FOR THE DEFENDANT B.P. BARBER & ASSOCIATES, INC.:

12

13 DEREK M. NEWBERRY, Esq.
14 Wilkes Law Firm
15 200 Meeting Street, Suite 205
16 Charleston, SC 29401
17 (843) 737-6229
18 dnewberry@wilkeslaw.com

19

20

21

22

23

24

25

26

27

28

29

30

31

32

1

2

I N D E X

3

4

Page

5

EXAMINATION

6

7

By Mr. McDonald

5

8

By Mr. Newberry

53

9

By Mr. Blankenship

56

10

By Mr. McDonald

57

11

By Mr. Newberry

60

12

Certificate of Reporter

61

13

14

E X H I B I T S

15

16

DEFENDANTS':

Page

17

18

5

Horizontal Directional Drilling

21

19

6

May 31, 2011 E-mail

24

20

7

June 17, 2011 E-mail

28

21

8

Fax Transmittal

28

22

9

Purchase Order

28

23

24

25

Gary Shepherd

5

1 GARY SHEPHERD, having been first
2 duly sworn, testified as hereinafter set forth.

3 DIRECT EXAMINATION

4 BY MR. MCDONALD:

5 Q. Mr. Shepherd, my name is Brent McDonald.
6 We had the opportunity to meet briefly prior to the
7 start of the first part of this 30(b)(6) deposition.
8 You were in the room for that portion of THE
9 deposition, is that correct, sir?

10 A. I was.

11 Q. All right, sir. I'm required, again, to go
12 over the rules. Did you hear the rules as I gave them
13 earlier?

14 A. I did.

15 Q. Did you understand them?

16 A. I did.

17 Q. Okay. The document that is in front of you
18 that has been marked as Exhibit 1, could you grab that?
19 All right, sir. And will you state your full name for
20 the record?

21 A. Gary Alan Shepherd, A-l-a-n.

22 Q. And where are you currently employed, Mr.
23 Shepherd?

24 A. Underground Solutions.

25 Q. Okay. And where do you work out of?

1 **A.** **I work out of my home in Bluffton, South**
2 **Carolina.**

3 **Q.** **So you're a resident of the state of South**
4 **Carolina?**

5 **A.** **Yes, I am.**

6 **Q.** **Have you been asked by anybody at**
7 **Underground Solutions to attend the trial in this**
8 **matter?**

9 **A.** **I have not.**

10 **Q.** **And how long have you been with Underground**
11 **Solutions?**

12 **A.** **Eight and a half years, since September of**
13 **2006.**

14 **Q.** **And what is your current role with**
15 **Underground Solutions?**

16 **A.** **I am a regional sales manager covering**
17 **South Carolina, North Carolina, Virginia and the**
18 **District of Columbia.**

19 **Q.** **Are what are the responsibilities of the**
20 **regional sales manager of, I'll just call it the**
21 **southeast area?**

22 **A.** **Right. I have to sell my product. I**
23 **market it. I go to conferences. I meet with engineers**
24 **and owners and persuade them that our product is a**
25 **viable material to use in their projects.**

1 Q. And do you expect the engineers and
2 contractors, when you try to pursued them, do you
3 expect them to rely on the representations you make
4 about the product?

5 A. Yes, I do.

6 Q. That's a big part of sales, right?

7 A. Yes.

8 Q. And we'll go into that a little more. Has
9 that been your role at Underground Solutions for the
10 full seven years that you've been there?

11 A. Yes.

12 Q. And what did you do prior to that?

13 A. I was with Price Brothers Company, a
14 manufacturer of large diameter concrete pressure pipe
15 in the water and wastewater market for 20 years, 19
16 years, and I was in a sales role there also.

17 Q. All concrete pipe?

18 A. All concrete pipe, yes.

19 Q. You did that for 20 years?

20 A. Yeah, 19.

21 Q. What did you do before that?

22 A. In Colorado I was an employee of Western
23 Ash Company which procured and marketed fly ash into
24 the construction industry, road building and concrete
25 in the Rocky Mountain states for five years.

1 Q. And that didn't have anything to do with
2 wastewater or pipe sales?

3 A. No.

4 Q. And what did you do before that?

5 A. I was in the Concrete Pipe Association for
6 three years near Washington, D.C., and it's a trade
7 organization representing concrete pipe manufacturers.

8 Q. Representing them in what regard?

9 A. Marketing, technical representation. It
10 was a trade organization across the United States.

11 Q. So lobbying type efforts?

12 A. There was lobbying, but I wasn't involved
13 in lobbying. I was involved in the more technical end
14 of things.

15 Q. And again, that was more related to
16 concrete pipe?

17 A. Right.

18 Q. Okay. And what did you do prior to that?

19 A. Prior to that I was with Interpace
20 Corporation, lock joint pipe -- another concrete pipe
21 -- pressure pipe manufacturer. Similar to what Price
22 Brothers did for 20 years, I did for five years in
23 their engineering department.

24 Q. Are you an engineer?

25 A. I am a graduate engineer, yes.

1 Q. But you're not a professional engineer?

2 A. **I'm not a professional engineer.**

3 Q. And you don't hold an engineering license?

4 A. **No.**

5 Q. Okay. You have an engineering degree from
6 where?

7 A. **Laurel Technological Institute.**

8 Q. And what's the degree? What was the name
9 of the degree?

10 A. **It was a B.S. in civil engineering.**

11 Q. Civil engineering?

12 A. **Yes.**

13 Q. And when did you graduate?

14 A. **1975.**

15 Q. And did you have any jobs between that
16 point and the last job we talked about?

17 A. **Say that again?**

18 Q. Did you have -- I'm just trying to get your
19 employment history. Did you have any jobs between your
20 graduation and the last job that you and I have talked
21 about?

22 A. **I described them all.**

23 Q. All right, sir. In front you have is
24 Exhibit 1. You said -- before we get there you said
25 you work out of your home in Bluffton?

1 **A.** **Uh-huh.**

2 **Q.** What's that address?

3 **A.** [REDACTED]

4 **Q.** All right, sir. If you could turn to

5 Exhibit A. I think you're already there?

6 **A.** **Uh-huh.**

7 **Q.** Is that a yes?

8 **A.** **Yes.**

9 **Q.** I apologize. I'm not trying to be rude.

10 The court reporter is very competent, but has a
11 difficult time taking down "uh-huh" or "huh-uh" and
12 head-nods, things like that. "Yes" or "no" works
13 better. Okay?

14 **A.** **Got it.**

15 **Q.** Can we go through the topics you're
16 prepared to testify to, and perhaps the easiest way is,
17 since I've it got marked on mine, I can go through the
18 ones that were not named by the previous deponent. Is
19 that what you're going to testify to?

20 **A.** **Essentially, yes.**

21 **Q.** Okay. Are you going to testify to Number
22 2?

23 **A.** **Yes.**

24 **Q.** Number 3?

25 **A.** **Yes.**

- 1 Q. Number 4?
- 2 A. Yes.
- 3 Q. Number 5?
- 4 A. Yes.
- 5 Q. Number 6?
- 6 A. Yes.
- 7 Q. Number 7?
- 8 A. Yes.
- 9 Q. Number 8?
- 10 A. Well, I can testify that
- 11 there were none.
- 12 Q. There were no communications between
- 13 Underground Solutions and Knight's Precast?
- 14 A. That's correct.
- 15 Q. Number 9?
- 16 A. Same answer, there were none between
- 17 Underground and Tobias & West.
- 18 Q. And Number 10?
- 19 A. Same answer, no communications between
- 20 Dorchester and Underground.
- 21 Q. Okay. Number 11?
- 22 A. No.
- 23 Q. Number 12?
- 24 A. No.
- 25 Q. Thirteen?

1 **A.** **No.**

2 Q. Fourteen?

3 **A.** **Yes.**

4 Q. Fifteen?

5 **A.** **No.**

6 Q. Sixteen?

7 **A.** **Yes.**

8 Q. Seventeen?

9 **A.** **Yes.**

10 Q. Eighteen?

11 **A.** **Yes.**

12 Q. Nineteen?

13 **A.** **No.**

14 Q. Twenty?

15 **A.** **No.**

16 Q. Okay. Let's talk about your role as

17 regional sales manager for what I'm calling the

18 Southeast. I know you described the specific areas

19 earlier.

20 Are you involved -- is it safe to say

21 you're involved on the front end of the project through

22 the actual sales?

23 **A.** **Yes.**

24 Q. How, sir -- and are you involved

25 thereafter, after the sale of the product, the inking

1 of the deal so to speak; are you involved with
2 operations at all?

3 **A. No.**

4 **Q.** So you move on to the next sales process?

5 **A. That's correct.**

6 **Q.** How, sir, do you interact with the
7 feasibility component that was discussed earlier?

8 **A.** I'm usually the first contact with the
9 engineer or the end-user on the use of the product as
10 opposed to the construction manager. So, as a project
11 develops, and we need the use of the construction
12 manager to look at the feasibility, the
13 constructability of a project, I will then bring them
14 in to get involved to look at the plans to do a site
15 visit, whatever the case might be. I'm in the earlier
16 stage generally than the construction manager.

17 **Q.** And you don't have any role in a
18 feasibility analysis or construction operations?

19 **A.** Well I do have a role in that I'm side by
20 side with the construction manager. I don't just turn
21 them loose. And I sometimes do site visits, do visits
22 with the engineer, side by side with the construction
23 manager, but they are the authority on the
24 constructability of the project.

25 **Q.** They being the construction manager?

1 **A. Construction manager.**

2 **Q. Okay. And that role of construction**
3 **manager is an employee of Underground Solutions?**

4 **A. Yes.**

5 **Q. Were you directly involved in the sale of**
6 **the project that brings us here today?**

7 **A. I was.**

8 **Q. And tell me about how you first got**
9 **involved with it.**

10 **A. I got a communication from one of the**
11 **engineers at URS, or B.P. Barber at the time and then**
12 **URS, describing a project for Dorchester County that**
13 **they were doing design of, and they had done many, many**
14 **designs for Dorchester. So, I was familiar with the**
15 **end-user, as well as URS. So they described the**
16 **project as being a 20 inch force main for the County of**
17 **Dorchester that had a number of portions of horizontal**
18 **directional drilling that would need to be performed**
19 **using HDD procedures. So --**

20 **Q. Not to interrupt you, but do you remember**
21 **who at URS contacted you?**

22 **A. It was likely John Weldon.**

23 **Q. Why was it likely John Weldon?**

24 **A. Because he's the project manager on a lot**
25 **of those projects, and I have a fair amount of contact**

1 with him on Dorchester County type projects.

2 Q. Okay.

3 A. I couldn't tell you with 100 percent
4 certainty, but likely.

5 Q. Okay. So you were contacted by Mr. Weldon
6 on behalf of URS, told about the fact that we've got a
7 project down here, 20 inch force main that's going to
8 have some HDD work?

9 A. Uh-huh.

10 Q. And what happened next?

11 A. I would have gotten a description of the
12 horizontal direction drills and a request to analyze
13 those directional drills and make a recommendation to
14 Mr. Weldon as to the DR on the pipe, the wall thickness
15 on the pipe, based on what the preliminary plans would
16 have shown.

17 Q. So you would have gotten a copy from URS or
18 Mr. Weldon of preliminary plans of where the HDD is
19 actually going to take place on this project?

20 A. I would have either gotten a preliminary
21 set of plans or a description of the HDD, the location,
22 the depth, anything that we would need to do a
23 preliminary analysis of that location.

24 Q. And that information that you just
25 described that you received, then you made a

1 recommendation to URS as to what product Underground
2 Solutions felt would be suitable for this project, is
3 at that fair enough?

4 **A. That's fair enough.**

5 Q. Okay. And then after you made that
6 recommendation as to what product would be suitable,
7 did you anticipate that URS would then put it in their
8 specifications? That's how it normally works, right?

9 **A. Well, we would hope that they would.**

10 Q. That's part of sales; you would hope you
11 got the project?

12 **A. We were angling for them to put that**
13 **product in there to give us an opportunity to bid it,**
14 **but, you know, there are never any guarantees.**

15 Q. Sure.

16 **A. It's his design, it's our recommendation.**

17 Q. Okay. So you all received the preliminary
18 set of plans that we described earlier, you did
19 whatever due diligence that you needed to do, and then
20 you made a recommendation to URS, this will be the pipe
21 to use for this project, and you hoped at that point it
22 would make its way into the specifications?

23 **A. That's correct.**

24 Q. In fact, in this instance it did make its
25 way into the specifications, correct?

1 A. That's correct.

2 Q. Did you thereafter receive a copy of the
3 specifications as drafted by URS?

4 A. I don't believe so.

5 Q. And what -- when you say we received the
6 preliminary plans and we evaluated them, talk to me
7 about that process specific to this job; what did you
8 do?

9 A. Well, I believe that one of the changes
10 that occurred on that, and this was -- I don't know if
11 it had anything to do with Underground Solutions -- was
12 the side of the road which the directional drilling was
13 -- 17-A was actually going to be installed in. I went
14 to the site I believe with Walt Rountree early on.

15 Q. Who is Walt Rountree?

16 A. He's another construction manager out of
17 Florida.

18 Q. Okay.

19 A. And we looked at that site to see where it
20 would be possible to string pipe, for instance, where
21 it would be possible to set up a rig. And it was
22 obviously a very difficult location. And I'm not even
23 sure if that was exactly the Ashley River drill, but it
24 was several of the drills along this route.

25 So we would have assessed the location of

1 the project, and then made some suggestions to the
2 engineer as to which direction to lay the pipe out.
3 You know, whether there's driveways in the way which
4 may restrict the layout and such, just to let them know
5 from our experience what might be suitable.

6 Now, from the design standpoint -- or from
7 the analysis standpoint, if they gave us a set of
8 plans, which they may have done that, or they may have
9 given us just one HDD, the deepest one or the longest
10 one and said, you know, analyze this for us. At that
11 point we would have just made some assumptions based on
12 the information we had as to the soil conditions, and
13 run it through our calculator. Tom Marti has a
14 calculator, and that offers some analysis of various --
15 we can do various DRs. We can DR 18, 21, 25, and we
16 kind of do reiterations into what the DR is that we
17 would recommend.

18 Q. And then the upshot -- is there anything
19 else that you do during what I call the due diligence
20 period, "the" due diligence period?

21 A. No, that's pretty much it.

22 Q. And then the upshot of that is a
23 recommendation made to the engineer?

24 A. That's right.

25 Q. And, in fact, you all did that in this

1 instance, correct?

2 **A. It is.**

3 Q. And did you all evaluate the fact that on
4 this project it was going to have to go under the
5 Ashley River?

6 **A. Evaluate -- we noticed that it was going**
7 **under the Ashley River.**

8 Q. And you knew that prior to the
9 recommendation to the engineer, correct?

10 **A. Yes.**

11 Q. I'm sorry. You'll have to forgive me.
12 What was the name of the construction manager who was
13 actually involved on this project?

14 **A. Walt Rountree, R-o-u-n-t-r-e-e.**

15 Q. Does he still work for --

16 **A. Yes.**

17 Q. -- URS?

18 **A. Underground Solutions, yes.**

19 Q. He still works for Underground Solutions?

20 **A. Right.**

21 Q. And you said he's out of Florida?

22 **A. Uh-huh.**

23 Q. Is that a yes?

24 **A. Yes, sorry.**

25 Q. Were there any concerns that you recall

1 voiced to the engineer at this stage when you're making
2 your recommendation about this HDD project?

3 **A. No.**

4 **Q. So you all were pretty confident that the**
5 **recommendation that you made was going to work for this**
6 **project?**

7 **A. Oh, yes. Yes.**

8 **Q. Were you aware of the testing procedures**
9 **that were going to be done after the Underground**
10 **Solutions product was installed?**

11 **A. Well, we knew that there's always testing**
12 **procedures. Specific to this project, as if they were**
13 **something different from what we typically see, no.**
14 **But we obviously knew the pipe was going to be tested**
15 **hydrostatically after the pipe was installed at some**
16 **point.**

17 **Q. And you all expected the product that you**
18 **recommended to be able to withstand those tests, to**
19 **pass those tests I guess is the better --**

20 **A. Yes.**

21 **Q. Okay. And if you would have thought that**
22 **the Underground Solutions pipe wasn't going to pass**
23 **that test, you wouldn't have recommended that pipe for**
24 **this job, right?**

25 **A. Absolutely.**

1 Q. All right. And after the recommendation in
2 this instance was made to the engineer, it's your
3 understanding that the Underground Solutions product
4 found its way into the specifications themselves,
5 correct?

6 **A. Correct.**

7 Q. And on this job it was a little bit
8 different because the bid was specific to the FPVC
9 Underground Solutions product, but it had an add or
10 deduct for an HDPE pipe or something like that,
11 correct?

12 **A. That is correct.**

13 Q. But as to the FPVC pipe, the specifications
14 ultimately issued were based on the specifications that
15 is an Underground Solutions product, correct?

16 **A. Maybe you could rephrase that?**

17 Q. Sure. I'll do it easier with the document
18 here.

19 (Whereupon, Exhibit 5 was
20 marked for identification.)

21 BY MR. MCDONALD:

22 Q. I'll hand you, sir, what's been marked as
23 Exhibit 5 to this deposition. I'll represent to you
24 this is two sections from the specifications that were
25 issued for this project. And my question to you

1 relates to page number, on Exhibit 5, at the bottom, do
2 you see it says 2781-6?

3 **A. Yes.**

4 Q. Okay. And this deals with PVC pipe,
5 fusible PVC pipe?

6 **A. Correct.**

7 Q. And this is Section B-1 on 2781-6, it says
8 "Fusible PVC pipe shall be used as manufactured under
9 the trade names Fusible C-900, Fusible C-905 and FPVC
10 for Underground Solutions, Inc.," correct?

11 **A. Correct.**

12 Q. So the specification was you've got to use
13 an Underground Solutions product that they're going to
14 sell?

15 **A. That's correct.**

16 Q. Okay. And after the -- and the reason it
17 found its way into the specifications is because that's
18 the product that, after you all did your due diligence,
19 you recommended for use on this project, correct?

20 **A. Well, that's not the sole reason. I'm**
21 **assuming that what we recommended was then analyzed by**
22 **URS and they signed off on it based on what they**
23 **believed was a good design, but, yes, that's part of**
24 **it.**

25 Q. And after you made that recommendation and

1 it found its way into the specifications, did you all
2 get a copy of these specifications?

3 A. I don't believe that we did until the job
4 was advertised, and then we saw them.

5 Q. I got you. And that's kind of step two
6 that I want to go to in a second. So where we are now
7 is the recommendations have been made by Underground
8 Solutions to URS, URS has created the specifications
9 accepting your representations, right?

10 A. Correct.

11 Q. And then, ultimately, the job is put out to
12 bid or advertise, correct?

13 A. Correct.

14 Q. Okay. And what do you do as the sales
15 representative in that instance once you realize it's
16 been put out to bid?

17 A. We enter a Request for Action in our system
18 so we can have these plans either ordered from the
19 engineer or downloaded from one of the bid services.
20 At that point our engineers or application engineers in
21 Poway create a proposal, and the proposal is based on
22 the documents, based on the specs, based on the plans.
23 And then at that point it's sent to me. We make any
24 modifications we might feel are necessary. And then we
25 price the project and bid it to the bidders.

1 Q. So you get -- after it's put out to bid so
2 to speak by the engineer, you all get a copy of the
3 plan specifications?

4 A. Correct.

5 Q. Do you review the plan specifications at
6 that juncture?

7 A. Yes.

8 Q. And you've got to see if they followed
9 your recommendations, right?

10 A. And so we bid the right thing, yeah.

11 Q. Sure. And then you put together at that
12 juncture a proposal that you're going to send out to
13 the various contractors that are bidding it?

14 A. That's correct.

15 Q. Okay. And in this instance, that's what
16 you did, correct?

17 A. Correct.

18 Q. Okay. So at the time you sent out the
19 proposal to the various contractors, Underground
20 Solutions had the full set of plans and specifications?

21 A. That is right.

22 Q. Okay.

23 (Whereupon, Exhibit 6 was
24 marked for identification.)

25

1 BY MR. MCDONALD:

2 Q. I'll hand you what's been marked as Exhibit
3 6 and ask if you recognize that document?

4 A. Yes.

5 Q. Okay. And what do you recognize it to be?

6 A. It's an E-mail I sent to Steve Thornton
7 prior to the bid. I believe the bid was out for -- or
8 it's advertised for bids, and I sent a proposal to
9 Steve, and it said "HDD 21 straight forward." "We
10 added an option for FPVC as restrained DR25 PVC."

11 So it talks about another portion of the
12 job as an alternate to the restrained PVC open type.

13 Q. And attached to Exhibit 6, the cover page,
14 is an E-mail, and attached to that is a bid proposal,
15 correct?

16 A. Correct.

17 Q. And this is what we talked about earlier
18 when you said we get -- it's put out to bid, we get a
19 full set -- Underground Solutions gets a full set of
20 plans and specifications, and then we put together a
21 bid proposal to send out to contractors?

22 A. Right.

23 Q. This is the culmination of that process, at
24 least as to the contractor that is R.H. Moore?

25 A. That's correct.

1 Q. And I would assume you sent the proposal
2 out to other contractors that you thought might be
3 bidding the project?

4 A. That's right.

5 Q. And for the bid proposal entitled bid
6 proposal FPVC pump station number 67 upgrade and new 20
7 inch force main, Dorchester County, South Carolina, at
8 the bottom right-hand corner it says 1 of 21, and it
9 goes to 21 of 21. Is that the complete bid proposal?

10 A. With the exception of the included terms
11 and conditions, my notation on the summary page, that
12 would be the other thing that's included in the
13 proposal.

14 Q. And when you say -- what are you referring
15 to?

16 A. On page 5 of 21, "The proposal is subject
17 to the Terms and Conditions at [www.Underground](http://www.UndergroundSolutions.com/Ts&Cs/Pipe%20and%20Fusion%20Terms%205.18.11.pdf)
18 [Solutions.com/Ts&Cs/Pipe and Fusion Terms 5.18.11 pdf](http://www.UndergroundSolutions.com/Ts&Cs/Pipe and Fusion Terms 5.18.11 pdf),"
19 which is a link in the electronic form.

20 Q. But that's not actually one the -- those
21 terms and conditions aren't on any of the 21 pages,
22 correct?

23 A. No. They're referred to, though, as a part
24 of this document.

25 Q. But they're not in what you sent to Mr.

1 Thornton on May 31, 2011, physically in there?

2 **A. They're not physically in there, no.**

3 Q. Is this bid proposal -- and I note, if you
4 look on the third page of Exhibit 6, it says "To
5 bidding contractors"?

6 **A. Right.**

7 Q. So, I assume this is -- you create one bid
8 proposal and send it to all the contractors?

9 **A. That's right.**

10 Q. Okay. And in the bid proposal you
11 generally discuss the product, correct?

12 **A. That's right.**

13 Q. And one of the things -- if you look at
14 page 6 of 21, one of the things you discuss is the
15 pressure rating, correct?

16 **A. That's right.**

17 Q. So you give technical information to the
18 bidding contractor, correct?

19 **A. Correct.**

20 Q. And you expect the contractor to rely on
21 the information that you give them that this product
22 that is in the specifications that we recommended to
23 the engineer and now submitted to you in a bid proposal
24 is going to work for this project, right?

25 **A. Yes, that's right.**

1 Q. And as of this time of sending out the bid
2 proposal you all knew, because you had already been out
3 at the site, walked the site, looked at the plans, had
4 all the plan specifications, this is the culmination of
5 that, which is this pipe that we sell is going to work
6 for this project?

7 A. **Yes, if installed as designed.**

8 Q. All right, sir.

9 (Whereupon, Exhibits 7, 8 and 9
10 Were marked for identification.)

11 BY MR. MCDONALD:

12 Q. I'll hand you what's been marked as Exhibit
13 7 and ask if you recognize that document?

14 A. **Yes, I do recognize it.**

15 Q. Okay. And what do you recognize it to be?

16 A. **It is the cover to a price page for
17 Dorchester County which reflects -- for this project
18 which reflects the final pricing at bid day that we
19 established with R.H. Moore that they used to bid our
20 pipe.**

21 Q. Okay. And that's the attachment that is
22 the second page of Exhibit 7?

23 A. **No, it's not.**

24 Q. So these two aren't related?

25 A. **No, they're not. I recognize the cover**

1 **sheet, but this is not what was attached.**

2 MR. MCDONALD: Okay. So if there's
3 no objection, I'm going to have him take off the
4 attachment to Exhibit 7.

5 Q. I'll hand you what's marked as Exhibit 9
6 and ask you what that is, sir, if you recognize it?

7 A. **It's a purchase -- yes, I do recognize it.**
8 **It's a Purchase Order sent by R.H. Moore to Underground**
9 **Solutions subsequent to having signed our contingent**
10 **order and reflecting the price that was established at**
11 **bid day with a deduct change order of \$35,000.**

12 Q. And this Purchase Order is dated July 28,
13 2011?

14 A. **Right.**

15 Q. And this is -- Exhibit 9 is the
16 "going-hard" document; we're going to buy this product,
17 here it is?

18 A. **It's their Purchase Order to us.**

19 Q. Sure. Exhibit 9 is what R.H. Moore would
20 send to Underground Solutions saying we're going to
21 spend \$640,925.72 with you all? This is the upshot of
22 everything you've been trying sell, is to get this
23 Purchase Order?

24 A. **No. Actually, this was unnecessary because**
25 **we already had a signed contingent order which became a**

1 purchase order under our terms and conditions once the
2 contract was executed. They sent this in confirmation
3 and to include the \$35,000 deduct.

4 Q. What is the \$35,000 deduct?

5 A. That was a deduct that R.H. Moore
6 negotiated with us which reflected an effort by our
7 competitor, ISCO, to sell them HDPE pipe after the
8 fact. They came to us and said, well, we had this
9 offer from a competitor, and we're going to have to
10 take a look at it if you don't do something. So, we
11 negotiated the \$35,000 deduct after the contract was
12 already Established.

13 Q. So this was a change; somebody else came in
14 and said we can beat Underground Solutions' price of
15 \$633,996, by I would assume \$35,000, and R.H. Moore
16 came back to you and said we want to strike a new deal
17 because we got a better price?

18 A. Exactly.

19 Q. And the new dial is this Purchase Order of
20 July 28, 2011 --

21 MR. GARRAUX: Object to the form.

22 Q. -- because it reflects the deduct amount,
23 right?

24 A. No. This is an amendment to the contract
25 that was already established in our contingent purchase

Gary Shepherd

31

1 **order, which became an actual purchase order when the**
2 **contract was executed.**

3 Q. Well, it didn't really because the price
4 changed, right?

5 MR. GARRAUX: Object to the form.

6 A. **Not in our view.**

7 Q. The price didn't change in your view?

8 A. **No. The price changed, but it didn't**
9 **change the original document.**

10 Q. The negotiations relative to going hard on
11 this contract as of the July 28, 2011 price, they were
12 done after you sent the proposal on May 31, 2011?

13 A. **That's correct.**

14 Q. Because the proposal had the old price in
15 it?

16 A. **Right.**

17 Q. Okay. I'm going to hand you what's been
18 marked as Exhibit 8 and ask if you recognize that
19 document? Do you recognize Exhibit 8?

20 A. **Yep, I do. Yes.**

21 Q. Okay. And what do you recognize it to be?

22 A. **It's a transmittal from Steve Thornton of**
23 **R.H. Moore accepting our contingent contract for the**
24 **project.**

25 Q. And it's dated June 17, 2011?

1 **A. That's correct.**

2 Q. And it looks like it's signed by Steve
3 Thornton on the same date, correct?

4 **A. Yes.**

5 Q. And it reflects a purchase price of
6 \$633,996?

7 **A. Correct.**

8 Q. And after this date of June 17, 2011,
9 that's when R.H. Moore came to you all and said ISCO
10 has approached us, they can do a better job of it, and
11 we want to renegotiate; all that occurred after June
12 17, 2011, correct?

13 **A. They wanted to negotiate a change order to**
14 **the overall price.**

15 Q. Okay. The document that's been marked as
16 Exhibit 9, does it reference the document that has been
17 marked as Exhibit 8?

18 **A. I don't see that it does.**

19 Q. Did you actually receive the document
20 that's been marked as Exhibit 9?

21 **A. I'm not sure that I received it or it was**
22 **received in headquarters.**

23 Q. Somebody --

24 **A. Somebody did, yeah.**

25 Q. Somebody at Underground Solutions received

1 it, right?

2 **A. Yeah. You were asking if I received it.**

3 Q. Because \$35,000 is a lot of money?

4 **A. Yeah, exactly.**

5 MR. MCDONALD: All right. Why don't
6 we take a short break?

7 (Whereupon, a short recess
8 was taken.)

9 BY MR. MCDONALD:

10 Q. All right, sir. Take a look as Exhibit 8.

11 **A. Okay.**

12 Q. As of Exhibit 8, which is June 17, 2011
13 R.H. Moore had not been awarded the bid, is that
14 correct, by Dorchester County?

15 **A. As of 6/17?**

16 Q. Yes.

17 **A. That's correct.**

18 Q. And do you believe that the law in South
19 Carolina is if they use your bid -- if a general
20 contractor uses a subcontractor or materialman's bid in
21 his -- included in his bid that they're obligated to
22 use that subcontractor materialman?

23 MR. GARRAUX: Object to the form.

24 **A. I don't have an opinion on that. I'm not a**
25 **lawyer.**

1 Q. So you don't know whether they're obligated
2 to use --

3 A. I don't know.

4 Q. Okay. Does Underground Solutions take the
5 position that when R.H. Moore was awarded the bid that
6 it was required to use Underground Solutions as
7 material provider for this project?

8 A. No.

9 Q. They could have changed who they wanted to
10 use, correct?

11 A. Well, there was an add/deduct on the HDPE,
12 so if the owner had chosen them -- that they should use
13 HDPE, they wouldn't have been using us, but they chose
14 the base bid, which was fusible PVC, so at that point
15 we felt confident that it was going to be our project.

16 Q. But do you know whether or not they were
17 required to use you -- R.H. Moore was required to use
18 you as the material supplier?

19 A. No.

20 Q. They weren't required to use you, correct?

21 A. I don't think they were required to use us,
22 no.

23 Q. In fact, that's why you all had to
24 renegotiate when the other supplier came in, is it
25 ISCO?

1 **A. ISCO.**

2 **Q. That's why you all had to renegotiate when**
3 **ISCO came in, correct, because they weren't required to**
4 **use you?**

5 **MR. GARRAUX: Object to the form.**

6 **A. We decided to renegotiate because we**
7 **thought there was some chance that the project would be**
8 **in jeopardy one way or the other. They might bring**
9 **their case to the engineer and to the owner and get a**
10 **variance from what their base bid was. There's always**
11 **a chance of that, so that's why we decided to offer**
12 **them the deduct.**

13 **Q. In fact, they came back to you to tell you**
14 **about the fact that ISCO is out there with \$35,000**
15 **less, and in order to go forward they're going to need**
16 **a \$35,000 deduct, correct?**

17 **A. They asked us for that, yes.**

18 **Q. Okay. So they counter-offered your offer,**
19 **and you all accepted it and took \$35,000 off the price**
20 **in order to get this job, correct?**

21 **MR. GARRAUX: Object to the form.**

22 **A. I'm not sure that I would characterize it**
23 **that way. Maybe you can restate that.**

24 **Q. Sure. R.H. Moore came back to you all and**
25 **said we're not required to use you, we might use this**

1 ISCO outfit, and here's our offer to you to use you,
2 and that offer was contained or formalized on Exhibit
3 9, which is the purchase order, correct, of July 28,
4 2011?

5 MR. GARRAUX: Object to the form.

6 A. No, that's not accurate.

7 Q. Why is that not accurate?

8 A. Because we had a contract with them. By
9 the time this ISCO subject came up we had a contract
10 with them, and we considered that to be a change order
11 to our contract, rather than a new negotiation for a
12 new contract.

13 Q. But you didn't have a contract with them
14 because they weren't required to use you all once you
15 got the bid, correct?

16 MR. GARRAUX: Object to the form.

17 A. Once the contract was executed with the
18 end-user, that was what the contingency said, that they
19 were, that we had a contract at that point.

20 Q. That's what what contingency said?

21 A. The contingency in the original order that
22 Steve Thornton signed.

23 Q. Okay. And where is that? Point that out
24 to me.

25 A. It's in Exhibit 8 on the order summary,

1 right above his signature. "This order is contingent
2 solely on the execution of a contract between the
3 project Owner and the below signed Contractor for the
4 above referenced project. If the Contractor does not
5 enter into a contract with the owner, there is no
6 liability. Order value is fixed in the amount noted
7 above. Immediately upon the execution of such
8 contract, this order will automatically and without
9 further action on either party's part become effective
10 on the terms set forth in this proposal. Contractor
11 will promptly notify UGSI of execution of the contract
12 and will confirm it to UGSI in writing. To ensure UGSI
13 can meet contractor's schedule requirements, UGSI
14 requires advance notice of pipe supplyt and fusion
15 services if applicable following the date of this
16 executed contingent order and contractor's Notice to
17 Proceed."

18 Q. So this is a contingent order, Exhibit 8,
19 correct?

20 A. Correct.

21 Q. And post-dating that is Exhibit 9, which is
22 July 28, 2011, correct?

23 A. Correct.

24 Q. So the upshot of this is what happened, in
25 fact, was R.H. Moore came back to you all and said, we

1 may go with ISCO at a cheaper price, and we are
2 renegotiating the order terms, and you all said, for
3 whatever reason in-house, we still want this job, we
4 will renegotiate the order terms, correct?

5 MR. GARRAUX: Object to the form.

6 **A. We said we would offer them a \$35,000**
7 **deduct off of our original contract.**

8 Q. And what you got in response to that was a
9 Purchase Order that is Exhibit 9, correct?

10 **A. It was a confirmatory item that included**
11 **the deduct. They call it a purchase order.**

12 Q. Do you have any facts related to the
13 failure of this pipe? Do you know anything about that,
14 or are you relying on the previous deponent's
15 testimony?

16 **A. Yeah, I don't have any particular knowledge**
17 **of it.**

18 Q. Okay. Do you know whether or not the
19 fusion machine that was used was an
20 Underground-Solutions-owned fusion machine?

21 **A. I do not.**

22 Q. Okay. Would that be reflected in any
23 document to charge for that, or is that part of the
24 fusion services?

25 **A. That was part of the fusion services,**

1 **whether it was ours or a rental.**

2 Q. If it was a rental, Underground Solutions
3 would have rented it?

4 A. **Correct.**

5 Q. Okay.

6 A. **It was part of our scope.**

7 Q. What about the pulling head drill, do you
8 know whether that was --

9 A. **The what?**

10 Q. The drill itself, the pulling head, do you
11 know whether that was rented from you all?

12 A. **You're saying two different things. The**
13 **drill?**

14 Q. Yeah.

15 A. **No, we had nothing to do with that. That**
16 **was USA.**

17 Q. And then the pulling head?

18 A. **The pulling head?**

19 Q. Yes.

20 A. **That was rented from us.**

21 Q. That was rented from you all?

22 A. **Yes.**

23 Q. And was there a different contract for
24 that?

25 A. **I believe that we included that as a part**

1 of our package, complimentary so to speak. We ended up
2 doing that.

3 Q. Is that reflected anywhere?

4 A. No, I don't see it anywhere.

5 Q. That was to supply the pull-ahead (sic)?

6 A. Supply the pulling head, yeah. Pulling
7 head, p-u-l-l-i-n-g.

8 Q. Pulling, sorry. And how does that relate
9 to the drill?

10 A. The pulling head attaches to the end of the
11 pipe, and from there it attaches to the drill string,
12 so all that applies the force from the machine through
13 the drill stem, through the pulling head to the pipe.

14 Q. Did you all do anything -- did you
15 communicate with anybody other than Steve Thornton on
16 this job from R.H. Moore?

17 A. No, I did not.

18 Q. And when did your involvement kind of cease
19 on this project?

20 A. Well, really, after the original contingent
21 order was signed I was aware of that the issue with
22 ISCO, but my boss at the time, Anthony Baccozi (ph)
23 actually talked about R.H. Moore about that deduct, so
24 I really wasn't involved in that very much, and from
25 then on it was operations.

1 Q. You didn't anything to do with it?

2 A. No, I didn't have anything to do with the
3 install of the pipe. I wasn't even on site.

4 Q. And you don't have any knowledge of what
5 happened --

6 A. For the -- no.

7 Q. Who did you say your boss was at the time,
8 what was his name?

9 A. Anthony Baccozi.

10 Q. Is Mr. Baccozi still around?

11 A. No. He's not employed by Underground
12 Solutions anymore.

13 Q. Do you know where he's at?

14 A. I don't.

15 Q. Was he a Southeast guy or a California guy?

16 A. He was a Northeast guy. He lived in
17 Pennsylvania I think.

18 Q. Pennsylvania. And it's your testimony that
19 Baccozi was involved for a short time after you got
20 involved?

21 A. Yes.

22 Q. Do you know why he left Underground
23 Solutions?

24 A. I think he went to pursue other
25 opportunities.

1 Q. You said you are familiar with Number 3
2 which is a detailed account of the manufacturing
3 process?

4 A. Well, I said I would address that.

5 Q. Do you know how this particular pipe is
6 manufactured?

7 A. No, I don't. It's essentially manufactured
8 by an extruder who we have an agreement with, who we
9 sent a purchase order to them for 20 inch DR 21, and
10 they produce it to standards and our protocols, and
11 then it gets released and sent to a job site. So as
12 far as the actual manufacturing in the extruding
13 factory, I don't have any knowledge of that.

14 Q. Are you familiar with how the piping was
15 shipped to the project?

16 A. Other than that it was shipped on a flatbed
17 trailer, no.

18 Q. Do you know where it's actually out of,
19 where it's actually manufactured and how --

20 A. This pipe was manufactured in Calvert city,
21 Kentucky. That was the extrusion factory.

22 Q. And then shipped from there?

23 A. To the job site, exactly.

24 Q. Okay. Do you know whether or not -- are
25 you aware that there was a failure of this pipe under

1 the Ashley River?

2 **A. Yes.**

3 Q. And I would assume that information or
4 knowledge is based on information that you received I
5 guess within the context of this litigation since you
6 didn't have anything to do with that portion of the
7 project?

8 **A. Well, I was aware of it previously due to**
9 **E-mails being exchanged about the failure and some of**
10 **the steps we were taking on site, sending structure**
11 **managers out and having ESI go out. So, I was aware**
12 **that it had failed long before the litigation occurred.**

13 Q. There's a document in front of you I
14 believe marked as Exhibit 2?

15 **A. Okay.**

16 Q. Do you recognize that document?

17 **A. Yes, I do.**

18 Q. And how do you recognize it?

19 **A. I believe I saw it during preparation for**
20 **this in the discovery documents that were prepared.**

21 Q. And this is dated June 7, 2012?

22 **A. Yes.**

23 Q. It's an E-mail from Eric Davis to an E-mail
24 which is Set13@earthlink.net?

25 **A. Yes.**

1 Q. Do you understand that to be Steve Thornton
2 from R.H. Moore?

3 A. Yes.

4 Q. And it says "Here is what we are asking the
5 different contractors," and then it lists an
6 enumeration on what they're doing, what Underground
7 Solutions is doing, correct?

8 A. Yes.

9 Q. Do you know why Underground Solutions was
10 asking different contractors for pricing for these four
11 items?

12 A. I believe that we were acting as kind of a
13 facilitator for R.H. Moore to develop information from
14 these HDD contractors and to determine what might be
15 possible for pipe extraction, for installing new pipe,
16 and for existing bore or new bore installation so we
17 could develop a series of quotes and share them with
18 R.H. Moore to determine a path forward.

19 Q. When you say determine a path forward, what
20 do you mean?

21 A. As to what to do, whether try the pipe
22 extraction, whether to install the new pipe, or just go
23 through a new bore and a new installation.

24 Q. On this project you understand that without
25 drilling -- with doing the horizontal directional

1 drilling there's no reason for the pipe; I mean, that
2 was required because you had to go under the Ashley
3 River?

4 **A. That's correct.**

5 Q. So when you have a failure of the sort that
6 we had here, which was a failure under the Ashley
7 River, the only way to repair it is to either extract
8 it and use the same bore that was there, or to bore a
9 new tunnel?

10 **A. I would say that's accurate.**

11 Q. Okay. And were you involved in this
12 process of getting these quotes?

13 **A. No.**

14 Q. Okay. Do you know whether or not the first
15 of the two repair options that you and I just
16 discussed, pipe extraction, whether or not that was
17 possible?

18 **A. My understanding from what I talked to the**
19 **gentleman who did most of the leg work on and from what**
20 **I've seen from some of the E-mails was that the**
21 **information -- the advice we got back from these HDD**
22 **contractors was that it just was not going to work. It**
23 **was not going to be able to be extracted.**

24 Q. So the only way to repair it, at least in
25 this instance, would be to drill a new hole and put the

1 pipe through it again?

2 **A. That's correct.**

3 Q. I may have already asked you this, but I'll
4 ask you again: Did you have any conversations with
5 anybody from the driller, USA?

6 **A. I did not.**

7 Q. Okay. Are you aware on behalf of
8 Underground Solutions whether or not anybody from
9 Underground Solutions contacted them, had discussions
10 with them?

11 **A. At what stage?**

12 Q. At pre-failure stage.

13 **A. No, I'm not aware of anybody.**

14 Q. What about post-failure stage?

15 **A. Yes, because they were one of the**
16 **contractors that was asked to maybe extract or do the**
17 **re-bore, and as it turned out, they did the re-bore.**

18 Q. And what you're talking about is Exhibit
19 Number 2?

20 **A. Exhibit Number 2, yes.**

21 Q. Were you made aware from URS at any time in
22 this project what the depth of the drill was going to
23 be?

24 **A. The pre-planning or the design depth from**
25 **the plans was obviously on the plans, and that's what**

1 **we based our original analysis on for the DR 21. So,**
2 **at that stage, yes.**

3 Q. After that stage did you communicate with
4 anybody from URS, or anybody with that regard, as to
5 what the depth was going to be?

6 A. **Not that I have any recollection of, no.**

7 Q. Okay. Are you familiar with how the
8 specifications spelled out the pipe was going to be
9 tested after it was installed?

10 A. **Am I aware now?**

11 Q. Were you aware at the time when you
12 received the plans and specifications, the full set?
13 I mean, you read them, right?

14 A. **I read them, so, yeah, to the extent that I**
15 **read them, yeah, I was aware.**

16 Q. You said you were going to testify as to
17 Number 17, which is a "Listing of any and all lawsuits
18 naming Underground Solutions, Inc. as a defendant and
19 alleging that the FPVC pipe was defective within the
20 last three years"?

21 A. **Correct.**

22 Q. Okay. What are those?

23 A. **There's a case -- a pending case in Utah**
24 **with Jordan Valley Conservancy. They sued Underground**
25 **Solutions and our insurer for alleging defective**

1 product and damages from defective product on an
2 installation outside of Salt Lake City.

3 Q. Is that still ongoing?

4 A. That's ongoing.

5 Q. Okay.

6 A. There's a case in -- there was a case in
7 Louisiana where it was alleged that three joints failed
8 and caused damage -- property damage. And I believe
9 the insurer sued Underground Solutions, but,
10 ultimately, that case was dismissed by the insurer,
11 with prejudice. In Stow, Ohio there was a case.
12 Essentially, we sold -- Underground Solutions sold pipe
13 through a distributor to a contractor who used our
14 material in pipe bursting, and in the process of the
15 pipe bursting they had a connection which was -- caused
16 the pipe to break behind the pulling head, and so they
17 had to go back and do some remediation. So they sued,
18 and I believe we ended that with we made a \$15,000
19 contribution I believe to settle that case.

20 Q. Okay.

21 A. And then the fourth one is in
22 New Jersey where there was a pipe that was installed
23 and didn't pass the pressure test, and Underground
24 Solutions paid to have the driller do the re-drill,
25 which was Mears corporation (ph), and supply pipe and

Gary Shepherd

49

1 pipe fusion services, and in return for that -- and
2 this is a settlement with the general contractor who
3 entered into litigation; they reimbursed us \$80,000
4 towards --

5 MR. GARRAUX: Hang on, hang on. I
6 think that settlement is confidential. And so I don't
7 think you're supposed to go into that. We can talk
8 about that, but I think --

9 MR. MCDONALD: You don't think your
10 witness is supposed to be going into that?

11 MR. GARRAUX: That's right. There's
12 a confidentiality agreement on that particular case
13 which I think we can work together to have that
14 produced do you guys if you want see that, but he
15 wasn't supposed to go into the terms of that
16 confidentiality settlement. He can just say they
17 settled that case. So, for the purposes -- I would
18 like to strike his testimony relating to that from the
19 record.

20 MR. MCDONALD: Well, I'm not going
21 to agree to strike the testimony, but are you
22 instructing him not to answer the question?

23 MR. GARRAUX: 1000 percent I'm
24 instructing him not to answer, and we can go through
25 the whole confidentiality agreement, and if a judge

1 orders us to produce it, we will, or we can execute a
2 confidentiality agreement, and you all can see the
3 terms of the settlement agreement, but that
4 confidentiality agreement basically says unless there's
5 a court order, or unless the people you're giving that
6 information to execute a confidentiality agreement,
7 then you cannot release that information.

8 MR. MCDONALD: Can we agree that
9 that may be relevant to this lawsuit based upon what
10 he's testified to so far without regard to money?

11 MR. GARRAUX: I don't think a
12 settlement outside of this case has any relevance
13 whatsoever to this case.

14 MR. MCDONALD: So are you going to
15 file a motion --

16 MR. GARRAUX: Or we can do it
17 tomorrow in front of the judge.

18 MR. MCDONALD: You have five days or
19 whatever it is, and we might be able to work it out,
20 but I think that's the easiest way to set the
21 parameters. Fair enough?

22 MR. GARRAUX: That's fine.

23 BY MR. MCDONALD:

24 Q. Okay. Are there any more that don't have a
25 confidentiality provision because that's going to have

1 the same issue?

2 **A. That's all.**

3 MR. MCDONALD: Is that fair enough?

4 MR. GARRAUX: Oh, yeah.

5 Q. All right. I asked a question earlier
6 about the wall thickness. Do you know the answer to
7 that question with regard to this pipe, the DR 21?

8 **A. What was the question?**

9 Q. What is the wall thickness? There was some
10 speculation, he thought it was an inch, but wasn't
11 sure. Do you know any better than that?

12 **A. No, I don't.**

13 Q. Okay. Do you know anything about the
14 counter-claims that have been brought by Underground
15 Solutions in this case, the facts surrounding those?

16 **A. I just know there there was a
17 counter-claim. I guess I don't know any facts.**

18 Q. You don't know why it was brought or
19 anything like that?

20 **A. Well, I understand that we have a claim for
21 the value of the services we provided to R.H. Moore for
22 the extraction and fusion and replacement of that 300
23 foot bore. That's the extent of it.**

24 Q. Do you know whether any contracts were
25 signed specific to that piping being provided?

1 **A. Between whom?**

2 Q. Between Underground Solutions and anybody?

3 **A. Contracts signed, we had -- I'm not aware**
4 **that we had any signed contracts.**

5 Q. Were there any invoices sent for the --

6 **A. I'm not aware of whether there were any or**
7 **not.**

8 Q. Okay. Are you aware of any instance since
9 you've been working at Underground S olutions for the
10 past seven years where you all send some pipe over,
11 provide fusion services, don't send an invoice, and
12 then just sue the contractor for payment for the pipe;
13 are you aware of that ever happening?

14 **A. I'm not aware of it ever happening.**

15 Q. Typically, you all would send an invoice
16 for piping that you would expect to be paid for,
17 correct?

18 **A. Correct.**

19 Q. That's your normal business practice?

20 **A. Sure.**

21 Q. Okay. Did you have anything to do with the
22 ESI report and investigation we talked about earlier?

23 **A. No, not at all.**

24 MR. MCDONALD: I don't think I have
25 any more. I'll hand you off and then see if I have any

1 follow-ups.

2 CROSS-EXAMINATION

3 BY MR. NEWBERRY:

4 Q. Mr. Shepherd, my name is Derek Newberry. I
5 represent URS in this case.

6 You sat through Mr. King's testimony
7 earlier today. Do you have anything you want to add or
8 change to his testimony?

9 A. No.

10 Q. Do you have any criticisms as a
11 representative of Underground Solutions of URS' work in
12 connection with the project?

13 A. No, I don't.

14 Q. Tell me what -- as part of the sale of
15 piping to R.H. Moore, my understanding is that UGS
16 provided some technical assistance, is that correct?

17 A. Say it again?

18 Q. Did Underground Solutions have any on site
19 presence during the construction project?

20 A. Well we did, yeah.

21 Q. Tell me about that presence.

22 A. It's not a lot I can say. I know that at
23 one point or the other during the process we would have
24 had probably, maybe early on, Walt Rountree, the same
25 fellow, would have gone out and talked to the

1 contractor and discussed handling, discussed entry
2 pits, angles to keep the pipe from over-bending.
3 Things that Brad discussed earlier about what his
4 function is as construction manager, that's typically
5 what occurs. And I guess I have to say I assume that
6 we had a construction manager go out there in the early
7 stages. I must correct my answer that I don't know,
8 because I wasn't there, and I don't know that I've seen
9 any documents. But, typically, that would happen.

10 Q. So you don't know for certain whether
11 Underground Solutions had someone on site observing the
12 actual installation of the initial run of pipe under
13 the Ashley River?

14 A. I don't know that there was anyone there.

15 Q. Do you know whether URS was involved at all
16 with the decision to install the pipe at the depth of
17 52 feet as opposed to 30 feet?

18 A. I have no knowledge of that.

19 Q. Do you have any knowledge of whether
20 Underground Solutions was involved with the decision to
21 install piping at 52 feet instead of 30 feet?

22 A. I don't believe Underground Solutions had
23 any knowledge of it either.

24 Q. All right. Do you have any testimony to
25 offer concerning the on site services provided by URS

1 during the installation of the piping under the Ashley
2 River?

3 **A. No, I don't.**

4 Q. All right. During the installation of
5 piping under the Ashley River, are you aware of
6 Underground Solutions ever being advised of a potential
7 issue locating an existing line under the river?

8 **A. No.**

9 Q. And I believe you testified earlier that
10 during the initial design phase before the project went
11 out for bid that Underground Solutions would have
12 provided recommendations to URS with respect to the
13 Underground Solutions' product that would be suitable
14 for the design?

15 **A. That's correct.**

16 Q. And you expected URS to perform some
17 analysis of that, but you anticipated that they would
18 rely on your recommendation to some degree, correct?

19 **A. I assumed that they would take our**
20 **recommendation seriously, and perform their due**
21 **diligence on that, and then hopefully specify it, yes.**

22 Q. And Underground Solutions actually prepared
23 and submitted to URS a series of design calculations,
24 does that sound familiar?

25 **A. Yes, it's a calculation package which**

1 **analyzes -- that's it there.**

2 Q. Analyzing the varioius bending radiuses and
3 those sorts of things?

4 A. **Yes. Pull forces, vertical loads and so**
5 **forth.**

6 Q. Do you recall whether Underground Solutions
7 provided URS with recommended language for URS' use in
8 the specifications; that would be something you guys do
9 from time to time?

10 A. **We do. On this project I believe these**
11 **specifications were fairly long-standing specifications**
12 **for URS. I don't know that there was any modifications**
13 **that we made any recommendations about.**

14 Q. Okay.

15 MR. NEWBERRY: That's all I have.
16 I'll pass you off and maybe have a follow-up or two
17 when I look at my notes. Thank you.

18 CROSS-EXAMINATION

19 BY MR. BLANKENSHIP:

20 Q. Reynolds Blankenship for Utility Services
21 Authority.

22 Does Underground Solutions have any
23 evidence of an act or omission by Utility Services that
24 contributed to or caused the pipe failure?

25 A. **No.**

Gary Shepherd

57

1 MR. BLANKENSHIP: No further
2 questions.

3 MR. FRAMPTON: None.

4 MR. MCDONALD: I've got some quick
5 follow-ups, but it would be quicker if I could grab a
6 document, so just give me five minutes.

7 (Whereupon, a short recess
8 was taken.)

9 FURTHER EXAMINATION

10 BY MR. MCDONALD:

11 Q. All right, sir. Earlier, I asked you about
12 the replacement pipe that we talked about?

13 A. Right.

14 Q. Were you involved in the discussions as to
15 why Underground Solutions was sending the replacement
16 pipe?

17 A. No.

18 Q. Do you know why Underground Solutions was
19 sending any replacement pipe to this project?

20 A. I know -- I do know why we sent it, and we
21 sent fusion services because we basically had a great
22 marketplace there between Dorchester, URS and R.H.
23 Moore, all good customers. USA is a driller. And we
24 felt that if we could assist them in this manner to get
25 this project completed and get on board completed and

1 tested, if would reflect well on us, and we would be
2 able to maintain our position with those entities. So
3 we made that tactical decision to assist.

4 Q. And that was Underground Solutions' sole
5 decision to send that, correct?

6 A. That's correct.

7 Q. And do you understand that Underground
8 Solutions has now sued to be paid for that replacement
9 piping?

10 A. I wasn't aware of that.

11 Q. Okay. Do you draw a distinction between
12 the replacement piping that would be for the what I
13 call the 300 foot section and the 1,900 foot section?

14 A. Well, I thought you were talking about the
15 1,900 foot section. With that distinction, yes.

16 Q. So there's two situations. One,
17 Underground Solutions made the decision on its own,
18 sole decision internally, to send replacement piping,
19 fusion services for the 1,900 foot section of piping,
20 correct?

21 A. That's correct.

22 Q. And you didn't know that they, in fact,
23 sued to be paid for that pipe, correct? You've not
24 been involved in that discussion?

25 A. No.

1 Q. You thought that they were sending the pipe
2 because you thought it was a good market to send it to
3 and send the pipe as replacement pipe because there had
4 been a failure, correct?

5 A. **That's exactly what I thought.**

6 Q. And nobody was going to pay for that 1,900
7 square feet because you all made the decision on your
8 own to send it, correct?

9 A. **At the time, that's correct.**

10 Q. And with regard to the 300 linear foot
11 section, do you know what I'm talking about there?

12 A. **Yes.**

13 Q. Was a repair or replacement efforts
14 undertaken for that failure?

15 A. **There were.**

16 Q. And did Underground Solutions make the sole
17 decision to do that on its own?

18 A. **We did.**

19 Q. For the same reasons that you did for the
20 1,900 linear feet section, correct?

21 A. **Well, there's a distinction in that we
22 didn't have to supply any additional pipe, maybe a
23 short section, because all we did was cut that out, but
24 all the other efforts that we undertook to get that
25 pipe pulled out and put back into place, we did that of**

1 **or own volition.**

2 Q. And that would be true for the 1,900 foot
3 section and whatever you did on what we call the 300
4 foot --

5 A. **At the time, yes.**

6 Q. You say "at the time," what do you mean at
7 the time?

8 A. **That's all I can speak to. I don't know**
9 **about what's happened since then, since the litigation.**
10 **But at the time all this was occurring back in 2012,**
11 **that was the intention.**

12 Q. Was to send the pipe, nobody's going to pay
13 for it, you all were just going to send the pipe with
14 the fusion services?

15 A. **That's correct.**

16 Q. That was Underground Solutions' intention?

17 A. **That's correct.**

18 MR. MCDONALD: That's all I got.

19 RE CROSS EXAMINATION

20 BY MR. NEWBERRY:

21 Q. One follow-up question. Mr. Shepherd, if
22 R.H. Moore or URS had a question about the
23 installation, who was their contact person for
24 Underground Solutions, was it the project manager or
25 you?

1 A. At what stage are we talking about?

2 Q. During construction.

3 A. During construction it would typically be
4 someone in operations like the construction manager,
5 Eric Davis, somebody out in the field. Not me.

6 Q. So for this particular project would it
7 have been the gentleman you identified as the
8 construction manager, who's Roundville or -- it's
9 escaping me now.

10 A. Walt Rountree, except that at some point
11 during this project Walt had a serious health problem
12 and he was operated on and out of commission for a long
13 time. So, I'm not sure who the replacement was at that
14 point, or who the contact would be.

15 Q. But it would not have been you?

16 A. No, not for anything in the field.

17 MR. NEWBERRY: All right. Thank you
18 very much. That's all I have.

19

20 (The deposition was concluded at 1:24
21 p.m.)

22

23

24 (Signature waived)

25

Gary Shepherd

62

1 CERTIFICATE OF REPORTER

2

3 STATE OF SOUTH CAROLINA)

4 COUNTY OF CHARLESTON)

5 I, Douglas K. Liperote, the officer before
6 whom the foregoing deposition was taken, do hereby
7 certify that the witness whose testimony appears in the
8 foregoing deposition was duly sworn by me; that the
9 testimony of said witness was taken by me to the best
10 of my ability and thereafter reduced to typewriting
11 under my direction; that I am neither counsel for,
12 related to, nor employed by any of the parties to the
13 action in which this deposition was taken, and further
14 that I am not a relative or employee of any attorney or
15 counsel employed by the parties thereto, nor
16 financially or otherwise interested in the outcome of
17 the action.

18

19 _____ Date _____

20 Douglas K. Liperote

21 Notary Public in and for the

22 County of Charleston

23 State of South Carolina

24

25 My commission expires August 15, 2015.

Spectrum Reporting Services 843-849-0133

Spectrumaaa@gmail.com

STATE OF SOUTH CAROLINA IN THE COURT OF COMMON PLEAS
COUNTY OF DORCHESTER FIRST JUDICIAL CIRCUIT

R.H. MOORE COMPANY, INC.,

Plaintiff,

-vs-

Case No.:
2012-CP-18-2001

KNIGHT'S PRECAST, INC., TOBIAS & WEST, LLC, ERIC W.
TOBIAS, P.E., DORCHESTER COUNTY WATER AND SEWER
DEPARTMENT, UNDERGROUND SOLUTIONS, INC. AND B.P.
BARBER & ASSOCIATES, INC. n/k/a URS CORPORATION, and
UTILITY SERVICES AUTHORITY, LLC,

Defendants.

THE DEPOSITION OF BRADLEY S. KING,
taken on behalf of the Defendant, on April 16, 2015
commencing at 9:56 a.m., at the Law Offices of Smith,
Bundy, Bybee & Barnett, 1037 Chuck Dawley Blvd., Bldg.
F, Mt. Pleasant, South Carolina, 29464.

Reported by: Douglas K. Liperote
 Spectrum Reporting Services

Bradley S. King

2

1 A P P E A R A N C E S

2

3

4 FOR THE PLAINTIFF:

5

M. BRENT MCDONALD, Esq.
Smith, Bundy, Bybee & Barnett
1037 Chuck Dawley Blvd., Bldg. F
Mt. Pleasant, SC 29464
(843) 881-1626

7

8 FOR THE DEFENDANT KNIGHT'S PRECAST, INC.:

9

ZACH CLOSSER, Esq.
Smith & Closser
7455 Cross County Road, Suite 1
N. Charleston, SC
(843) 760-0220
ssmith@scnlaw.com

10

11

12 FOR THE DEFENDANT TOBIAS & WEST/ERIC TOBIAS, P.E.:

13

C. ROBIN GRAHAM, Esq.
Carlock, Copeland & Stair
40 Calhoun Street, Suite 400
Charleston, SC 29401
(843) 727-0307
psperry@carlockcopeland.com
rgraham@carlockcopeland.com

14

15

16

17 FOR THE DEFENDANT DORCHESTER COUNTY WATER & SEWER:

18

JOHN G. FRAMPTON, Esq.
Attorney at Law
201 Johnston Street
St. George, SC 29477
jframpton@dorchestercounty.net

19

20

21 FOR THE DEFENDANT UTILITY SERVICES AUTHORITY:

22

REYNOLDS H. BLANKENSHIP, Esq.
Walker Reibold
3321 Forest Drive, Suite One
Columbia, SC 29204
(803) 767-6985
rblankenship@Walkerreibold.net

23

24

25

Bradley S. King

3

1 Appearances conntinued:

2

3

FOR THE DEFENDANT B.P. BARBER & ASSOCIATES, INC.:

4

DEREK M. NEWBERRY, Esq.

5

Wilkes Law Firm

200 Meeting Street, Suite 205

6

Charleston, SC 29401

(843) 737-6229

7

dnewberry@wilkeslaw.com

8

FOR UNDERGROUND SOLUTIONS:

9

JARED GARRAUX, Esq.

10

Richardson Plowden

1900 Barnwell Street

11

Columbia, SC 29201

(803) 771-4400

12

JGarraux@richardsonplowden.com

13

14

15

16

17

18

19

20

21

22

23

24

25

1	I N D E X		
2			Page
3			
4	EXAMINATION		
5			
6	By Mr. McDonald		4
7	By Mr. Newberry		67
8	By Mr. McDonald		76
9	Certificate of Reporter		77
10			
11	E X H I B I T S		
12			
13	PLAINTIFFS':		Page
14			
15	1 U.Sol. 2nd Amended Notice		16
16	2 June 7, 2012 E-mail		26
17	3 August 29, 2012 Letter		40
18	4 B.P. Barber 2nd Amended Notice		67
19			
20			
21			
22			
23			
24			
25			

Bradley S. King

5

1 BRADLEY S. KING, having been first
2 duly sworn, testified as hereinafter set forth.

3 DIRECT EXAMINATION

4 BY MR. MCDONALD:

5 Q. Mr. King, my name is Brent McDonald. I
6 represent the plaintiff, R.H. Moore & Company, Inc. in
7 this action.

8 Have you had your deposition taken
9 before?

10 A. Yes, I have.

11 Q. And have you had it taken before in the
12 state of South Carolina?

13 A. No, sir.

14 Q. I'm required to go over a few things with
15 you as far as rules of the deposition.

16 For the purpose of making as clean a
17 record as possible these rules -- and to make sure that
18 you understood the question that was asked so you can
19 give a full answer

20 So the first rule is, if you don't
21 understand a question I ask, will you please let me
22 know?

23 A. Yes, sir.

24 Q. The purpose is not to trick you. It's not
25 to get you to say something you don't mean. It's just

1 to ask a question that you understand so I can get a
2 full answer that I'm entitled to. Fair enough?

3 **A. Yes, sir.**

4 **Q.** And can we agree that if you answer the
5 question that you understood it?

6 **A. Yes, sir.**

7 **Q.** If you need to take break at any time, let
8 me know. The only thing I would ask is that you answer
9 the question that's on the table, and after you've
10 answered that question in full we can take a break, and
11 you can make a phone call, whatever you need to do.
12 Okay?

13 **A. Yes, sir.**

14 **Q.** The only thing you can't do is talk to your
15 lawyer about the substance of your deposition testimony
16 now that you're under oath. Do you understand that?

17 **A. Understood.**

18 **Q.** And any questions that you have about a
19 question that's posed to you should be directed to the
20 lawyer that's asking it, including me, rather than your
21 lawyer. Fair enough?

22 **A. Yes, sir.**

23 **Q.** Okay. Will you state your full name,
24 please?

25 **A. Bradley Scott King.**

1 Q. And where on are you currently employed,
2 Mr. King?

3 A. **Underground Solutions Incorporated.**

4 Q. And where on is your office located?

5 A. **My residence is at** [REDACTED]

6 [REDACTED]

7 Q. So you work out of your home in Texas?

8 A. **I do.**

9 Q. Are you employed full-time with Underground
10 Solutions?

11 A. **Yes, sir.**

12 Q. And what is your role there?

13 A. **I'm the manager of construction services.**

14 Q. Okay. And what are the responsibilities of
15 a manager of construction services at Underground
16 Solutions?

17 A. **They include some sales role assistance as
18 far as feasibility of certain projects that include the
19 operations role of of meeting with contractors to
20 discuss our guidelines or recommendations surrounding
21 our pipe.**

22 Q. Okay. And is there any responsibility
23 post-operations, or is it just pretty much limited to
24 front end, feasibility and sales and operations?

25 A. **It could be like follow-up I would say to**

1 the project itself, but it's still all operations-based
2 to the project.

3 Q. Sure. So when you say follow-up to
4 projects itself, you mean an issue towards the end of
5 the project that may need to be punched out or
6 something like that, you might be involved in?

7 A. No. I would say more of along the lines
8 of, Is the project completed? To review it as a
9 completed project for close-out.

10 Q. All right. Any other general
11 responsibilities in your role?

12 A. I would say that's probably it.

13 Q. When this case goes to trial have you been
14 asked to attend the trial on behalf of Underground
15 Solutions?

16 A. I have not at this point.

17 Q. Who is your direct report?

18 A. Eric Davis.

19 Q. And what is Mr. Davis' role? I assume he's
20 an employee of Underground Solutions?

21 A. Yes, sir.

22 Q. What is his role?

23 A. He's the vice president of operations.

24 Q. Okay. And in your responsibilities with
25 regard to feasibility, sales and operations, does that

1 take place typically on site, or do you do most of this
2 remotely over the phone, E-mail, things like that?

3 **A. I would say both.**

4 **Q.** And if you had to give a percentage?

5 **A. I don't know that I could. Sorry.**

6 **Q.** Fair enough. When did you start with
7 Underground Solutions?

8 **A. July 9 of 2007.**

9 **Q.** And what did you do before that?

10 **A. I worked for a general contractor.**

11 **Q.** Okay. A general contractor that was
12 involved in what type of construction?

13 **A. Trenchless.**

14 **Q.** What was the name of that general
15 contractor?

16 **A. Prior to Underground Solutions that was**
17 **Horseshoe Construction.**

18 **Q.** Okay. And what were your responsibilities
19 there?

20 **A. Operations manager.**

21 **Q.** So on-site operations?

22 **A. Company operations.**

23 **Q.** How big an outfit is that?

24 **A. At the time we probably had 80 employees.**

25 **Q.** Okay. All right. And how long were you

1 with that company?

2 A. From November of 2004 to July 9.

3 Q. And what did you do before that?

4 A. I worked for another general contractor
5 prior to that.

6 Q. And what was the business of that general
7 contractor?

8 A. I was -- the same, trenchless rehab
9 construction.

10 Q. What was the name of that outfit?

11 A. Originally, we were Kinsel Industries, and
12 we were acquired by Insituform Technologies.

13 Q. Did your roles -- what was the name of
14 first one before Kinsel? What's the name of the one
15 you were with November of 2004 to July of 2007?

16 A. Horseshoe Construction.

17 Q. Did Horseshoe or Kinsel -- am I saying that
18 correctly?

19 A. Yes.

20 Q. Did Horseshoe or Kinsel manufacture
21 anything?

22 A. No, sir.

23 Q. And how long were you with Kinsel?

24 A. I would say that was approximately January
25 of 2001 to January of 2004. There was a little gap

1 **there.**

2 Q. And what was your reason for leaving
3 Kinsel?

4 A. **My reason or their reason?**

5 Q. Well, let's go to your reason first, and
6 then we'll go to their reason.

7 A. **My reason is we were acquired by a larger
8 company. I was in upper management. And so it was an
9 out-the-door process.**

10 Q! Okay. Like a redundancy-type process?

11 A. **Yes.**

12 Q. And what was their reason?

13 A. **I don't know that I have their reason.**

14 Q. I got you. And what did you do before
15 Kinsel?

16 A. **I was a boring specialist for Vermeer.**

17 Q. And that would have been, again, actual
18 construction; no manufacturing with Vermeer?

19 A. **Actually, Vermeer is a manufacture of
20 equipment.**

21 Q. Okay.

22 A. **I actually worked on the -- what would
23 technically be the operation side of Vermeer from their
24 sales department.**

25 Q. And when say equipment, equipment for

1 actual boring process?

2 A. Directional drills, hay balers, trenchers.

3 Q. And how long were you with Vermeer?

4 A. I'm going to say about a year and a half,
5 give or take.

6 Q. And what was your reason for leaving
7 Vermeer?

8 A. The directional drilling industry at the
9 time started to decrease. My income was a base-plus --

10 Q. Commission?

11 A. Not necessarily commission because I wasn't
12 in sales, but it was income-based on the sales itself,
13 none of my direct sales, though. And so the income
14 decreased, and Kinsel was looking to start a
15 directional drilling division.

16 Q. And that's what you, in fact, did with
17 Kinsel, was directional drilling?

18 A. I started their directional drilling
19 division, and eventually moved on to assist in other
20 operations.

21 Q. And what did you do before Vermeer?

22 A. I was in college and worked for a general
23 contractor as well at the same time.

24 Q. And what was the business of that general
25 contractor?

1 **A. Directional drilling.**

2 Q. And where did you go to college?

3 **A. Missouri Western State.**

4 Q. Did you graduate?

5 **A. Yes, sir.**

6 Q. What is your degree in?

7 **A. It's a B.S. in construction engineering**
8 **technology.**

9 Q. And what was the name of the contractor
10 that you worked for in college?

11 **A. A&L Underground.**

12 Q. And were you with them the whole time you
13 were in college, four years, something like that?

14 **A. No, not the whole time. A couple years I**
15 **would say.**

16 Q. And with your role at Underground Solutions
17 do you have any responsibilities in the manufacturing
18 side?

19 **A. No, sir.**

20 Q. Are you familiar at all with the
21 manufacturing process?

22 **A. Not specifically.**

23 Q. So you couldn't sit somewhere and explain
24 the technicalities of the manufacturing process of
25 whatever they make at Underground Solutions?

1 **A. Correct, I could not.**

2 **Q. Okay. So your role, as we discussed**
3 **earlier, is focused essentially on the oversight of the**
4 **directional drilling process once the pipe gets**
5 **delivered on site?**

6 **MR. GARRAUX: Object to the form.**

7 **A. I don't know that I would say oversight. I**
8 **would probably just say that -- because "oversight" is**
9 **not my responsibility of a project.**

10 **Q. How would you sum it up?**

11 **A. I would say just generally meeting with the**
12 **contractors to review and go over recommendations and**
13 **guidelines.**

14 **Q. Does Underground Solutions do any actual**
15 **directional boring itself?**

16 **A. No, sir.**

17 **Q. Okay. Was there an individual in your role**
18 **prior to you coming to Underground Solutions in July of**
19 **2007?**

20 **A. That, I don't know.**

21 **Q. Here's what I'm trying to get at: Was this**
22 **something that was new as far as the role you were**
23 **going to play with the company in feasibility and sales**
24 **and operations specific to the actual directional**
25 **drilling rather than the manufacturing of the pipe?**

1 **A. I would say no. They have another**
2 **construction manager for another region at the time.**

3 Q. Okay. That did basically the same thing
4 you're doing?

5 **A. Yeah. He's still there and covers a**
6 **region, yeah.**

7 Q. What's his name?

8 **A. Mike Garrett.**

9 Q. Were you involved in this project that
10 brings us here today, Mr. King?

11 **A. At one point, yes.**

12 Q. And before we get into the 30(b)(6) Notice
13 you said "at one point," what does that mean?

14 **A. I was involved in the project after the**
15 **installation of the line that we're going to discuss**
16 **today.**

17 Q. When you say after the installation, were
18 you involved with the project after the failure of the
19 pipe?

20 **A. Yes.**

21 Q. So your direct knowledge, outside of what
22 you're prepared to testify here today pursuant to the
23 30(b)(6) Notice, which we'll go over in a second, is
24 related to whatever you did after the failure of the
25 1900 foot section of pipe; fair enough?

1 **A. Say that again?**

2 Q. Sure. You didn't have anything to do with
3 this project until the pipe failed; you didn't
4 participate on the front end or operationally, you just
5 showed up after it failed?

6 **A. That's correct.**

7 Q. Okay.

8 (Whereupon, Exhibit 1 was
9 marked for identification.)

10 BY MR. MCDONALD:

11 Q. All right, sir. I'll hand you what's been
12 marked as Exhibit 1. Take a chance to review that,
13 and I'm going to ask if you've ever seen it before?

14 **A. Yes, I have.**

15 Q. If you would turn to Exhibit A. And have
16 you reviewed Exhibit A before today?

17 **A. Yes, I have.**

18 Q. And let me explain to you something: What
19 this is it's called a 30(b)(6.) It references a rule,
20 and your lawyer may have explained this to you, but I'm
21 going to explain it again.

22 It references a Rules of Civil Procedure
23 here in South Carolina. What it does is it allows a
24 lawyer to list a number of topics to a corporation or
25 entity, and that entity is required to produce a

1 witness that is knowledgeable or most knowledgeable on
2 those topics that can testify as to those topics. Do
3 you understand that?

4 **A. Yes, sir.**

5 Q. Do you understand that that's your role
6 here today?

7 **A. Yes, sir.**

8 Q. Are there any of these topics you're not
9 prepared to talk about today?

10 **A. Yes.**

11 Q. Okay. Let's list them off.

12 **A. I believe Number 2.**

13 Q. Okay.

14 **A. Number 3.**

15 Q. Okay.

16 **A. Potentially Number 4, depending on the**
17 **questions.**

18 Q. So you're not sure about Number 4, all
19 right.

20 **A. Not number 5. Not 6.**

21 Q. Okay.

22 **A. I am prepared for 7.**

23 Q. Okay.

24 **A. I'm not prepared for 8. I'm not prepared**
25 **for 9.**

1 Q. Okay.

2 A. And not prepared for 10.

3 Q. Okay.

4 A. I am prepared for 11. I am prepared for

5 12. I am for 13. I am not for 14. I'm not sure about

6 15.

7 Q. Not sure about 15, okay.

8 A. I'm not for 16.

9 Q. Okay.

10 A. I am not for 17.

11 Q. Okay.

12 A. I am not for 18.

13 Q. Okay.

14 A. I am for 19 and 20.

15 Q. And who is going to be testifying on the

16 topics you're not prepared to testify to?

17 A. Gary Shepherd.

18 Q. Mr. Shepherd is here today?

19 A. Yes, sir.

20 Q. So, you didn't say anything about 1. Are

21 you prepared to testify as to 1?

22 A. I would say yes.

23 Q. So what I have is 1, 7, 8, 9, 10 --

24 A. Can I notate on this as well? No?

25 Q. Not on the exhibit. If you want a piece of

1 paper, we can give you that.

2 **A. So I can keep track.**

3 Q. Sure. So I understand it, you're here to
4 testify as to 1, 7, 11, 12, 13, 19 and 20. And you are
5 not sure about 4 or 15?

6 **A. That's correct.**

7 Q. All right, sir. You said you were involved
8 after the failure of the 1,900 linear foot section of
9 pipe. Do you know approximately what date you got
10 involved?

11 **A. I would say my first receipt of**
12 **communication, not direct involvement, would have been**
13 **shortly after the failure, probably, I would say, late**
14 **June or early July of 2012.**

15 Q. And prior to that you didn't have any
16 involvement in this project?

17 **A. That's correct.**

18 Q. Did you even know that this project
19 existed?

20 **A. I did know the project existed, yes.**

21 Q. And why is that? Why did you know about
22 the project?

23 **A. Just through general communication.**

24 Q. Okay. And do you know why you were asked
25 to get involved in early June after the failure? What

1 was your charge on behalf of Underground Solutions?

2 A. I don't know that I was charged. I was
3 copied probably based off of my experience and
4 background, on E-mails, with some of the quotes maybe,
5 or prices from some of the subcontractors, drilling
6 subcontractors on the -- for the re-drill of the
7 installation.

8 Q. And do you know why you were -- other than
9 just your background, why you were CC'd on the quotes
10 from subcontractors in order to re-drill? And when you
11 say "re-drill," what you're talking about is to put a
12 new piece of pipe under it because the other one
13 failed, right?

14 A. Correct, the second installation.

15 Q. Okay. Do you know why you were CC'd on
16 those pricing estimates from subcontractors?

17 A. I would say because a lot of that was to
18 see if that pipe could be removed for complete
19 investigation.

20 Q. Okay.

21 A. And to see if the pricing looked sufficient
22 to do that was the original. A lot of contractors
23 didn't think they could get the pipe out, so the quotes
24 naturally went to a reinstallation. So, originally, I
25 would say it was to verify if the cost was somewhat

1 appropriate for the removal of the existing pipe was
2 the original reason.

3 Q. So you reviewed estimates and you reviewed
4 estimates that were for the removal of the failed pipe
5 and reinstallation through the same bore that the
6 failed pipe was in, correct?

7 A. Correct.

8 Q. And you reviewed estimates for just the
9 reinstallation with a new bore, correct?

10 A. They were part of -- I would say yes, they
11 were part of the entire what I was trying to review was
12 just the removal, but in the process I was copied in on
13 things, and the E-mails I didn't even respond to.

14 Q. And were those estimates made directly to
15 Underground Solutions; is that why you were getting
16 them?

17 A. I don't know if they were made directly to
18 Underground Solutions, the estimates. As a matter of
19 fact, I think the estimates were for R.H. Moore, but we
20 looked at them to see if the cost was appropriate for
21 the circumstances surrounding it.

22 Q. And at the time when you first got
23 involved, was it Underground Solutions' intention to
24 pay for that reinstallation?

25 A. No, sir.

1 Q. And why not?

2 A. I don't think it's our scope to pay for
3 anybody's installation. We're in sales, so we sell
4 pipe.

5 Q. But we can agree the pipe that you sold
6 failed, right?

7 A. The pipe did fail.

8 Q. It didn't meet the pressure test that was
9 put on it, correct?

10 A. That's correct.

11 Q. And so when you first got involved it was
12 your thought on behalf of Underground Solutions that
13 you all weren't going to pay for the re-drill to
14 install new pipe or to pull out the old pipe that had
15 failed?

16 A. I would say that's correct, that it was
17 never our intent to pay for the re-drill or removal.

18 Q. You understand you couldn't use the pipe on
19 this project after it failed, correct?

20 MR. NEWBERRY: Object to the form.

21 A. I don't know that that's true at that point
22 maybe, in my involvement.

23 Q. So you think you could use the pipe that
24 failed today because it's still there, right?

25 A. I'm not saying you can use the pipe that

1 failed today. There could be potentially portions of
2 the pipe that were not in a failure mode that could
3 potentially be acceptable.

4 Q. But you don't know one way or the other?

5 A. I don't.

6 Q. All right, sir. Would you agree with me
7 that on this project it was required that the pipe be
8 directionally bored and drilled under the Ashley River?

9 A. I'm not familiar with the specifications or
10 the plans.

11 Q. Okay. So you don't know sitting here today
12 whether or not that was a requirement of this project?

13 A. I do not know.

14 Q. So as far as you know, this could have been
15 an above-ground piping project?

16 A. Yeah. I don't know what the design was
17 for.

18 Q. All right. And you've never seen the
19 specifications for this?

20 A. I have not.

21 Q. But you, sir, are involved in feasibility
22 and sales, correct?

23 A. In feasibility prior to the sale.

24 Q. So I'll want to generally talk to you about
25 that.

1 How does Underground Solutions go about
2 getting or interacting with engineers in order to have
3 a specification sheet contain its product, Underground
4 Solutions' product?

5 **A. I don't know. That's a sales role.**

6 Q. I thought you were involved in feasibility
7 and sales?

8 **A. In feasibility, yes, sir.**

9 Q. And what is the difference between
10 feasibility and sales? Are you before the sale of the
11 pipe, your role?

12 **A. I could be at any time in the project.**

13 Q. Do you review an engineers' specifications
14 and see if your piping, in fact, meets those
15 specifications for a project?

16 **A. Yes.**

17 Q. And tell me a little bit about that
18 process.

19 **A. As far as?**

20 Q. Meaning, how do you come into possession of
21 an engineers' specifications for a certain project?

22 **A. Typically, if we are spec'd in a project**
23 **and the salesperson wants our assistance to see if we**
24 **are appropriate, they'll send us an E-mail and provide**
25 **us with spec sections or plans.**

1 Q. And when you say "the salesperson," you're
2 talking about somebody within Underground Solutions?

3 A. Yes.

4 Q. So you get a contact from a sales
5 representative from Underground Solutions saying this
6 is a project I found through whatever means, here's the
7 specifications, is our product going to meet those
8 specifications?

9 A. I would say generally that could occur like
10 that, or they have worked with the engineer and have
11 plans and specs to say, "Are we a good fit here?"

12 Q. And do you review in those specifications
13 in the incidences you get them, do you review testing
14 protocol to make sure that the on-site testing that's
15 going to take place, that you all take the position the
16 piping meets that specifications, that testing
17 specification?

18 A. I would say generally, yes. We would want
19 to make sure that the engineer -- the engineer's
20 testing requirements surround PVC and maybe not some
21 other type of material by accident.

22 Q. Sure. And that the pipe that Underground
23 Solutions is manufacturing is, in fact, going to pass
24 that test, right?

25 A. Well, if it's a general PVC pressure

1 testing standard, then yes, we would know that our pipe
2 would be sufficient to pass that test.

3 Q. And that's important for you all to
4 understand that because you don't want to send a bunch
5 of pipe out there and have some test procedure that
6 you're not familiar with, that you don't know whether
7 your pipe is going to pass it or not, correct?

8 A. Correct, yes.

9 Q. Eric Davis, that's your boss?

10 A. Yes, sir.

11 Q. Okay.

12 (Whereupon, Exhibit 2 was
13 marked for identification.)

14 BY MR. MCDONALD:

15 Q. I'm going to hand you what's been marked as
16 Exhibit 2, sir, and ask if you've ever seen this
17 document before?

18 A. I do not believe I have.

19 Q. Okay. And you're not CC'd on this E-mail,
20 correct?

21 A. No, it does not look so.

22 Q. Were you involved in this project as of
23 June 7, 2012?

24 A. That date I'm not familiar with.

25 Q. Okay. What the E-mail says is, "Steve,"

1 and that's Steve Thornton, correct?

2 **A. That, I don't know.**

3 Q. Did you ever have any conversations
4 directly with Mr. Thornton?

5 **A. I don't believe on this project.**

6 Q. What about any other projects?

7 **A. Yes, I have.**

8 Q. Okay. And what projects were those?

9 **A. I believe that -- I hope I get the name of**
10 **the island right so that I don't offend anybody, but**
11 **Johns Island?**

12 Q. Okay.

13 **A. There was a project there, I'm guessing**
14 **2008, that I worked with them on.**

15 Q. Any other projects?

16 **A. No.**

17 Q. So it was a project on Johns Island in
18 2008?

19 **A. Yes.**

20 Q. And do you remember anything from the
21 substance of those conversations?

22 **A. No, sir.**

23 Q. And were you involved in a feasibility role
24 on that project?

25 **A. Yes, sir.**

1 Q. And were you involved in operations on that
2 project?

3 A. Yes, sir.

4 Q. And what was the product that Underground
5 Solutions was selling on that project?

6 A. I believe that was 24 inch DR 18, C-905.

7 Q. And that's not the product that was used in
8 this project, correct?

9 A. No, I don't believe so.

10 Q. It's a different product?

11 A. Diameter DR, yes.

12 Q. So is that a yes?

13 A. I guess my answer is that it is a different
14 dimension -- diameter of pipe and a different dimension
15 ratio, but it's feasible PVC type. That that was
16 C-905. My understanding from this exhibit is this was
17 fusible PVC, so I guess the answer is yes.

18 Q. The answer is yes, it's a different
19 product?

20 A. Yes.

21 Q. It's not the same pipe that was sold for
22 this project, fair enough?

23 A. Definitely, that pipe was not this pipe,
24 correct.

25 Q. Okay. Do you know what the pipe was for

1 this project?

2 **A. Only from communications.**

3 Q. And what is that?

4 **A. 20 inch DR 21 fusible PVC.**

5 Q. And is that a product that's manufactured
6 and sold by Underground Solutions?

7 **A. It is not manufactured by Underground**
8 **Solutions.**

9 Q. Who is the manufacturer?

10 **A. We have different manufacturers for this**
11 **pipe that can extrude the pipe.**

12 Q. Is it a product that's sold by Underground
13 Solutions?

14 **A. Yes, we sell that pipe.**

15 Q. And that's what your all's business is;
16 you're in the business of selling that pipe?

17 **A. That's correct.**

18 Q. And on this project you sold it to R.H.
19 Moore, correct?

20 **A. That, I don't know.**

21 Q. You don't know?

22 **A. Correct, I do not know.**

23 Q. All right, sir. You said you're prepared
24 to testify as to Number 19. Do you have Exhibit 1 in
25 front of you?

1 **A. Yes.**

2 Q. Which is "A detailed account of any alleged
3 deviation from Manufacturers' installation instructions
4 or industry standards." Did I read that correctly?

5 **A. Correct.**

6 Q. Okay. Does Underground Solutions take the
7 position that with the installation on this project,
8 prior to the failure of the pipe, that there was a
9 deviation from the manufacturer's installation
10 instructions?

11 **A. I would say not from the manufacturer**
12 **because we aren't the manufacturer.**

13 Q. What about a deviation from the Underground
14 Solutions' installation instructions, do you take a
15 position there was a deviation from Underground
16 Solutions' installation instructions for the pipe on
17 this project?

18 **A. I would not say from our instructions for**
19 **the installation other than -- well, other than**
20 **handling issues that were discussed on site between the**
21 **person involved from our side and the person involved**
22 **from R.H. Moore.**

23 Q. Let's talk about that first. What were
24 those handling issues you're aware of that were
25 discussed?

1 A. My recollection is that one of our
2 technicians discussed with -- what would have been Joe
3 Bailess or Burris --

4 Q. Okay.

5 A. -- about a gouge in a piece of pipe that
6 needed to be removed from a forklift would be one
7 occasion.

8 Q. Were you present for that conversation?

9 A. I was not present.

10 Q. So you heard that secondhand?

11 A. During my discussions with people involved
12 in this project.

13 Q. Did you hear that from anybody from R.H.
14 Moore?

15 A. No, sir.

16 Q. Did you hear it from anyone from utility
17 services, the installer?

18 A. No, sir.

19 Q. Any other handling issues that you're aware
20 of that you would take the position deviates from
21 Underground Solutions' installation instructions?

22 A. Yes. Some cutting procedures were not
23 followed at one point and were discussed with R.H.
24 Moore on site with their site foreman at the time.

25 Q. And what cutting procedures are you talking

1 about?

2 A. We have cutting procedure for cutting the
3 fusible PVC pipe, and the way that I was told that R.H.
4 Moore was cutting the pipe did not follow our
5 procedures, and our technician advised them, and that
6 was corrected.

7 Q. Who was the technician?

8 A. For that one on the cutting procedures was
9 Doug Greenwell.

10 Q. And were you present for that conversation?

11 A. I was not present for that conversation.

12 Q. So the only thing you know about that is
13 what you heard from Doug Greenwell?

14 A. Yes, sir.

15 Q. Okay. Anything else with regard to
16 handling issues that you take the position was a
17 deviation from Underground Solutions' installation
18 instructionss?

19 A. Outside of that, I would say just normal
20 like maybe failure of the general contractor to inspect
21 their product, but I don't know if that falls under
22 installation instructions. I think it's an expectation
23 that the general contractor inspects their own product.

24 Q. And when you say failure of the general
25 contractor to inspect the product, you're talking about

1 the Underground Solutions pipe?

2 **A. Correct.**

3 Q. And so you take the position here today on
4 behalf Underground Solutions that the general
5 contractor, is that R.H. Moore?

6 **A. That is correct.**

7 Q. You take the position here today on behalf
8 of Underground Solutions that R.H. Moore failed to
9 inspect the pipe on this project?

10 **A. At least a few portions that either I was**
11 **directly involved with or a technician was involved**
12 **with, yes, sir.**

13 Q. Okay. And were any of those portions that
14 you refer to on this 1,900 linear foot section that
15 failed?

16 **A. I don't know that specifically from the**
17 **technicians, and my direct involvement was not on the**
18 **1,900 foot.**

19 Q. So whatever issues that you're referring to
20 that you think there may have been a failure to
21 inspect, as far as you know, don't even relate to the
22 1,900 foot section that failed?

23 **A. Yeah, I don't know if they relate to that.**

24 Q. Do you know if they relate to the other
25 section, the approximately 300 foot section that had a

1 hole in it?

2 **A. Absolutely.**

3 **Q.** So that's what you're referring to?

4 **A. Yes. From my account, yes.**

5 **Q.** Any other handling issues that you take the
6 position is a deviation from Underground Solutions
7 either installation instructions or handling
8 advisements, whatever you want to call it?

9 **A. I would say no.**

10 **Q.** Okay. Outside of handling issues is there
11 anything else that Underground Solutions takes the
12 position was a deviation from its installation
13 instructions, expectations --

14 **A. Not that I know of.**

15 **Q.** Are you familiar with any issues related to
16 the depth of the piping?

17 **A. I am. Yes, sir.**

18 **Q.** And what is your familiarity with that?

19 **A. My understanding is that the plans and**
20 **specs called for an approximate 30 to 32 foot depth of**
21 **installation, and after the failure it was noted that**
22 **the line was installed considerably deeper at a depth**
23 **of approximately 50 to 55 feet or so.**

24 **Q.** And is that depth in excess of Underground
25 Solutions' recommendations?

1 **A.** It could potentially be, yes, sir.

2 **Q.** What does that mean, "it could potentially
3 be"?

4 **A.** There's a lot of things to consider. I
5 think a report was -- a report that you guys probably
6 have that was attached to an E-mail, was that at that
7 depth, without a consideration of bridging of the soil,
8 that the deflection of the pipe could be exceeded over
9 our 5 percent deflection.

10 **Q.** And is the 5 percent -- so the depth would
11 relate simply to the deflection percentage, not
12 necessarily the fact that it's 54 feet or 75 feet,
13 whatever it may be, it would just be a deflection issue
14 rather than a pure depth issue, is that fair?

15 **A.** No, it would be a pure depth issue.

16 **Q.** It is a pure depth issue?

17 **A.** Yes, sir.

18 **Q.** And is there a hard line depth that
19 Underground Solutions takes the position with regard to
20 a 1,900 linear foot section can't go lower than?

21 **A.** I don't know that.

22 **Q.** Okay. So I guess what I'm struggling with
23 is if it's a pure depth issue, what are you referring
24 to?

25 **A.** I'm referring to the communication that you

1 have possession of that Eric Davis details out the
2 depth -- that that depth could have been up to an 8
3 percent deflection in the pipe based off of no soil
4 bridging in that calculation as a potential issue.

5 Q. And would that be a violation of
6 Underground Solutions' installation instructions?

7 A. That's difficult to answer I guess because
8 we would want to know of the deviation ahead of time,
9 because if we review the project as a 30 foot depth and
10 we didn't know that there was going to be a 52 foot
11 depth, that might have made a difference in the
12 decision of if we were feasible for not for this DR
13 pipe.

14 Q. And we'll get to that in a second, but what
15 I want to tackle first is I guess what I view as the
16 more simple thing.

17 Just from the standpoint of regardless of
18 whether you all knew, or it was brought to you, and
19 we'll talk about that in a second; strictly from the
20 standpoint of, if it was done that way on this project,
21 would that be a violation of your all's installation
22 instructions?

23 A. It could potentially be.

24 Q. Do you know if it was?

25 A. I do not know.

1 Q. Okay. Now, was it anytime prior to the
2 installation, was Underground Solutions involved in a
3 change from what you call the 30 to 32 foot depth to
4 what you call the 54 foot depth?

5 A. No, sir.

6 Q. And have you went back and talked to people
7 to ask if you were involved in that process?

8 A. Yes, sir.

9 Q. Who did you talk to?

10 A. To Eric Davis.

11 Q. Mr. Davis said we're not aware of any
12 change from the 32 foot depth to the 54 foot depth?

13 A. That is correct.

14 Q. Okay. And as you sit here today, at the 54
15 foot depth you said you don't know whether that's going
16 to be a violation of our installation instructiond, and
17 what is the reason for that; why do you not know?

18 A. I would say the assumption on soil bridging
19 is an unknown. So we would take the conservative
20 standpoint in reviewing something like that, and make
21 that known to the driller -- to the general contractor.

22 Q. I'm sorry.

23 A. Go ahead.

24 Q. Have you, in fact, done that in this case?

25 A. We didn't know of the deviation until the

1 **failure.**

2 Q. And once you found out about the deviation
3 after the failure and you got involved, did you go back
4 to see if at the 54 foot depth this would have been a
5 problem for soil bridging?

6 A. I noted in the E-mail from Eric Davis that
7 had the ESI report attached that our engineering at
8 that depth said there -- with no soil bridging, that
9 would be an 8 percent deflection of the pipe, which
10 exceeds our recommended 5 percent deflection maximum.

11 Q. So you have, in fact, done that? You went
12 back and looked at the 54 depth and found this would be
13 a violation of our recommendations?

14 A. Yes.

15 Q. And in doing that, you could have done that
16 in the before; you could have just looked at a --
17 instead of 32 foot depth, you could have looked at a
18 cross sheet, or whatever you want to look at, for a 54
19 foot depth, and you could have told them that before
20 they did that installation, correct?

21 A. I would say no. The plans were already --

22 Q. We're talking past each other. I'm sorry.
23 Let me ask the question:

24 A. Sure.

25 Q. What you did after the failure, making the

1 calculations at a 54 foot depth, had you been provided
2 that information in the before, you could have made
3 those same calculations and found that it was an 8
4 percent deflection prior to the drilling, correct?

5 **A. Yes.**

6 Q. There was no information that was new to
7 you other than the fact that it had, in fact, been done
8 at the 54 foot depth, other than the 32 foot depth,
9 correct?

10 **A. That's correct. It was given to us after**
11 **the fact.**

12 Q. And what you found out after the fact was
13 that you believed that at 54 feet there would have been
14 an 8 percent deflection, and that's just beyond what
15 you all recommend, which is a 5 percent deflection,
16 correct?

17 **A. That's correct.**

18 Q. If there's a violation of -- if Underground
19 Solutions takes the position there's a violation of its
20 installation instructions, does it continue to warrant
21 the product?

22 **A. Well, I mean, we warrant our fusion service**
23 **and the material itself, but we don't warrant the**
24 **installation. You know, if a --**

25 Q. Do you continue to warrant the fusion

1 services and the pipe itself if it's installed in
2 violation of your installation instructions?

3 **A. That, I don't know.**

4 **Q. Who would know that?**

5 **A. That, I don't know either.**

6 **Q. You don't know who would know that?**

7 **A. I would say probably our general counsel.**

8 **Q. In your experience have you seen situations**
9 **where, similar to this, you all took the position there**
10 **was an installation that was inconsistent with your**
11 **installation instructions, and you all continued to**
12 **stand behind the performance of the product?**

13 **A. That, I don't know.**

14 **Q. You've never seen it as long as you've**
15 **worked there?**

16 **A. I would say the warranty stuff is outside**
17 **of my scope of job duties. I wouldn't particularly see**
18 **that.**

19 **Q. Okay.**

20 **MR. MCDONALD: Why don't we take a**
21 **short break.**

22 **(Whereupon, Exhibit 3 was**
23 **marked for identification.)**

24 **BY MR. MCDONALD:**

25 **Q. All right, sir. We're back on the record.**

1 Just a couple follow-ups to what we've already talked
2 about here. The first is, the handling issues that you
3 mentioned with regard to the fork lift and the cutting
4 procedures, were those related to this 1,900 foot
5 section of pipe?

6 A. The gouge was not related to this.

7 Q. What about the cutting?

8 A. The cutting? The cutting was related to --
9 that, I don't know.

10 Q. So you don't know whether or not those
11 handling issues that you brought up earlier were
12 related to this 1,900 linear foot section of pipe?

13 A. Not those. They had some general problems
14 pulling the pipe, this 1,900 foot, some general
15 difficulties with their equipment pulling the product
16 string, but that would have been it that I know of for
17 the 1,900 foot.

18 Q. And when you says difficulties, you're
19 talking about the installer, Utilities Services,
20 difficulties pulling the product?

21 A. No. I'm talking about R.H. Moore stringing
22 the pipe out above ground.

23 Q. And when you say difficulties, what were
24 the difficulties?

25 A. From what the technician described to me,

1 the straps were breaking. So the string of pipe is
2 pulled off of the fusion machine. As it gets strung
3 out longer, they pull it out with a strap, typically,
4 and the straps at some point weren't sufficient to pull
5 the string, or kept breaking, so they had to replace
6 the straps a lot.

7 Q. What, if anything, did that have to do with
8 the piping itself?

9 A. Well, your question was any handling issues
10 with the pipe, and that would be a handling issue with
11 that string.

12 Q. That the straps pulling it broke?

13 A. Yes.

14 Q. You say you know that was related to the
15 1,900 linear foot section?

16 A. Yes, sir.

17 Q. And how do you know that?

18 A. I spoke with the technician involved and
19 specifically got that from him.

20 Q. The fusing technician?

21 A. Yes.

22 Q. And he's an employee of Underground
23 Solutions?

24 A. Yes.

25 Q. And was there any damage to the pipe noted

1 as a result of the strap breaking?

2 **A. None that we noted.**

3 Q. Did the fusing technician say anything
4 like, boys, you can't keep breaking these straps, or do
5 you know?

6 **A. That, I don't know.**

7 Q. So you don't know whether or not the fact
8 that the straps that were -- I assume you're talking
9 about the straps that are attached to the end of the
10 bucket or something that's on a trackhoe or something?

11 **A. Like nylon straps, slings.**

12 Q. So you don't know whether or not those
13 straps, the fact that they broke, had any impact on the
14 pipe itself?

15 **A. Absolutely not.**

16 Q. You don't think it did have any impact on
17 the pipe itself?

18 MR. NEWBERRY: Object to the form.

19 **A. I'm not saying that I don't think it did**
20 **have any impact, I'm just saying that it could or could**
21 **not have.**

22 Q. You don't know?

23 **A. I do not know.**

24 Q. And do you know if anybody at Underground
25 Solutions does?

1 MR. GARRAUX: Object to the form.

2 Q. I'll hand you Exhibit 3 and ask if you've
3 ever seen that document?

4 A. Yes, sir, I have.

5 Q. And what do you recognize it to be?

6 A. This is the cover sheet, cover letter from
7 Eric Davis to R.H. Moore with the attached ESI report
8 from the break.

9 Q. Okay. And is this the ESI report that you
10 referenced earlier?

11 A. Yes, sir.

12 Q. And earlier we talked about the fact that
13 after the fact you take the position it was brought to
14 Underground Solutions' attention that the depth was not
15 32 foot, it was 54 foot, and that resulted in
16 Underground Solutions' opinion of an 8 percent
17 deflection in excess of the 5 percent deflection that
18 it allows, correct?

19 MR. NEWBERRY: Object to the form.

20 A. That's correct.

21 Q. And you said that what you would have to
22 have in that instance is soil bridging?

23 A. Yes, that's what the report says.

24 Q. What is that?

25 A. That, I don't know.

1 Q. You don't know what soil bridging is?

2 A. Not in this instance, no, sir.

3 Q. Do you know what it is generally?

4 A. I do, yes, sir.

5 Q. What is it?

6 A. Generally, it would be the ability of the
7 soil to withstand its vertical forces from the surface
8 down to a certain depth, and the bridging in general
9 would be the forces not being applied directly down and
10 being applied laterally at some point.

11 Q. And so that would just be a function of the
12 soil itself, not some installation technique?

13 A. That, I don't know.

14 Q. Do you know what type of soil this 1,900
15 linear feet was bored into?

16 A. No, I do not.

17 Q. Are you familiar with the term "marl"?

18 A. No, I am not.

19 Q. Does that make a difference in your mind,
20 what type of soil, with regard to this deflection
21 issue, that the pipe is bored into?

22 A. I really couldn't answer the question
23 because I don't really know the soil condition.

24 Q. So Underground Solutions as you sit here
25 today doesn't know whether or not the 8 percent

1 deflection was a problem in this soil?

2 **A. We don't.**

3 **Q. So the 5 percent maximum with regard to**
4 **Underground Solutions' installation instructions is**
5 **contingent upon the type of soil, whether or not that**
6 **soil will do what you all call soil bridging?**

7 **A. From my understanding from this letter,**
8 **yes.**

9 **Q. And if you had brought -- if it had been**
10 **brought to Underground Solutions' attention in the**
11 **beginning that we were going -- there was going to be a**
12 **54 foot depth rather than a 32 foot depth, what would**
13 **you have done in order to make a determination as to**
14 **whether that was going to be acceptable?**

15 **A. Underground Solutions would have reviewed**
16 **that depth and potentially asked the question of what**
17 **soil are we in, and worked with, potentially, the**
18 **engineer on bridging calculations and vertical loading**
19 **calculations.**

20 **Q. Who would have performed those calculations**
21 **at Underground Solutions?**

22 **A. There could have been a couple of people**
23 **that do that.**

24 **Q. And who is that?**

25 **A. One would be Tom Marti or Bo Bodicker (ph).**

1 Q. Anybody else?

2 A. Not that I know of.

3 Q. And are they engineers?

4 A. I know Bo Bodicker is, and I'm not quite
5 positive on Tom, if he's a licensed professional
6 engineer.

7 Q. Did you ever have any discussions with Mr.
8 Donald Duvall about this project?

9 A. No, sir.

10 Q. Did you talk with anyone at ESI?

11 A. No, sir.

12 Q. Do you know if anybody at Underground
13 Solutions did?

14 A. I do not know who talked to him.

15 Q. In Exhibit 3, did you have any role in
16 authoring the cover letter?

17 A. No, sir.

18 Q. Were you shown any drafts of it prior to it
19 being sent out?

20 A. Not that I recall.

21 Q. What it says is -- the second paragraph,
22 "In addition to retaining Mr. Edwards, UGSI reviewed
23 the QA/QC and fusion records for the pipe involved,
24 none of which indicated any anomalies," is that your
25 understanding?

1 **A. Yes, sir.**

2 Q. What are the fusion records?

3 **A. My assumption would be the data logger**
4 **reports and the fusion joint reports.**

5 Q. So that would be the gentleman who's on
6 site for Underground Solutions who's actually operating
7 the fusion machine, is actually keeping data log and
8 reports while he's out there?

9 **A. Correct. He's data logging, yes.**

10 Q. And what you all said was -- in those
11 records you didn't note any anomalies?

12 **A. That's correct.**

13 Q. Okay. It says "Based upon information
14 provided to us by USA and R.H. Moore, we confirmed that
15 the bending radius of the pipe was not exceeded during
16 installation, and that the pipe was ballasted while
17 being pulled." Did I read that correctly?

18 **A. Yes, sir.**

19 Q. Is that what Underground Solutions expected
20 to happen, that the bending radius was not going to be
21 exceeded and that the pipe was going to be ballasted
22 while being pulled?

23 **A. It seems that would have been the general**
24 **expectation, yes.**

25 Q. So that's a good thing in your all's

1 opinion?

2 **A. Yes, sir.**

3 Q. Then it goes on to say "The only he
4 discrepancy that was found during ESI's investigation
5 is the overall depth of the bore," and this goes on to
6 talk about the issue we have been discussing here in
7 depth, correct?

8 **A. That's correct.**

9 Q. Then it says, "While this increased depth
10 is not necessarily the cause of the pipeline failure,
11 it could well have contributed to or exacerbated the
12 failure"?

13 **A. That's correct.**

14 Q. And what information does Underground
15 Solutions have that it could well have contributed to
16 and/or exacerbated the failure?

17 **A. That, I don't know.**

18 Q. Who would know?

19 **A. I would say either Bo Bodicker or Tom
20 Marti, and/or ESI.**

21 Q. And you, sir, are here, on topic Number 20,
22 which is "A detailed account of the cause of any
23 failure in the FPVC pipe"?

24 **A. Yes, sir.**

25 Q. Are you saying that Bo Bodicker and Tom

1 Marti would know more about this sentence, which is "it
2 could well have contributed to or exacerbated the
3 failure" than you would know?

4 A. I would say that yes, that statement, they
5 would be.

6 Q. Is that would be related to Topic Number
7 20, is that fair enough?

8 MR. GARRAUX: Object to the form.

9 A. I guess not necessarily, because the way I
10 read Number 20 is the cause of any failure, and I think
11 it's been pretty clear that we don't know what caused
12 the failure. But --

13 Q. I'm sorry. Go ahead.

14 A. But they would be able to discuss the depth
15 concern as described here.

16 Q. Which is, "it could have well contributed
17 to and/or exacerbated the failure"?

18 A. I believe so. It definitely wouldn't be
19 me.

20 Q. Okay. And that's what I'm interested in.
21 Because what you testified to earlier was you don't
22 know whether or not you could have reused this pipe,
23 correct?

24 A. Yeah. I mean, I would say, yes, that you
25 could potentially reuse sections of pipe if there's a

1 couple hundred foot at the end, and it's not -- there
2 would be procedures that if it passed a pressure test
3 for that couple hundred feet, or 100 feet or 20 feet or
4 whatever, that that pipe would still be acceptable.

5 Q. So the person at Underground Solutions that
6 would know whether the deflection issue that we
7 discussed earlier could well have contributed to or
8 exacerbated the failure would be Tom Marti and who?

9 A. Bo Bodicker?

10 Q. Okay.

11 A. Or maybe even Eric Davis since he wrote the
12 letter.

13 Q. And do you know as you sit here today
14 whether it contributed to or exacerbated the failure?

15 A. I do not know what caused the failure.

16 Q. No, I'm saying contributed to or
17 exacerbated the failure?

18 A. No, I don't know.

19 Q. Is that important to you? I mean, you
20 could have a small failure that's exacerbated by
21 something else that takes it into a whole new problem,
22 correct?

23 MR. NEWBERRY: Objection.

24 A. I guess I don't understand what you're
25 asking there.

1 Q. Well, what I'm trying to understand from
2 you, since you're the gentleman who knows a detailed
3 account of the cause of any failure in the FPVC pipe,
4 is whether or not Underground Solutions takes the
5 position that the deflection issue contributed to or
6 exacerbated the failure of the 1,900 feet of --

7 A. I would say we take the position that we do
8 not know what caused the failure.

9 Q. What about whether it contributed to or
10 exacerbated the failure?

11 A. I would say that it could have contributed
12 as the letter states.

13 Q. And you don't know as you sit here today
14 whether it did?

15 A. I don't know that anybody knows.

16 Q. Okay. In the next paragraph it says "Other
17 issues that have been known to occur during HDD
18 installations includes the presence of a point load
19 source in the bore e.g. a jagged object in the borehole
20 impacting the pipe wall causing a degradation of the
21 wall strength." Do you see that?

22 A. Yes, sir.

23 Q. How often does that happen?

24 A. I don't know that I can give you an
25 occurrence rate, but we have seen that.

1 Q. And you don't know how often that happens?

2 A. Not with the amount of pipe we put in.

3 Q. Is the pipe designed to withstand jagged
4 objects in the borehole impacting the pipe wall causing
5 the degradation of the wall strength?

6 A. Up to a certain percentage.

7 Q. Okay. Explain that to me.

8 A. So the allowable gouge depth for our
9 product or PVC in general is 10 percent of the wall
10 thickness.

11 Q. How thick is the wall?

12 A. I don't know specifically off the top of my
13 head for this product.

14 Q. Can you give me a general idea how thick it
15 is?

16 A. I could just generally say maybe 1 inch to
17 maybe -- I don't know. 1 inch I would say, generally.

18 Q. So if it's 1 inch, what you all have is a
19 10 percent, so a 10th of an inch?

20 A. If it was based on an inch, but yeah. I
21 believe it's sightly over one inch wall thickness.

22 Q. All right. And then it says "a jagged
23 object" -- does Underground Solutions have any evidence
24 that a jagged object caused this failure?

25 A. That, I don't know.

1 Q. What about -- and then it says "potential
2 over-bending"?

3 A. And your question?

4 Q. Do you have any evidence there was
5 potential over-bending?

6 A. I don't believe so.

7 Q. What is potential over-bending?

8 A. It could be -- over-bending in general
9 would be exceeding the radius of our pipe into a
10 failure mode.

11 Q. Would that be the same issue as a
12 deflection?

13 A. No, that is not.

14 Q. Something different?

15 A. Correct.

16 Q. And you don't know as you sit here today
17 whether there's any evidence of that?

18 A. I mean, the letter states that we confirmed
19 that the bending radius of the pipe was not exceeded
20 during installation. So, I would say that the bending
21 radius during the installation we are familiar with.

22 Q. You're okay with?

23 A. Yes.

24 Q. If a jagged object punched a whole more
25 than 10 percent in the wall of the pipe, would

1 Underground Solutions take the position that that's a
2 misuse of its product?

3 MR. GARRAUX: Object to the form.

4 **A. I don't know that Underground Solutions**
5 **would classify it as a misuse more than it needs to be**
6 **removed and corrected.**

7 Q. Okay.

8 **A. Yeah.**

9 Q. So Underground Solutions would not take the
10 position that that's a misuse of its product?

11 **A. I guess it would depend on how it occurred**
12 **in my opinion.**

13 Q. Meaning, if it was intentional as compared
14 to just a rock?

15 **A. Right. Or if like I mentioned earlier, if**
16 **a loader gets in there to unload the pipe and hits it,**
17 **then that would clearly be a misuse. Whether**
18 **intentional or unintentional would be a misuse.**

19 Q. And if the jagged object were in the actual
20 bore itself, would Underground Solutions take the
21 position that that was a misuse?

22 **A. That, I don't know.**

23 Q. Okay. And we discussed potential
24 over-bending. It's your position in this case that
25 there wasn't any over-bending, correct?

1 **A.** **At least not in the bending radius during**
2 **the bore.**

3 **Q.** And it says "Or a high stress condition
4 imposed on material during fusion or in preparation for
5 installation," do you see that?

6 **A.** **Yes.**

7 **Q.** Does Underground Solutions have any
8 evidence that there was a high stress condition imposed
9 on material during fusion?

10 **A.** **That, I don't know?**

11 **Q.** Well, it says you all have reviewed the
12 fusion records for the pipe and didn't see any
13 anomalies, correct?

14 **A.** **That's correct.**

15 **Q.** Then it says "A high stress condition
16 imposed on the material in preparation for
17 installation." Does Underground Solutions have any
18 evidence on that?

19 **A.** **That, I don't know.**

20 **Q.** And would Underground Solutions take the
21 position that a high stress condition imposed on the
22 material during fusion would be a misuse of its
23 product?

24 **A.** **That, I don't know.**

25 **Q.** And would Underground Solutions take the

1 position that a high stress condition imposed on the
2 material in preparation for installation would be a
3 misuse of its product?

4 **A. That, I don't know either.**

5 Q. And who would know that?

6 **A. I would say if I were -- I would say Tom**
7 **Marti, Eric Davis. I don't really understand kind of**
8 **maybe the terminology that's here that's used for**
9 **stress during fusion. I don't really understand what**
10 **that is. Maybe if I understood more detail of what**
11 **stresses we're talking about --**

12 Q. You're talking about Mr. Davis'
13 terminology?

14 **A. Yes.**

15 Q. And you, sir, are the feasibility guy on
16 the front end of project, right?

17 **A. That's correct.**

18 Q. Do you ever have to have conversation with
19 contractors about what would constitute a misuse of the
20 product?

21 **A. Yes.**

22 Q. What type of things do you tell them?

23 **A. It would be handling issues as far as**
24 **unloading pipe from a truck. It would be staging**
25 **issues of the pipe. It would be stringing of the pipe.**

1 Not using rollers, pulling across the ground. It could
2 be testing procedures. Cutting the pipe. Improper
3 tapping procedures. Not using the right tapping tool.
4 There's lots of misuse.

5 Q. And is it fair to say that Underground
6 Solutions as it sits here today doesn't have any
7 evidence that there was a misuse of this pipe that led
8 to the failure?

9 A. I would say that's correct.

10 Q. Okay. You said as to Number 15, which is
11 "Each and every instance in which you contend the plan
12 specifications deviated from normal and customary
13 practice in the industry at the time the work was
14 accomplished," you aren't sure if you knew about that?

15 A. Correct, I'm not.

16 Q. So you're not going to testify to that?

17 A. I don't guess I know -- not knowing what
18 the question would be if I could even answer the
19 questions.

20 Q. Okay. Let me ask it this way: Have you
21 reviewed the plans and specifications for this project?

22 A. I have not.

23 Q. So you wouldn't be able to offer any
24 information on whether or not the plans and
25 specifications that you haven't reviewed deviated from

1 normal and customary practice in the industry at the
2 time?

3 **A. I guess that would be correct.**

4 Q. So we can take that one off your list,
5 right?

6 **A. Yes, sir.**

7 Q. All right. Number 4, "A detailed account
8 of the specifications or design documents used for the
9 design of the 20 inch DR 21 FPVC pipe as well as
10 component parts, materials, fusion machines and tools
11 installed at the property which is the subject of this
12 action."

13 You said you weren't sure about that.
14 What were you unsure about?

15 **A. Well, when you talk about fusion machines,**
16 **of course, fusion machines are an operational-type of**
17 **process. So, I guess understanding that -- the way I**
18 **read it, of the fusion machines being installed at the**
19 **property, well, fusion machines aren't installed.**

20 Q. So your testimony would be limited to
21 fusion machines; that's what you know about?

22 **A. Potentially, yes.**

23 Q. And the fusion machine that was used, was
24 that an Underground Solutions fusion machine?

25 **A. That, I don't know.**

1 Q. And the operator was an Underground
2 Solutions employee?

3 A. Yes.

4 Q. And based upon Underground Solutions'
5 investigation and review of those logs, you all didn't
6 see any problem with the fusion of the pipe itself?

7 A. That's correct.

8 Q. It says "Any and all communication with any
9 representative of R.H. Moore & Company, Inc.," you said
10 you're prepared to testify about that?

11 A. Yes.

12 Q. Who did you speak with on this project? I
13 know we talked about Mr. Thornton on another project on
14 Johns Island. You said you didn't talk with Mr.
15 Thornton on this project. Who did you speak with on
16 this project?

17 A. It would have been Joe, Burgess or Burris.

18 Q. Bailess (ph)?

19 A. Bailess, thank you.

20 Q. And on what occasion did you have to talk
21 to Mr. Bailess?

22 A. When I was on site for the 300 foot
23 installation that had the bullet hole in it.

24 Q. Okay. So you didn't talk to anyone on
25 behalf of R.H. Moore relative to the 1,900 foot

1 section?

2 A. Joe and I did have discussions in general,
3 a few comments that were made about that.

4 Q. Okay. Comments made by you or comments
5 made by Joe?

6 A. Comments made by Joe.

7 Q. And what were those comments relative to
8 the 1,900 square foot section?

9 A. So, Joe made the comment to me, the 300
10 foot section had a bullet hole in it, what we assumed
11 to be a bullet hole. And, actually, while I was on
12 site I noticed his equipment, one of the excavators had
13 a bullet hole in one of the panels as well, and in
14 discussion about that damage, he said -- he told me
15 directly that that had been an occurrence out there
16 before.

17 Q. Out where?

18 A. On that project site.

19 Q. That what had been an occurrence?

20 A. This vandalism, as I would refer to it as
21 "vandalism".

22 Q. Specific to bullet holes?

23 A. Yes. That's how I interpreted that from
24 him.

25 Q. Any other comments?

1 A. His comment to me was that he was not
2 surprised that the pipe failed; it could have been an
3 incident with a bullet hole. And I kind of took that
4 strange at the moment because we had already been
5 dealing with this.

6 Q. You're talking about the 300 foot section?

7 A. He was referring to the 1,900 foot section,
8 that he wouldn't be surprised if that had been shot at
9 as well.

10 Q. Are you familiar with the testing procedure
11 that was used and how they did it after the
12 installation of the 1,900?

13 A. I am familiar with how they -- well, I'm
14 familiar with how they tested the pipe from a testing
15 standpoint, a pressure testing standpoint. I'm
16 familiar with the investigation that occurred
17 afterwards, yes.

18 Q. And the testing that they did, you're
19 talking about the testing that was done on the 1,900
20 foot section prior to failure, correct?

21 A. That is correct.

22 Q. And that testing, what is your
23 understanding of how they did that?

24 A. I understood that they had done a
25 hydrostatic pressure test on the line.

1 Q. And Underground Solutions knew they were
2 going to do that hydrostatic pressure test, correct?

3 A. That, I don't know actually.

4 Q. Okay. And do you understand how the hydro-
5 static pressure test was done?

6 A. I don't know specifically how they
7 performed it on this as far as how much pipe was
8 included, et cetera.

9 Q. But just the means and methods of the test
10 itself, how it was done?

11 A. I understand means and methods of hydro-
12 static pressure testing, yes, sir.

13 Q. How was it done, regardless of the length
14 of pipe they did it on? How was it done, do you know?

15 A. I don't know the actual pressure or
16 duration for this. I know in general what standards
17 are out there for pressure testing.

18 Q. Do you have any information that those
19 standards were deviate from in this instance?

20 A. I don't know that.

21 Q. And do you know whether or not the testing
22 was done in stages?

23 A. That, I don't know either.

24 Q. Okay. Is that appropriate in your mind to
25 do the testing in stages; bring it up to a certain

1 pressure and let it sit, bring it up to the next

2 pressure --

3 **A.** You're talking about the stages -- no. If
4 you're talking about stages as far as pressure stages,
5 I would say no. I'm considering line stages, like mile
6 here, mile there, mile --

7 **Q.** Why would you say, no, that bringing it up
8 to certain pressures would be inappropriate in stages?

9 **A.** I'm not saying it's inappropriate, I'm just
10 saying I don't know that it's necessary.

11 **Q.** And you don't know whether they did that or
12 not?

13 **A.** I don't know whether they did that or not.

14 **Q.** Do you know with the way that they tested
15 it whether or not there could have been a bullet hole
16 in it at the time of installation?

17 **A.** No, I don't know that.

18 **Q.** Okay. Well, then all you know as you sit
19 here today is it didn't pass the test?

20 **A.** That's correct

21 **Q.** And it's fair to say that Underground
22 Solutions knew that that test was going to be performed
23 and certain test pressures were going to have to be
24 met, correct?

25 **A.** I don't know that we knew when the test was

1 going to be performed, but I would say that we
2 potentially would have known that there was a test
3 within the specifications.

4 Q. Sure. But there was a test that was going
5 to be performed?

6 A. Yes.

7 Q. And that the pipe, as installed, was going
8 to have to meet that test?

9 A. Absolutely.

10 Q. And Underground Solutions thought it was
11 going to meet that test, correct?

12 A. Yes, our pipe should meet that test.

13 Q. Sure. And sold the pipe where everybody
14 thought it was going to meet that test, correct?

15 A. Correct.

16 Q. I mean, that was one of the representations
17 made in selling the pipe, right?

18 A. Yes, correct. It has a pressure class,
19 yes.

20 Q. And That's what you do when you talk about
21 feasibility, correct?

22 A. That is correct.

23 Q. Okay.

24 MR. MCDONALD: Why don't we take
25 another short break.

1 (Whereupon, a short recess
2 was taken.)

3 BY MR. MCDONALD:

4 Q. All right, sir. Just wrapping up with you.
5 We discussed on this project you had some discussions
6 with Mr. Bailess. We talked about those discussions.
7 Any other discussions you had with any other employees
8 of R.H. Moore?

9 A. I did field people, but nothing that I
10 could recollect of importance.

11 Q. So just kind of "Hello, how are you doing?,
12 since they're on site, you're on site?

13 A. Yeah, or just general discussions about the
14 300 foot installation.

15 Q. Nothing related to the 1,900 foot?

16 A. No, just only with Joe on the 1,900 foot.

17 Q. And that was the discussion we talked about
18 earlier?

19 A. Yes.

20 Q. Nothing else?

21 A. Nothing else.

22 Q. Okay. Did you ever have any discussions
23 with anybody from USA, the installer?

24 A. No.

25 MR. MCDONALD: All right, sir. On

Bradley S. King

67

1 those topics, that's all I have for you. Thank you
2 very much.

3 MS. GRAHAM: No questions from me.

4 CROSS-EXAMINATION

5 BY MR. NEWBERRY:

6 Q. Mr. King, my name is Derek Newberry. I
7 represent B.P. Barber, now known as URS Corporation,
8 now known as AECOM in this case. I just have a few
9 questions. First of all, I cross-noticed your
10 deposition.

11 MR. NEWBERRY: If you could mark
12 this, please?

13 (Whereupon, Exhibit 4 was
14 marked for identification.)

15 BY MR. NEWBERRY:

16 Q. You've just been handed what we've marked
17 as Exhibit 4, which is my cross-notice for your
18 deposition today. Have you seen that document before?

19 A. **I have seen the Exhibit A portion of this.**

20 Q. Okay. Which of the topics listed in
21 Exhibit A are you prepared to testify about today?

22 A. **I believe that would be 5, Number 6, Number**
23 **7, and Number 8.**

24 Q. Can I see that?

25 A. **Sorry.**

1 MR. MCDONALD: I'm sorry. He said
2 5, 6, 7 and 8?

3 MR. NEWBERRY: Yes.

4 BY MR. NEWBERRY:

5 Q. Tell me what your understanding is of URS'
6 role with regard to the piping installation you're here
7 to testify about?

8 A. My understanding is that they were the
9 design engineer for the Dorchester County project.

10 Q. Do you have any knowledge of any
11 communications between Underground Solutions and URS
12 during the project, or is that something Mr. Shepherd
13 would be better able to address?

14 A. Definitely, Mr. Shepherd would be able to
15 address that.

16 Q. I understand you have not reviewed the
17 plans and specifications, is that correct?

18 A. That's correct.

19 Q. And you said you're not here to testify
20 about Number 9, which is "Any and all criticisms and
21 opinions that Underground Solutions has of URS' work,"
22 is that right?

23 A. That's correct.

24 Q. Are you a licensed engineer?

25 A. I am not.

1 Q. Do you consider yourself an expert in
2 engineering?

3 A. I would say no.

4 Q. And my understanding from your testimony
5 earlier is that sitting here today on behalf of
6 Underground Solutions, it's your testimony that
7 Underground Solutions has not determined what the cause
8 or most likely cause of the piping failure was with
9 regard to the 1,900 foot section installed under the
10 Ashley River, is that right?

11 A. That is correct.

12 Q. Now, you talked a little bit about this 8
13 percent deflection that is mentioned in Exhibit 3. I
14 believe you still have that in front of you?

15 A. Yes, sir.

16 Q. From what I understanding from your
17 testimony earlier is that you cannot say sitting here
18 today whether that 8 percent potential deflection is,
19 in fact, a deviation from Underground Solutions'
20 requirements or recommendations because you do not know
21 the condition of the soil, and, therefore, cannot
22 determine the loads that would have been imposed
23 vertically on the pipe as a result of the soil, is that
24 right?

25 A. That's correct.

1 Q. Now, Plaintiff's experts have testified
2 that in their opinion the access depth would not and
3 did not cause the failure, and that's based on their
4 understanding of the soil characteristics with regard
5 to the Cooper marl, which is the soil we have here.

6 Do you have any opinion here today or any
7 reason to question the opinion of Plaintiff's experts
8 or dispute it?

9 A. **Not on the deflection, no, sir.**

10 Q. Now, in Exhibit 3, this is the letter from
11 Mr. Davis?

12 A. **Yes, sir.**

13 Q. Now in this letter, as Mr. McDonald
14 discussed with you, it says that at the depth in which
15 the pipe was installed it is, quote, "possible that the
16 pipe could have been subjected to vertical loading from
17 the soil above," correct?

18 A. **That's correct.**

19 Q. Do you have any reason sitting here today
20 to question whether the use of the word "possible" was
21 appropriate in this letter? Let me rephrase that:

22 Sitting here today is it UGS's position
23 still that it was just a possibility that vertical
24 loading could have been imposed on the pipe as opposed
25 to some probability or certainty?

1 **A. Yes, that's correct. It's just a**
2 **possibility.**

3 **Q. And you mentioned some other folks with**
4 **Underground Solutions who might know a little bit more**
5 **about the last sentence in that paragraph I just read**
6 **from that says "While this increased depth is not**
7 **necessarily the cause of the pipeline failure, it could**
8 **have contributed to or exacerbated the failure."**

9 Do you sitting here today have any reason
10 to believe that those other folks you identified are
11 going to -- or intend to testify in opposite to
12 anything that's said in this paragraph?

13 **A. I don't have any reason to think that they**
14 **would or wouldn't.**

15 **Q. So you haven't talked to them and said, do**
16 **you still believe it's a mere possibility that vertical**
17 **loads were imposed on the piping?**

18 **A. Right, I have not talked to them.**

19 **Q. And it's my understanding from this letter,**
20 **and correct me if I'm wrong, that that last sentence**
21 **where it talked about whether the excess depth could**
22 **have contributed or exacerbated the failure, that**
23 **that's just a mere possibility as well, right?**

24 **A. Correct, yes.**

25 **Q. Because we don't know if vertical loads**

1 were, in fact, imposed on this pipe because you don't
2 know the condition of the soils?

3 **A. Correct. We do not know what caused the**
4 **failure.**

5 Q. And because you don't know whether vertical
6 loads were imposed on the pipe as a result of the
7 condition of the soils, you can't say whether or not
8 the excess depth contributed to or exacerbated the
9 failure, right?

10 **A. It would just be a possibility.**

11 Q. Can you say that it's any more of a
12 possibility that any of the other conditions listed in
13 the next paragraph in this letter, such as the point
14 load source, potential over-bending, or high stress
15 condition imposed on the materials during fusion?

16 **A. I would say that all are just as possible**
17 **as the other.**

18 Q. They're all equally possible?

19 **A. I would say so, yes.**

20 Q. All right. You said that it's your
21 understanding that Underground Solutions was not
22 involved with the decision to install the pipe at the
23 52 foot depth, is that right?

24 **A. That's my understanding, yes.**

25 Q. Who did you talk to, and I'm not asking

1 about conversations in the presence of your lawyer, but
2 what did you do to evaluate whether or not Underground
3 Solutions was involved in the decision to install the
4 pipe at the depth it ultimately was installed?

5 **A. My review came through talking with the**
6 **other construction manager that was involved in the**
7 **project.**

8 **Q. Who was that?**

9 **A. Eric Nickelson.**

10 **Q. And what did Eric Nickelson tell you**
11 **specifically with regard to whether Underground**
12 **Solutions was involved with the installation of the**
13 **pipe at the 52 foot depth?**

14 **A. Just once I was made aware of the depth of**
15 **the installation during this Notice of Deposition, that**
16 **I asked him specifically if we knew of any changes**
17 **prior, and his comment to me was that we had not.**

18 **Q. Do you -- and tell me if this is better**
19 **directed to Mr. Shepherd: Were you aware or was**
20 **Underground Solutions aware of a potential issue with**
21 **an existing line that was under the Ashley River; do**
22 **you know if Underground Solutions was aware of that**
23 **during the project?**

24 **A. I'm not familiar with it, no.**

25 **Q. And I'm not familiar with horizontal**

1 directional drilling, but if a pipe was being installed
2 at a depth of 52 feet as opposed to a depth of 32 feet,
3 is that something that's visually apparent by looking
4 at the machine and watching the pipe go in, or how can
5 you tell what depth it's going to?

6 A. Through the locating equipment, and I'm not
7 familiar if this was wire-line navigated or this was a
8 walk-over navigation, but both locating devices,
9 whether it be a walk-over navigator or a wire-line
10 navigator would be able to tell you the depth of the
11 installation.

12 Q. So is there like a monitor on the machine
13 saying here's the depth we're at currently?

14 A. Depending on the device. In a walk-over
15 detection system, the drill cab could have, and most
16 likely would have to have a digital read-out for them
17 to be able to steer to -- I call it the locator that's
18 running the walk-over device itself. He's the guy
19 taking the readings and giving direction to the
20 operator and steering direction.

21 If this was a wire-line, which I don't
22 know which process was used; if this was a wire-line
23 navigation system, this would have been just a single
24 guy saying -- with a laptop pretty much getting the
25 readings back to him and still giving the operator

1 steering direction to a monitor that would just merely
2 have azimuth and pitch, but that monitor would not give
3 depth. The laptop -- the, what I call the steering
4 hand and wire line, he would have the depth readings.

5 Q. So somebody who's driving the drill or
6 pulling the pipe is keeping tabs on how deep they're
7 going, right?

8 A. Between the -- I would say in the walk-over
9 navigation system the locateor you would hope is taking
10 written indications of his depth and pitch changes, and
11 in a wire-line navigation system, that would all be
12 sent directly to the computer.

13 Q. Okay.

14 A. Now we're in my field.

15 Q. Do you know whether Underground Solutions
16 reviewed URS' design documents before the project, or
17 is that something Mr. Shepherd could address?

18 A. I would say Mr. Shepherd could address
19 that.

20 Q. You just know you personally didn't or was
21 involved in it?

22 A. I was not personally.

23 MR. NEWBERRY: I think that's all I
24 have. I might have another question or two here in a
25 few minutes, but I appreciate your time.

1 MR. BLANKENSHIP: I don't have any
2 questions.

3 MR. FRAMPTON: None.

4 MR. MCDONALD: I just have a couple
5 of follow-ups.

6 REDIRECT EXAMINATION

7 BY MR. MCDONALD:

8 Q. Were you involved -- is it your
9 understanding that there was -- after the failure there
10 was new piping sent out there by Underground Solutions?

11 A. **I believe, yes, new pipe was sent out.**

12 Q. Were you involved in that decision or that
13 process?

14 A. **I was not.**

15 Q. Who was?

16 A. **That, I don't know.**

17 Q. Do you know whether any contracts were
18 signed for that?

19 A. **That, I don't know.**

20 Q. Do you know whether there were any invoices
21 sent for it?

22 A. **That, I don't know.**

23 MR. MCDONALD: All right. That's
24 all I have.

25 (The deposition was concluded at 11:47 a.m.)

1 CERTIFICATE OF REPORTER

2

3 STATE OF SOUTH CAROLINA)

4 COUNTY OF CHARLESTON)

5 I, Douglas K. Liperote, the officer before
6 whom the foregoing deposition was taken, do hereby
7 certify that the witness whose testimony appears in the
8 foregoing deposition was duly sworn by me; that the
9 testimony of said witness was taken by me to the best
10 of my ability and thereafter reduced to typewriting
11 under my direction; that I am neither counsel for,
12 related to, nor employed by any of the parties to the
13 action in which this deposition was taken, and further
14 that I am not a relative or employee of any attorney or
15 counsel employed by the parties thereto, nor
16 financially or otherwise interested in the outcome of
17 the action.

18

19 _____ Date _____

20 Douglas K. Liperote

21 Notary Public in and for the

22 County of Charleston

23 State of South Carolina

24

25 My commission expires August 15, 2015.

STATE OF SOUTH CAROLINA) IN THE COURT OF COMMON PLEAS
COUNTY OF DORCHESTER) FIRST JUDICIAL CIRCUIT
) CASE NO.: 2012-CP-18-2001

R. H. Moore Company, Inc.)

Plaintiff,)

v.)

AFFIDAVIT OF
HENRY MOORE

Knight's Precast, Inc., Tobias & West, LLC,)
Eric W. Tobias, P.E., Dorchester County)
Water and Sewer Department, Underground)
Solutions, Inc., B.P. Barber Associates, Inc.)
n/k/a URS Corporation and Utility Services)
Authority, LLC)

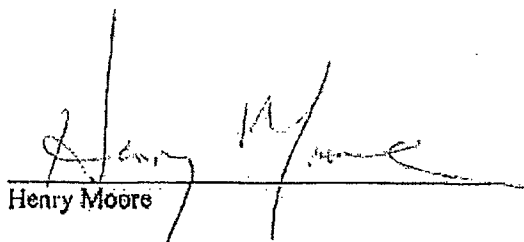
Defendant.)

PERSONALLY appeared before me, Henry Moore, who, after being duly sworn, deposes,
and says:

1. I am over eighteen years of age and am fully competent to testify to the matters stated in this Affidavit.
2. I am Henry Moore, President of R.H. Moore Company, Inc.
3. Attached to this affidavit as Exhibit A is a true and correct copy of Sections 02781 and 02723 from the Contract Documents and Specifications for Wastewater System Improvements for Dorchester County Water and Sewer Department for the Pump Station No. 67 Upgrade and New 20" Force Main ("Project").
4. Attached to this affidavit as Exhibit B is a true and correct copy of Section 0700 from the Contract Documents and Specifications for Wastewater System Improvements for Dorchester County Water and Sewer Department for the Pump Station No. 67 Upgrade and New 20" Force Main ("Project").
5. Attached to this affidavit as Exhibit C is a true and correct copy of the contract between R.H. Moore Company, Inc. and Utility Services Authority, LLC for the Project.
6. Attached as Exhibit D to this affidavit is a true and correct copy of the Estimate

Summary and Payment Applications related to the work performed by Utility Services Authority, LLC for the Project.

FURTHER AFFIANT SAYETH NOT.


Henry Moore

SWORN TO before me this 14th
day of April, 2015.

 (SEAL)
Notary Public for South Carolina
My Commission Expires: Oct. 7, 2020

EXHIBIT A

SECTION 02781

HORIZONTAL DIRECTIONAL DRILLING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Furnish and install underground utilities using the horizontal directional drilling (HDD) method of installation of pipe, commonly referred to as directional boring or guided horizontal boring. This work includes all services, equipment, materials, and labor necessary for a complete and proper installation, testing, restoration of underground utilities, environmental protection and restoration.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Section 02723 - Sewers: Sanitary, Pressure.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Requirements set forth in this document specify a wide range of procedural precautions necessary to ensure that the very basic, essential aspects of a proper directional bore installation are adequately controlled. Strict adherence is required under specifically covered conditions outlined in these specifications. Adherence to these specifications or the Engineer's approval of any aspect of any directional bore operation in no way relieves the Contractor of their ultimate responsibility for the satisfactory completion of the work authorized under the Contract.
- C. Fusion Technician Requirements:
 - 1. PVC Fusion Technician shall be fully certified by the pipe supplier to fuse fusible polyvinylchloride pipe of the type(s) and size(s) being used. Certification shall be current as of the actual date of fusion performance on the project.
 - 2. HDPE Fusion Technician shall be fully certified by the pipe or fusion equipment supplier being used. Certification shall be current as of the actual date of fusion performance on the project.
 - 3. PVC and HDPE Fusion Technicians shall employ a datalogger during fusion. All data shall be logged and made available to the engineer on the jobsite or at any other time, as requested.
- D. Qualifications - Contractor or sub-contractor performing the work in this Section shall meet the following minimum qualifications - 3 projects within the last 5 years, minimum diameter of 18", minimum length of 1,000 LF and must be of HDPE or FPVC pipe by HDD. Submit project name, location and Owners contact information. Written approval from the owner Dorchester County Water & Sewer Department will be required prior to beginning any portion of the work related to the HDD.

ADDENDUM NO. 1

HORIZONTAL DIRECTIONAL DRILLING
02781-1

06304

RH Moore002063

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
- C. Work plan: Prior to beginning work, Contractor must submit to the Engineer a work plan detailing the procedure and schedule to be used to execute the project. The work plan should be based on actual working conditions for this particular project and include the following:
 - 1. Description of all equipment to be used, down-hole tools, a list of personnel and their qualifications and experience, list of subcontractors, and a schedule of work activity.
 - 2. Safety plan.
 - 3. Traffic control plan (if applicable).
 - 4. Environmental protection plan.
 - 5. Contingency plans for possible problems.
- D. Equipment: Contractor will submit specifications on directional drilling equipment to be used to ensure that the equipment is adequate to complete the project. Equipment shall include, but not be limited to, the following:
 - 1. Drilling rig.
 - 2. Mud system.
 - 3. Mud motors (if applicable).
 - 4. Down-hole tools.
 - 5. Guidance system.
 - 6. Rig safety systems.
 - 7. Calibration records for guidance equipment.
 - 8. Specifications for any drilling fluid additives that might be used.
- E. Material: Submit to Engineer specifications on any materials such as pipe, fittings or any other item to be an installed component of the project.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.
- B. Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected as unsuitable for installation.
- C. Any scratch or damage to the outside coating of steel pipe must be repaired in accordance with the pipe manufacturer's recommendation.

PART 2 - EQUIPMENT REQUIREMENTS

2.1 GENERAL

- A. Directional drilling equipment to consist of the following:
 - 1. Directional drilling rig of sufficient capacity to perform the bore and pull-back the pipe.

2. Drilling fluid mixing, delivery and recovery system of sufficient capacity to successfully complete the crossing.
3. Drilling fluid recycling system to remove solids from the drilling fluid so that the fluid can be re-used.
4. Guidance system to accurately guide boring operations.
5. Vacuum truck of sufficient capacity to handle the drilling fluid volume.
6. Trained and competent personnel to operate the system.
7. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.

2.2 DRILLING SYSTEM

A. Drilling rig:

1. Hydraulically powered system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable drill (bore) head.
 - a. Anchor the machine to the ground to withstand the pulling, pushing and rotating pressure required to complete the crossing.
 - b. Hydraulic power system to be self-contained with sufficient pressure and volume to power drilling operations and to be free of leaks.
2. Rig to have a system to monitor and record maximum pull-back pressure during pull-back operations.
3. Electrically ground the rig during drilling and pull-back operations.

B. Construct drill pipe of high quality 4130 seamless tubing, Grade D, or better, with threaded box and pins. Tool joints should be hardened to 32-36 RC.

2.3 GUIDANCE SYSTEM

A. Provide a guidance system of a proven, accurate type with an interface meeting the following requirements:

1. Must provide a continuous and accurate determination of the location of the drill head during the drilling operation.
2. Must be capable of tracking at all depths up to 100' in any soil condition (including hard rock).
3. Probe must provide immediate information on the tool face, azimuth (horizontal direction) and inclination (vertical direction) and must be accurate to $\pm 2\%$ of the vertical depth of the bore hole at sensing position at depths up to 100' and accurate within 1.5 meters horizontally.
4. System must be setup and operated by personnel trained and experienced. Operator must be aware of any geo-magnetic anomalies and must consider such influences in the operation of the guidance system if using a magnetic system.

2.4 DRILLING FLUID (MUD) SYSTEM

A. Mixing system:

1. Provide self-contained, closed drilling fluid mixing system of sufficient size to mix and deliver drilling fluid composed of bentonite clay, potable water and appropriate additives.
2. Mixing system must be able to molecularly shear individual bentonite particles from the dry powder to avoid clumping and ensure thorough mixing.
3. System to continually agitate the drilling fluid during drilling operations.

B. Fluids:

1. Fluid to be composed of clean water, bentonite clay and approved additives.
2. Use water from an authorized source with a pH of 8.5 - 10.
3. Water of a lower pH or with excessive calcium to be treated with the appropriate amount of sodium carbonate, or equal.
4. Mix water and bentonite clay thoroughly, absent of any clumps or clods.
5. No additional material may be used in drilling fluid without prior approval from the Engineer.

2.5 OTHER EQUIPMENT

A. Pipe rollers:

1. Provide pipe rollers of sufficient size to fully support the weight of the pipe while being hydro-tested and during pull-back operations.
2. Provide a sufficient number of rollers to prevent excess sagging of pipe.

B. Fusion equipment to be used must be approved by the pipe manufacturer as appropriate for joining the supplied pipe.

2.6 PIPE

A. Polyethylene (PE) pipe:

1. Comply with AWWA C-906, DR 11, ID to match pipe size called for and working pressure of **160 psi**. Pipe OD shall be DIPS.
2. Provide SDR high performance, high molecular weight, high density polyethylene pipe, and shall conform to ASTM D 1248 (Type III C, Category 5, P34).
3. Minimum cell classifications values shall be 345434C as referenced in ASTM D 3350 - latest edition.
4. Provide fittings molded or manufactured from a polyethylene compound having a cell classification equal to or exceeding the compound used in the pipe.
5. All fittings supplied under this to be of the same manufacture as the pipe being supplied.
6. Physical properties:

Property	Test Method	Unit	Value
Density	ASTM Method	gms/cc	0.955
Melt Index	ASTM D-1238 (190/2.16)	gms/10 min	

Environmental Stress Cracking Resistance:

Condition A, B, & C, F-0	ASTM D 1693	hrs	>5000**
Compressed Ring, F-60	ASTM F 1248	hrs	>1500
Tensile Strength, Yield	ASTM D 638	psi	3200
Type IV Specimen	(2"/min)		
Elongation at Break	ASTM D 638	%	>750
Type IV Specimen	(2"/min)		
Victate Softening Temp	ASTM D 1525	°F	257
Brittleness Temp	ASTM D 746	°F	<-180
Flexural Modulus	ASTM D 790	psi	135,000
Modulus of Elasticity	ASTM D 638	psi	130,000
Hardness	ASTM D 2240	Shore D	65
Linear Thermal Expansion Coef.	ASTM D 696	in./in./°F	1.2x10-4

ADDENDUM NO. 1

HORIZONTAL DIRECTIONAL DRILLING
02781-4

06394

RH Moore002068

Thermal Conductivity

Dynatech-Colora BTU,
In./Thermoconductor
ft./2hrs/°F

2.7

Long Term Strength:

73° F	ASTM D 2837	psi	1600
UV Stabilizer	ASTM D 1603	%C	2.5
Material Cell Classification	ASTM D 1248		345434C
Material Description	PPI Recommendation		PE 3408
Design Factor	AWWA C906		0.50

7. Quality control:

a. Resin:

- 1) Manufactured by the pipe manufacturer, thus maintaining complete control of the pipe quality.
- 2) All ingredients pre-compound prior to extrusion of pipe, in plant blending is not acceptable.

b. Pipe:

- 1) The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material.
- 2) The pipe shall be homogenous throughout and free of visible cracks, holes, foreign inclusions, or other deleterious defects and shall be identical in color, density, melt index, and other physical properties.

c. Testing:

- 1) Owner may request, as part of the quality control records submittal, certification that the pipe produced is represented by the quality assurance testing.
- 2) Test results from manufacturer's testing or random sampling by the Engineer that do not meet appropriate ASTM standards or manufacturer's representation, may be cause for rejection of pipe represented by the testing.
- 3) Tests to include density and flow rate measurements from samples taken at selected locations within the pipe wall and thermal stability determinations according to ASTM D 3350, 10.1.9.
- 4) Provide certified lab data to verify the physical properties of the materials supplied under this specification or may take random samples and have them tested by an independent laboratory.

8. Rejection: The Owner reserves the right to reject any polyethylene pipe and fittings failing to meet any of the requirements of this specification.

9. Pipe dimensions: Pipe supplied under this specification shall have a nominal DIP (ductile iron pipe) size O.D. unless otherwise specified. The DR (Dimension Ratio) of the pipe supplied shall be as specified.

10. Join sections of polyethylene pipe into continuous lengths on the job site above ground.

- a. Use the butt fusion method and shall be performed by the manufacturer's recommendations.
- b. Equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements, alignment, and fusion pressures.
- c. Prior approval of equipment and personnel shall be obtained before fusion begins.
- d. The completed pipe joints shall be guaranteed for five years in writing to the Owner and its Contractor.

ADDENDUM NO. 1

HORIZONTAL DIRECTIONAL DRILLING
02781-5

00394

RH Moore002067

11. Provide restrained joint mechanical joint adapters for each end of the P.E. pipeline.
 - a) Include any special end configuration and polyethylene ring to hold a standard mechanical joint.

B. Fusible Polyvinylchloride (PVC) Pipe:

1. Fusible polyvinylchloride pipe shall be used as manufactured under the trade names Fusible C-900™, Fusible C-905®, and FPVC™, for Underground Solutions, Inc., Poway, CA, (858) 679-9551. Fusion process shall be as patented by Underground Solutions, Inc., Poway, CA, Patent No. 6,982,051. Owner and Engineer are aware of no other supplier of fusible polyvinylchloride pipe that is an equal to this specified pipe supplier and product. Equal products and fusion processes by other suppliers will be considered if fully supporting documentation is submitted to and approved by the Engineer.
2. Provide PVC pipe with DR 21 and working pressure class of 200 psi. Pipe diameter shall be DIPS.
3. Fusible polyvinylchloride plastic material for pipe shall conform to AWWA C900 or C905, ASTM D1784, and cell classification 12454. Compound formulation shall be in accordance with PPI TR-2/2006.
4. Pipe shall be manufactured with 100% virgin resin. Pipe shall also have 0% recycled plastics content, and shall not consist of any rework compound, even that obtained from the manufacturer's own production using the same formulation.
5. Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and be free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
6. Fusible polyvinylchloride pipe shall be manufactured in a standard 20', 30', or 40' nominal length.
7. Fusible polyvinylchloride pipe for wastewater service shall be green in color and for non-potable water shall be green in color.
8. Pipe shall be marked per AWWA C900 or AWWA C905, and shall include as a minimum:
 - a. Nominal size
 - b. PVC
 - c. Dimension Ratio, Standard Dimension Ratio or Schedule
 - d. AWWA pressure class or rating
 - e. AWWA Standard designation number
 - f. NSF-61 mark verifying suitability for potable water service
 - g. Extrusion production-record code
 - h. Trademark or trade name
 - i. Cell classification 12454 and/or PVC material code 1120 may also be included.
9. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
10. Manufacturer requirements:
 - a. Fusible polyvinylchloride pipe shall be tested at the extrusion facility for properties required to meet all applicable parameters as outlined in AWWA C900, AWWA C905, and applicable sections of ASTM D2241. Testing priority shall be in conformance with AWWA C900 and AWWA C905.
11. Connections and fittings for pressure Applications:
 - a. Connections shall be defined in conjunction with the linking of project piping, as well as the tie-ins to other piping systems.
 - b. Ductile Iron Mechanical Fittings: Comply with Section 02723.
12. Pipe pull heads:
 - a. Pipe pulls heads shall be utilized that employ a positive through-bolt

ADDENDUM NO. 1

HORIZONTAL DIRECTIONAL DRILLING
02781-6

00394

RH Moore002068

design assuring a smooth wall against the pipe cross-section at all times.

- 1) Pipe pull heads shall be specifically designed for use with fusible polyvinylchloride pipe, and shall be as recommended by the pipe supplier

13. Delivery and off-loading:

- a. All pipes shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the Owner or Engineer.

- 1) Each pipe shipment should be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Notify Owner or Engineer immediately if more than immaterial damage is found.
- 2) Each pipe shipment should be checked for quantity and proper pipe size, color and type.
- 3) Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23.
- 4) A forklift with chisel forks shall be used to off-load the pipe. The fork chisel should be checked to be sure it is not thicker than the gap between the units of pipe strapped together for shipping and handling purposes. Extend forks to remove each top unit from the truck. When unloading 20' lengths, remove back units first. Do not run forks too far under the units, as fork ends striking adjacent units may cause damage. Insure that the forks are fully engaged. The 30' and 40' lengths are shipped in single length units. Because these are longer, the packages will flex or bend more than the 20' length units. If left bundled in units, unloading can be done with a single forklift so long as it is of sufficient capacity to handle the load. If sag exceeds recommendation (see the table below as to allowable sag), then each piece of pipe should be unloaded individually. The forks should be placed as far apart as possible to provide support to the unit. When unloading individual pieces of pipe, the pipe should be supported at approximately the 1/3 point measured from each end of the pipe.

Sag in Pipe Lengths during Unloading and Moving

Nom. Pipe Size (DIPS)	Segment Height (Sag)	
	30' Length (Inches)	40' Length (Inches)
4	23 1/2	13
6	16 1/2	9
8	12 1/2	7
10	10	5 1/2
12	8 1/2	4 1/2

Nom. Pipe Size (IPS)	Segment Height (Sag)	
	30' Length (Inches)	40' Length (Inches)
3	18	32 1/2
4	14	25 1/2
6	9 1/2	17
8	7 1/2	13
10	6	10 1/2
12	5	9

- 5) Sag is the measurement of the pipe ends relative to the pipe center. With a pipe raised on the forklift, a string line can be pulled from the bottom of one end of the pipe to the bottom of the other end of the pipe. The distance in the center from the string to the bottom of the pipe is the sag.
- 6) If a forklift is not available, a spreader bar with fabric straps

ADDENDUM NO. 1

HORIZONTAL DIRECTIONAL DRILLING
02781-7

02394

RH Moore002069

capable of handling the load should be used. Recommended lift points when using fabric slings are at the point approximately 1/3 of the length measured from each end of the unit.

- 7) Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.
- 8) During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.
- 9) If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to insure that pipe is not dropped or damaged.
- 10) Pipe should be carefully lowered, not dropped, from trucks.
- 11) In preparation for pipe installation, placement of pipe should be as close to the fusion area as practical.

14. Handling and storage:

- 1) Any length of pipe showing a crack or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the acceptable length of pipe shall be determined by the Owner or Engineer.
- 2) Any scratch or gouge greater than 10% of the wall thickness will be considered significant and can be rejected unless determined acceptable by the Owner or Engineer.
- 3) Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.
- 4) Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way. Use of hooks, chains, wire rope or any other handling device which creates the opportunity to damage the surface of the pipe is strictly prohibited.
- 5) After delivery to the project site, fusible polyvinylchloride pipe shall be stored at ambient temperature and protected from ultraviolet light degradation. If pipe is to be stored for periods of 6 months or longer, the pipe must be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.
- 6) Racks or dunnage to prevent damage to the bottom of the pipe during storage should support the pipe lengths. Supports should be spaced to prevent pipe bending and deformation. The pipe shall be stored in stacks no higher than that given in the following table:

Pipe Diameter (inches)	Max. No. of Rows Stacked
8 or less	5
12 to 21	4

15. Tapping for potable and non-potable water applications:
 - a. Tapping shall be performed using standard tapping saddles designed for use on PVC piping in accordance with AWWA C605. Tapping shall be performed only with use of tap saddles or sleeves. NO DIRECT TAPPING WILL BE PERMITTED. Tapping shall be performed in accordance with the applicable sections for Saddle Tapping per Uni-Pub-8.
 - b. Tapping sizes shall be limited to the following maximum diameters for the nominal pipe diameters as indicated below:
 - 1) Nominal pipe diameters 14" and under in size shall be limited to a maximum tapping diameter of 1".
 - c. All other connections requiring a larger diameter shall be made with a pipe connection as specified and indicated on the drawings.
 - d. Equipment used for tapping shall be made specifically for tapping PVC pipe:
 - 1) Tapping bits shall be slotted "shell" style cutters, specifically made for PVC pipe. 'Hole saws' made for cutting wood, steel, ductile iron, or other materials are strictly prohibited.
 - 2) Manually operated or power operated drilling machines may be used.
 - e. Taps may be performed while the pipeline is filled with water and under pressure ('wet' tap), or when the pipeline is not filled with water and not under pressure ('dry' tap).
16. Hydrostatic testing and leakage testing for pressure piping:
 - a. Comply with Section 02723 - Sewers: Sanitary Pressure for PVC.
17. Fusion joints:
 - a. Unless otherwise specified or approved, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written instructions for this procedure. At a minimum joint strength shall be equal to the pipe's design pressure rating.

C. Pipe Strength - HDPE and PVC:

1. Pipe Dimension Ratings are meant to be a minimum based on system operation needs. The contractor shall be responsible for increasing the wall thickness as necessary to meet their installation needs.

2.7 TRACER WIRE

- A. Provide CO-10 gauge high flex stainless steel directional boring tracer cable on all non metallic pipe.
- B. Test all tracer wire for conductivity in accordance with Part 3.
- C. Pipe will not be accepted until satisfactory conductivity results are provided.
- D. Acceptable manufacturer: Tric-Tech.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Engineer must be notified 48 hours in advance of starting work. Directional bore shall not begin until the Engineer's representative is present at the job site.

ADDENDUM NO. 1

HORIZONTAL DIRECTIONAL DRILLING
02781-9

00394

RH Moore 002071

3.2 PERSONNEL REQUIREMENTS

A. General:

1. All personnel shall be fully trained in their respective duties as part of the directional drilling crew and in safety.
2. A competent and experienced supervisor representing the Contractor and drilling subcontractor shall be present at all times during the actual drilling operations.
3. A responsible representative, thoroughly familiar with the equipment and type of work to be performed, must be in direct charge and control of the operation at all times.
4. Supervisor must be continually present at the job site during the actual directional bore operation at all times.
5. A sufficient number of competent workers must be provided at all times to ensure the directional bore is made in a timely and satisfactory manner.

3.3 DRILLING PROCEDURE

A. Site preparation:

1. Contractor to provide photograph or video tape of the entire work area, including entry and exit points prior to any alterations to work site, including:
 - a. Provide Engineer with one copy of photograph or video tape.
 - b. One copy to remain with Contractor for a period of one year following the completion of the project.

- #### B. Drill path survey:
- Accurately survey the entire drill path with entry and exit stakes placed in the appropriate locations. If Contractor is using a magnetic guidance system, drill path will be surveyed for any surface geo-magnetic variations or anomalies.

C. Environmental protection:

1. Place silt fence between all drilling operations and any drainage, wetland, waterway or other area designated for such protection by contract documents, state, federal and local regulations.
2. Install berms, liners, turbidity curtains and any other measures necessary to contain any hydraulic or drilling fluid spills for additional environmental protection.
3. Adhere to all applicable environmental regulations.
4. Do not store fuel in bulk containers within 20' of any water-body or wetland.

- #### D. Pipe:
- Weld/fuse pipe together in one length prior to placing in bore hole. Place pipe on rollers before pulling into bore hole. Space rollers close enough to prevent excessive sagging of pipe.

E. Pilot hole:

1. Drill pilot hole on bore path with no deviations greater than 5% of depth over a length of 100'. In the event that pilot does deviate from bore path more than 5% of depth in 100', the Engineer may require pull-back and re-drilling from the location along bore path before the deviation.
2. In the event that a drilling fluid fracture, inadvertent returns, or returns loss, occurs during pilot hole drilling operations, cease drilling, wait at least 30 minutes, inject a quantity of drilling fluid with a viscosity exceeding 120 seconds as measured by a Marsh funnel and then wait another 30 minutes. If mud fracture or returns loss continues, cease operations and notify Engineer.

F. Pull-back:

1. After successfully reaming bore hole to the required diameter, contractor will pull the pipe through the bore hole. In front of the pipe will be a swivel and barrel reamer to compact bore hole walls. Once pull-back operations have commenced, operations must continue without interruption until pipe is completely pulled into bore hole.
2. Do not apply more than the maximum safe pipe pull pressure during pull-back operations.
3. For HDD installations longer than 1500', or deeper than 20', product pipe shall be ballasted with water as the pipe breaks below grade. The Contractor shall submit a procedure for accomplishing the ballasting prior to the start of any drill shot meeting these requirements.

3.4 FUSION PROCESS

A. General:

1. Each joint fusion shall be recorded and logged by an electronic monitoring device (data logger) affixed to the fusion machine. Joint data shall be submitted as part of the As-Recorded information, in accordance with this specification.
2. The fusible polyvinylchloride or HDPE pipe will be installed in a manner so as not to exceed the recommended bending radius or Safe Pulling Force.
3. Only appropriately sized, and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process. Fusion machines must incorporate the following properties, including the following elements:
 - a. **HEAT PLATE** - Heat plates shall be in good condition with no deep gouges or scratches within the pipe circle being fused. Plates shall be clean and free of any contamination. Heater controls shall properly function, and cord and plug shall be in good condition. The appropriately sized heat plate shall be capable of maintaining a uniform and consistent heat profile and temperature for the size of the pipe being fused, per the pipe supplier's recommendations.
 - b. **CARRIAGE** - Carriage shall travel smoothly with no binding at less than 50 psi. Jaws shall be in good condition with proper inserts for the pipe size being fused. Insert pins shall be installed with no interference to carriage travel.
 - c. **GENERAL MACHINE** - Overview of machine body shall yield no obvious defects, missing parts, or potential safety issues during fusion.
 - d. **DATALOGGER** - The current version of the fusion machine manufacturer's recommended and compatible software shall be used. Protective case shall be utilized for the hand held wireless portion of the unit. Datalogger operations and maintenance manual shall be with the unit at all times. If fusing for extended periods of time, an independent 110V power source shall be available to extend battery life.
4. Other equipment specifically required for the fusion process shall include the following:
 - a. Pipe rollers shall be used for support of pipe to either side of the machine.
 - b. A weather protection canopy that allows full machine motion of the heat plate, fusion assembly and carriage shall be provided for fusion in inclement and/or windy weather.
 - c. Fusion machine operations and maintenance manual shall be kept with the fusion machine at all times.

- d. Facing blades specifically designed for cutting the plastic pipe material being fused.

B. Joint Recording:

- A. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) connected to the fusion machine. Data not logged by the data logger shall be logged manually and be included in the Fusion Technician's joint report.

3.5 TRACER WIRE TESTING

A. General:

1. Utilize an approved magnetic locating device, M Scope or Equal.
2. Connect a cable conductively from the transmitter to a metal ground rod and to the tracer wire.
3. Locate the line following the instructions of the magnetic locating device.
4. If interference is encountered from adjacent utilities or if the depth of bury or line length interferes with the signal, install a dummy valve box with access to the tracer wire at no additional cost to the owner.
5. Where there is a break in the tracer wire, repair with 3M DBY or ILSCO #IK-8 repair kit and wrap with poly wrap for cathodic protection.

B. Creek crossing and wetland areas:

1. Send a prescribed frequency with a shore line base signal ejector between 25 and 1024 HZ down a metal medium and read by a receiver.
2. Select a frequency based on the depth and the amount of linear feet of the line.
3. If the tracer wire has a break, reinstall the cable and repeat the conductivity test at no additional cost to the owner.

C. Notify in advance and conduct all testing in the presence of the Engineer.

3.6 SITE RESTORATION

- A. De-mobilize equipment to restore the work site to original condition once drilling operations are terminated.

B. Backfill and compact all excavation to 95% of original density.

3.7 RECORD KEEPING AND AS-BUILTS

- A. Maintain a daily project log of drilling operations and a guidance system log with a copy given to Engineer at completion of project.
- B. Use a professional surveyor to set up boring alignment and tied in drilling log data to as-built drawings datum and state plane coordinate system.
- C. A professional surveyor must complete and certify as-built drawings.
- D. Drawings to be tied to State Plane Coordinates.

3.8 TESTING AND DISINFECTION

- A. Test and disinfection of pipe line will be in accordance with the requirements of the pipe to which connects on either side of the installed by drill method.

B. HDPE Pipe:

1. The hydrostatic and leakage test of pressure lines shall be made by the Contractor under the direction of the Engineer.
2. The pipe shall be hydrostatically tested before final acceptance after being pulled through the bore hole.
3. The test procedure consists of initial expansion, and test phases. For the initial expansion phase, make-up water is added as required to maintain the test pressure (150 psi) for four (4) hours. For the test phase, the test pressure is reduced by 10 psi. If the pressure remains steady (within 5% of the target value) for an hour, no leakage is indicated.
4. Should any test of the pipe laid disclose leakage, the Contractor shall at his own expense, locate and repair the defective joints.
5. The Contractor is responsible for notifying the Engineer 48 hours (minimum) prior to applying pressure for testing. The Engineer or his authorized representative will witness pressure test.

3.9 MEASUREMENT AND PAYMENT

- A. The depth and length of pipe shown on the plans is the minimum required. Additional length required for increased depth or bending radius to accommodate the pipe installation will be the responsibility of the contractor.
- B. Measurement will be horizontal length along the centerline of the utility from the beginning to the end of the drilling as indicated on the plans.
- C. Payment will be made at the price bid per linear foot and shall include all costs of mobilization, excavation, drilling operations, overhead, profit, insurance, pipe, reducing adapters, expansion joints, tracer wire, polyethylene encasement, safety, cleanup, restoration, testing, layout of work, drill path survey, record keeping, etc., for a complete installation.
- D. The cost of special pipe fittings for transitioning between different types of pipe shall be included in the unit price bid per linear foot for the horizontal directional drilling. No separate payment will be made for the fittings.
- E. Base Bid based on FPVC. Provide Add/Deduct for HDPE pipe.

END OF SECTION



SECTION 02723
SEWERS: SANITARY, PRESSURE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide sanitary sewer pressure (force) mains as shown on the drawings, specified herein, and needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Section 02221 - Trenching, Backfilling for Utilities.
 - 3. Section 02722 - Sewers: Sanitary, Gravity.
 - 4. Section 02781 - Horizontal Directional Drilling.
 - 4. Section 02930 - Grassing.
 - 5. Section 11293 - Plug Valves.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. All materials in this Section are to be manufactured in the United States.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.
- B. Storage of polyvinyl chloride (PVC) pipe:
 - 1. Store in unit packages as received from manufacturer until just prior to use.
 - 2. Stack units in such manner as to prevent deformation to pipe barrel and bells.
 - 3. Protect from direct sunlight by covering with opaque material if storage period will exceed six weeks.
 - 4. Avoid severe impact blows, gouging or cutting by metal surfaces or rocks.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Use PVC pipe as specified herein, except where use of a particular material is indicated on the plans, or specified herein.

2.2 PIPE AND FITTINGS

A. Pipe:

1. Ductile iron pipe (DIP):
 - a. Comply with ANSI/AWWA C150/A21.50 or AWWA C151/A21.51, latest revision.
 - b. The class or nominal thickness, net weight without lining, and casting period shall be clearly marked on each length of pipe. Additionally, the manufacturer's mark, country where cast, year in which the pipe was produced, and the letters "DI" or "Ductile" shall be cast or stamped on the pipe.
 - c. Wall thickness in accordance with Table 50.5 of ANSI/AWWA C150/A21.50, depth of cover indicated and Type 3 bedding conditions, minimum Pressure Class as follows:
 - 4" - 12" Pressure Class 350.
 - 14" - 20" Pressure Class 250.
2. Use mechanical or push-on joints complying with ANSI/AWWA C111/A21.11 as modified by ANSI/AWWA C151/A21.51.
3. Use rubber gaskets and lubricant complying with ANSI/AWWA C111/A21.11.
4. Use lining complying with one of the following:
 - a. Amine cured Novalac Epoxy polymeric lining, 40-60 mils nominal thickness. The standards of quality are based on Protecto 401 by Vulcan Painters, Birmingham, Alabama.
5. Ductile iron pipe must be installed in accordance with AWWA C-600, latest revision.
6. Restrained joint pipe and fittings:
 - a. Provide restrained joint pipe and fittings where indicated on the plans.
 - b. Provide one of the following:
 - 1) Snap-Lok by Griffin Pipe.
 - 2) American Cast Iron Pipe Company.
 - a) Flex-Ring (4" - 36")
 - b) Lok-Ring (42" - 64").
 - 3) TR-Flex by U. S. Pipe.
 - 4) Super-Lock by Clow (4" - 30").
 - 5) Fast Grip Gasket by American Cast Iron Pipe Company.
 - 6) Field Lok by U.S. Pipe.
 - c. Provide retainer glands for use with mechanical joint pipe and fittings.
 - 1) Provide wedge type:
 - 2) Provide ductile iron gland conforming to ASTM A536-80.
 - 3) Provide split gland where standard gland cannot be installed.
 - 4) Provide ductile iron set screws, heat treated to a minimum hardness of 370 BHN with twist-off nuts and permanent standard hex head remaining.
 - 5) Provide for the following rated pressure with minimum 2 to 1 safety factor; 3" - 16" 350 psi, 18" - 48" 250 psi.
 - 6) Provide tee-head bolts conforming to ANSI/AWWA C111/A21.11 latest revision.
- 6) Provide "MEGALUG" as manufactured by EBAA Iron, Inc. of Eastland, Texas, or approved equal.

B. Ductile iron fittings:

1. Use 250 psi pressure rated ductile iron fittings or specials unless otherwise indicated, complying with ANSI/AWWA C110/A21.10 or AWWA C153.
2. Fittings for use with push-on joint pipe, comply with ANSI/AWWA C111/A21.11.
3. Use lining complying with Part 2.2.A.4 above.
4. The maximum phosphorous level in the casting will be 0.08%.
5. The fitting surface finish will conform to MSS SP-112 Quality Standard for Evaluation of Cast Surface Finishes.
6. The manufacturer shall be ISO 9000 certified.
7. Markings:
 - * Each fitting shall have the following markings cast integrally to the fitting:
 - a. Manufacturer's Name or Logo.
 - b. "MJ".
 - c. Country of Origin.
 - d. Manufacturer's Foundry Mark.
 - e. AWWA C-153 or C-110.
 - f. Pressure Rating.
 - g. Nominal Diameter (each leg).
 - h. "DI" or "Ductile".
 - i. No. of degrees (bends).

C. Polyvinyl chloride pipe and fittings (PVC):

1. 4" - 12": Comply with ANSI/AWWA C900/AWWA C905, Table 2, Pressure Class 150 (DR 18).
2. 14" and above: Comply with ANSI/AWWA C905, Table 2, Pressure Class 165 (DR 25).
3. 3" and below: Comply with ASTM D2201 for PVC-1120, SDR 21, pressure rating 160 psi at 73°F.
4. Color of pipe to be green.
5. Use integral bell or coupling type with elastomeric gaskets.
5. Gaskets are to be factory-installed and integral with the pipe.
6. Use ductile iron fittings with lining complying with Part 2.2.B above.
7. Provide adaptor glands, gaskets, etc. as required to accommodate any differences in pipe and fitting dimensions.
8. Restrained joint pipe and fittings:
 - a. Provide restraint for C-900 PVC by mechanical means separate from the mechanical joint gasket sealing gland.
 - 1) Provide wide, supportive contact around full pipe circumference as follows:

Size	Restraint Width
4", 6"	1-1/2"
8", 10", 12"	1-3/4"

- 2) Provide means of restraint by machined serrations on inside surface of restraint device designed to provide circumferential loading over the entire restrainer.
 - a) Design to be such that restraint increases with increased in-line pressure.
 - b) Provide a minimum of 8 serrations per inch of restraint width.
- 3) Restraint device to be pressure rated at 350 psi, or equal to the pipe on which it is used and capable of withstanding test pressures of 2 times pressured rating.
- 4) Provide "MEGALUG" as manufactured by EBAA Iron, Inc. of Eastland, Texas or approved equal.

- b. Provide restraint for C-905 PVC pipe 14" and larger by mechanical means separate from the mechanical joint sealing gland.
- 1) Restraint device to be a two-piece configuration with a serrated inside surface to provide contact around full pipe circumference.
 - 2) Restraint device body to be manufactured from steel (ASTM A285 Grade C) with fusion epoxy coated surfaces except the serrations.
 - 3) Provide restraint width as follows:

Size	Restraint Width
14", 16", 18"	5"
20", 24"	7"
30"	10"

- 4) Provide 6 serrations per inch of restraint width.
 - 5) Comply with AWWA C111, ANSI 21.11.
 - 6) Pressure rating to match PVC pipe on which it is used with capability to withstand test pressure of 2 times rated pressure.
 - 7) Finish fusion applied epoxy coating per AWWA C-213.
 - 8) Provide "MEGALUG" as manufactured by EBAA Iron, Inc. of Eastland, Texas or approved equal.
- c. *As an alternative to bell clamps as specified above, the Contractor may choose to utilize 20" DR25 fusible PVC with fusion joints as specified in Section 02781.*

D. Couplings:

1. Provide couplings where needed to make piping connections and where located on the plans.
2. Provide mechanical joint ductile iron sleeve, full length, minimum 12".
3. Provide cutting-in sleeve where installing fittings in an existing line.
 - a. Provide ductile iron with mechanical joint.
4. Provide restrained joint couplings where restrained joints are specified herein.

- E. Tee head bolts: Provide Cor-Ten steel tee head bolts for use on mechanical joints complying with ASTM A242.

2.3 AIR RELEASE AND VACUUM VALVES

- A. Provide single body universal type with compound lever system.
1. Design valve to automatically exhaust large amounts of air and gases while the pipeline or system is being filled.
 2. Design valve to release accumulated pockets of air while the pipeline is in operation.
 3. Design valve to re-open to admit air during draining or when a negative pressure exists in the system.
- B. Provide an interchangeable drop-in head assembly for easy cleaning. Valves requiring on-site backwashing are not acceptable.
- C. Provide the valve body and interchangeable drop-in head assembly of cast or fabricated 316 stainless steel.
1. Incorporate a "sanitary clamp" to attach the head assembly to the body at the outlet.
 2. Valves that use bolting to attach the cover flange to the body are not acceptable.

3. Locate the flange clamp at the outlet of the body for ease of cleaning and maintenance.
 a. Other clamping locations are not acceptable.
- D. All non-sealing internal metal components shall be 316 stainless steel. Plastic, nylon, or fiberglass components will not be acceptable.

Component	Material	Specification
Body & Cover Flange	316 stainless steel	ASTM A240
Float	316 stainless steel	ASTM A240
Internal Trim	316 stainless steel	ASTM A240
Seat	Rubber	Buna-N
Bolting-Sanitary Clamp	316 stainless steel	ASTM A240

- E. Provide valve with minimum 2" inlet, or larger, if shown on the drawings.
- F. Provide air and vacuum valves of the size listed in the schedule or shown on the plans with threaded inlet and outlet to 3" size and ANSI B16.1 Class 125 flanged inlet and threaded outlet in larger sizes.
- G. Incorporate an air release orifice of 3/16" for use at 200 psi.
1. No deviation from this orifice size will be allowed.
 2. Locate in the outlet of the valve and drill in a 316 stainless steel orifice plate that seals against a Buna-N rubber seat.
 3. Valves with seals that flex or roll will not be acceptable.
- H. *Provide protective cover to prevent debris from falling into release orifice.
- I. Provide inlet Type 316 stainless steel ball valve with T-handle operator and three piece body.
- J. All piping, nipples, etc., to be Schedule 40, Type 316L stainless steel.
- K. Valves to be a maximum 14 inches in overall height and maximum weight of 25 lbs.
- L. Provide one spare drop-in head assembly for every five (5) valves.
- M. Provide H-TEC Model 986# or approved equal w/spill prevention method.
- N. Air release and vacuum valve manhole:
1. Provide reinforced precast concrete ring and flat top slab section complying with ASTM C-478 and the following.
 2. Use portland cement complying with ASTM C-150, Type II.
 3. Cast base slab monolithically with walls.
 4. Design flat slab top sections for HS-20 traffic loadings.
 5. Provide tongue and groove with vulcanized butyl rubber sealant or "O" ring rubber gasketed joints.
 6. Cast or factory cut pipe opening in manholes:
 - a. Provide flexible pipe boot conforming to ASTM C-923M.
 - b. Attach boot to piping with dual stainless steel straps.
 - c. All other hardware to be stainless steel.
 - d. Provide Kor-N-Seal or equal.
 - e. Seal voids w/non-shrink grout.
 7. Size lift holes and inserts for a precision fit with the lift devices.
 - a. Holes shall not penetrate through the manhole wall.

- b. Comply with OSHA Standard 1926.704.
- 8. Provide flat slab tops.
- 9. *Item Deleted*
- 10. Frames and covers:
 - a. Manhole cover and frame shall be US Foundry & Manufacturing Corp. or Pamrex.
 - b. Cover and frame shall be manufactured from grey iron in accordance with ASTM A48 Class 35B and AASHTO M105 Class 35B.
 - c. Product design will require that covers are hinged and incorporate a 90-degree blocking system to prevent accidental closure.
 - d. Frame shall come complete with an open hinge box and a hinge infiltration plug.
 - e. Covers shall be one-man operable using standard tools.
 - f. Frames shall be circular and shall incorporate a seating ring capable of withstanding surface water inflow and absorbing shock from routine traffic.
 - g. Product will be available in a 24-inch clear opening.
 - h. The frame depth shall not exceed 4 inches, and the flange shall incorporate bedding slots and bolt holes.
 - i. All components shall be black coated.
 - j. Provide 4 - 1" diameter holes in the cover for venting.

2.4 SERVICE SADDLE

- A. Provide of the following materials:

Body	Type 304 Stainless Steel
Bales and Strips	Type 304 Stainless Steel
Studs	Type 304 Stainless Steel
Hardware	Type 304 Stainless Steel

- B. Provide double-strap for sizes 5" and larger.
- C. Provide Romac 304 and 305 or approved equal.
- D. Connect to pipeline using a 6" stainless steel nipple.
 - 1. Do not use a threaded PVC connection.

2.5 VALVE BOXES

- A. Provide at each buried valve.
- B. Cast iron extension type, suitable for minimum cover of 3'6" over the pipe.
- C. Minimum inside diameter at the top of 5", minimum wall thickness 3/16" and thickness at the top of 11/16".
- D. Have the word "SEWER" cast into the cover.
- E. Provide Tyler Series 6850.
- F. Where depth requires more than a two piece box use adjustable cast iron extensions.
- G. Coat box and cover with two (2) shop coats of bitumastic paint.

2.6 METALLIC DETECTION TAPE

- A. Provide 2" wide metallic detection tape on all buried PVC piping.

1. Provide 5.0 mil overall thickness with no less than a 50 gauge solid aluminum foil core.
 2. Foil to be visible from both sides.
 3. No inks or printing extended to the edges of the tape.
 4. Encase printing to avoid ink rub-off.
 5. Tensile strength - 28 lbs/inch.
 6. Use heat set mylar inks.
- B. Locate 12" below ground surface in pipe trench.
- C. Color to be safety brown.
- D. Wording on tape to indicate pipe contents and repeated a minimum of every 24".

2.7 COPPER TRACER WIRE

- A. Provide a continuous 12 gauge insulated copper tracer wire on all buried piping.
- B. Approved for direct burial by the manufacturer.
- C. Terminate tracer wire at each valve and air release valve and make provisions to allow for connection of testing apparatus without interfering with the proper operation of valves.
- D. Connect to the line with duct tape at every bell connection or every 20' to ensure that the wire is directly over the top of the pipe.
- E. Splice wire at each tee connection with an approved copper compression lug.
- F. Test all tracer wire for conductivity.
 1. Replace wire not passing at no additional cost to the owner.

2.8 PLUG VALVES

- A. Comply with Section 11293

2.9 CONCRETE

- A. Use 3000 psi complying with Section 03300.

PART 3 - EXECUTION

3.1 LAYING OUT WORK

- A. Provide all materials, labor, instruments, etc. required to lay out Work.
- B. Prepare "cut sheets" under direct supervision of the Engineer.
- C. Exercise proper precaution to verify figures on the drawings prior to layout Work. Contractor will be held responsible for any errors therein that otherwise might have been avoided.
- D. Promptly inform Engineer of errors or discrepancies found, in order that proper corrections may be made.

3.2 HANDLING

- A. Handle pipe accessories so as to ensure delivery to the trench in sound, undamaged condition.

ADDENDUM NO. 2

SEWERS: SANITARY, PRESSURE
02723-7

DE394

RH Moore002083

1. Carry pipe into position - do not drag.
 2. Use pinch bars or tongs for aligning or turning ductile iron pipe only on the bare end of the pipe.
 3. Use care not to injure pipe linings.
- B. Thoroughly clean interior of pipe and accessories before lowering pipe into trench. Keep clean during laying operations by plugging or other method approved by the Engineer.
- C. Before installation, inspect each piece of pipe and each fitting for defects:
1. Material found to be defective before or after laying: Replace with sound material meeting the specified requirements, and without additional cost to the Owner.
- D. Rubber gaskets: Store in a cool dark place until just prior to time of installation.

3.3 PIPE CUTTING

- A. Cut pipe neatly and without damage to the pipe.
- B. Unless otherwise recommended by the pipe manufacturer and authorized by the Engineer, cut pipe with mechanical cutter only.
1. Use wheel cutters when practicable.
 2. Cut plastic pipe square, and remove all burrs.

3.4 LOCATING

- A. Where possible, locate pressure sewer at least 10' away, horizontally, from water mains.
- B. Where pressure sewers cross over or under water lines, maintain minimum 18" separation between outside edges of the two pipes.
1. A full length of the pressure sewer pipe shall be located so that the joints will be equal distance from the water main.

3.5 EXCAVATION AND BACKFILLING

- A. Comply with pertinent provisions of Section 02221 and Section 02615 of these Specifications.

3.6 ALIGNMENT OF PIPE

- A. Pipe lines intended to be straight shall be so laid.
- B. Where vertical or horizontal alignment requires deflection from straight line or grade, such deflection shall not exceed maximum deflection recommended by the pipe manufacturer.
- C. If alignment requires deflection exceeding recommended limits, furnish special bends or a sufficient number of shorter lengths of pipe to provide angular deflections within the allowable limits.

3.7 PLACING AND LAYING

ADDENDUM NO. 2

SEWERS: SANITARY, PRESSURE
02723-8

06094

RH Moore002084

A. General:

1. Lower pipe and accessories into trench by means of derrick, ropes, belt slings, or other equipment approved by the Engineer.
2. Do not dump or drop any of the materials of this Section into the trench.
3. Rest the full length of each section of pipe solidly on the pipe bed, with recesses excavated to accommodate bells, couplings, and joints.
4. Take up and relay pipe that has the grade or joint disturbed after laying.
5. Do not lay pipe in water, or when trench conditions are unsuitable for the work; keep water out of the trench until jointing is completed.
6. Securely close open ends of pipe when work is not in progress.
7. Where any part of coating or lining is damaged, repair to the approval of the Engineer and at no additional cost to the Owner.
8. Lay each pipe accurately to the indicated line and grade maintaining a positive slope toward the air release valve locations as shown on the drawings.
9. Record pipe elevation every 100' and submit elevations to Engineer weekly.

B. Ductile iron pipe:

1. Mechanical and push-on joints: Install in accordance with ANSI/AWWA C600.
2. Gaskets: Handle, lubricate where necessary, and install in strict accordance with manufacturer's recommendations.

C. Plastic pipe:

1. Clean gasket, bell or coupling interior, especially groove area.
2. Lubricate and invert gasket as recommended by manufacturer.
3. Align spigot to bell, insert spigot into bell until it contacts gasket uniformly.
4. Push pipe "home" until reference mark is at proper location.
5. PVC force main must be installed in accordance with ASTM D-2321, latest revision.

D. Restrained joints:

1. Install in accordance with manufacturer's instructions.
2. Tighten set screws to the manufacturer's rated torque using a torque wrench. If twist-off nuts are provided, tighten screws until nut breaks loose.

3.8 TRACER WIRE TESTING

A. General:

1. Utilize an approved magnetic locating device, M Scope or Equal.
2. Connect a cable conductively from the transmitter to a metal ground rod and to the tracer wire.
3. Locate the line following the instructions of the magnetic locating device.
4. If interference is encountered from adjacent utilities or if the depth of bury or line length interferes with the signal, install a dummy valve box with access to the tracer wire at no additional cost to the owner.
5. Where there is a break in the tracer wire, repair with 3M DBY or ILSCO #IK-8 repair kit and wrap with poly wrap for cathodic protection.

B. Creek crossing and wetland areas:

1. Send a prescribed frequency with a shore line base signal ejector between 25 and 1024 HZ down a metal medium and read by a receiver.
2. Select a frequency based on the depth and the amount of linear feet of the line.

3. If the tracer wire has a break, reinstall the cable and repeat the conductivity test at no additional cost to the owner.

C. Notify in advance and conduct all testing in the presence of the Engineer.

3.9 INSTALLATION OF MANHOLES

- A. Set bases level so that walls will be plumb.
- B. Clean bells and spigots.
- C. Apply joint sealer, or ring gasket to wall section(s), set firmly in place to assure watertight joints.
- D. Set risers and cones so steps align.
- E. Tightly connect pipe boot to piping with dual stainless steel straps.
- F. Grout lift holes from the outside using non-shrink grout.
- G. Install manhole to grade utilizing precast grade rings.

3.10 INSTALLATION OF AIR RELEASE VALVES

- A. Compact backfill thoroughly over pressure sewer.
- B. Install gravel drainage bed as shown on plans.
- C. Set valve plumb, using a bronze nipple between pressure sewer and valve.
- D. Install manhole wall sections plumb and level.

3.11 HYDROSTATIC TESTING

A. General:

1. Pressure and leakage testing must be conducted in accordance with AWWA Standards C600.
2. Clean and flush line of air, dirt and foreign material.
3. Do not perform hydrostatic tests until at least five days after installation of concrete thrust blocking.
4. Test pump, pipe connection, pressure gauges, measuring devices and all other necessary appurtenances to conduct tests are to be provided by the Contractor.
5. Install brass corporation cocks at all high points that do not have permanent air vents. Corporation cocks are to be left in place and all costs for providing such cocks are to be borne by the Contractor.
6. Conduct tests on each line or valved section of line.
7. Test pressures to be 150 psi, or 1.5 times the maximum working pressure, whichever is greater, based on the elevation of the lowest point of the section under test and corrected to the elevation of the test gauge.
8. Do not test pipe at pressures exceeding manufacturer's recommendations.
9. The Contractor must provide documentation of the pressure and leakage tests. Documentation must include length of lines, diameter of pipe(s), amount of water required to fill line after test was performed, and amount of allowable leakage.
10. The witness to the hydrostatic testing is to be someone other than the Contractor or the utility installing the lines.

B. Pressure tests:

APPENDUM NO. 2

SEWERS: SANITARY, PRESSURE
02723-10

08399

RH Moore002086

1. After the pipe is laid, the joints completed, and the trench backfilled, subject the newly laid piping and valved sections of the piping to the test pressure specified in Part A above.
2. Open and close each valve within the section being tested several times during the test period.
3. Replace or remake joints showing leakage.
 - a. Remove cracked pipe, defective pipe, and cracked or defective joints, fittings and valves. Replace with sound material and repeat the test until results are satisfactory.
 - b. Make repair and replacement without additional cost to the Owner.

C. Leakage test:

1. Conduct leakage test after the pressure test has been completed satisfactorily.
2. Duration of each leakage test: At least two hours.
3. During the test, subject water lines to the test pressure specified in Part A above.
4. Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved or approved section thereof, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.
 - a. No piping installation will be accepted until the leakage is less than the number of gallons per hour as determined by the formula(s):
 - 1) Ductile iron piping:

$$L = S \times D \times \sqrt{P} / 133,200; \text{ where}$$

L = allowable leakage in gallons per hour;
 S = length of pipe tested in feet;
 D = nominal diameter of pipe in inches; and
 P = average test pressure psi gauge.

2) PVC piping:

$$L = N \times D \times \sqrt{P} / 7400; \text{ where}$$

L = allowable leakage in gallons per hour;
 N = number of joints in pipeline being tested;
 D = nominal diameter of pipe in inches; and
 P = average test pressure psi gauge.

- b. When testing against closed metal-sealed valves, an additional leakage per closed valve of 0.0078 gallons per hour per inch of nominal valve size will be allowed.
 - 1) Should any test of pipe disclose leakage greater than that specified above, locate and repair the defective joint or joints until the leakage is within the specified allowance, and at no additional cost to the Owner.
 - 2) Repair all visible leaks regardless of test results.

3.12 FORCE MAIN MANIFOLD TIE-IN CONNECTIONS

- A. Upon successful testing of new 20" force main and pump station start-up, tie-in all manifold force mains and abandon existing piping as indicated.
- B. Contractor shall include all provisions necessary for force main manifold tie-ins such as line stops, vacuum trucks, bypass pump with frac tank, etc., based on the restrictions below. At a minimum, a vacuum truck is required on site during the tie-ins. All force main manifold connections shall be scheduled following a 72 hour

period of non-rain fall events. The contractor shall receive Engineer's on site approval prior to beginning work on any tie-in. The following tie-ins are required:

<u>Location</u>	<u>Approximate Flow</u>	<u>Restrictions</u>
Sta 107+97 (The Ponds)	1,050 gpm	Coordinate with Owner, 2-hour limit for connection
Sta 114+49 (Riverbirch)	540 gpm	Coordinate with Owner, 2-hour limit for connection
Sta 140+44 (Highwoods)	206 gpm	Coordinate with Owner, perform between the hours of 10:00 PM and 5:00 AM, 2-hour limit for connection
Sta 179+25 (Limehouse)	115 gpm	Coordinate with Owner, 2-hour limit for connection
Sta 182+50 (Walnut Farm)	195 gpm	Coordinate with Owner, 2-hour limit for connection
Sta 139+90 (The Bluffs)	188 gpm	Coordinate with Owner, 2-hour limit for connection

3.13 MEASUREMENT AND PAYMENT

- A. All work under this Section will be measured and paid for as follows.
- B. Pipe installed before final project acceptance will be paid for at the unit price per linear foot as stated in the Proposal, and shall include cost of excavation, backfilling, detection tape, tracer wire, installation records, etc. Measurement will be from center to center of fittings; no deduction will be made for the space occupied by valves and fittings.
- C. Pipe installed cannot be included in quantities for payment until weekly installation elevation reports are submitted and approved by the Engineer.
- D. Fittings: Payment for fittings, including couplings/sleeves/plugs, shall be on a unit price per ton as stated in the estimated quantities and shall include cost for restraint with weight of fittings being based upon the published weight of the compact (C153) fitting body. No payment will be made for the weight of joint accessories for mechanical joint, including joint restraint.
- E. Air release valve will be paid for at the unit price, each, stated in the Proposal and shall include cost of valve, pipe, manhole, grade rings, stone base, frame and cover, etc.
- F. Plug valves will be paid for "each" as stated in the Bid Form. This payment shall include valve, stem extensions, valve box, valve protection ring, valve marker, and installation.
- G. Restrained joint pipe will be paid for at the unit price per linear foot as stated in the Bid Form.
- H. Force main manifold tie-in connections to existing lines: Payment will be made for labor, waste disposal (at tie-in location and pump station), vac trucks, track tanks, pumps, etc. at the price per each as stated in the Bid Form, and will not include the cost of fittings used. Payment for fittings and pipe used at cut-ins will be paid for as stated in "B" & "D".

- I. Bell Restraints on existing lines will be paid for at the price for "each" as stated in the Bid Form. This payment shall include the restraints, excavation, backfilling, and restraint installation.

END OF SECTION

EXHIBIT C

Transmittal Letter

August 24, 2011

Utility Services Authority, LLC

6001 Schooner Drive
PO Box 910
Belleville, MI 48112
Phone: 734.481.0872 • Fax: 734.482.1505
Email:



To:
RH Moore Company, Inc
10601 Highway 707
Murrells Inlet, SC 29576

Attention: Robert Pickering

Re: Dorchester Co, WW System Imp

Job Number: USA Job No. 7035-0654

We are sending you			
☒ Attached	☐ Under Separate Cover via the following:		
☐ Shop Drawings	☐ Prints	☐ Samples	☐ Bonds
☐ Copy of Letter	☐ Change Order	☐ Specification	☐ Insurance
☐ Total Quantity	☐ Plans	☐ Contract	☐ Other

Quantity	Description
3	Signed Subcontract Agreement
3	COI

These are transmitted as checked below		
☐ For Approval	☐ Approved as Submitted	☐ Resubmit copies for approval
☐ For Your Use	☐ Approved as Noted	☐ Submit [] copies for distribution
☐ As Requested	☐ Returned for Corrections	☐ Return [] corrected prints
☐ For Review and Comment ☐ Sign and Return Duplicate Original FOR BIDS DUE:		
Comments:		
Copy to:		
		 Signature

and agreed upon in attachment "C"
contractor proposal

**R.H. MOORE COMPANY, INC.
SUBCONTRACT**

NOTICE: THIS AGREEMENT IS SUBJECT TO BINDING ARBITRATION

THIS SUBCONTRACT AGREEMENT made this 28th day of July, 2011
by and between R.H. MOORE COMPANY, INC. (hereinafter "Moore"), and Utility
Services Authority, LLC. (hereinafter "Subcontractor").

1. **The Project.** The Subcontractor agrees to furnish all material and perform all work as described in Section 2 below for the project known as: Dorchester County Pump Station 67 and New 20" Force Main (the "Project"), in accordance with the agreement between Dorchester County (the "Owner") and Moore (the "General Contract"), and in accordance with the terms of this Agreement (the "Subcontract"), so as to fully comply with the General Conditions of the General Contract, the Drawings and Specifications and addenda prepared by the engineer or the architect assigned to the Project (the "Engineer" or "Architect"), (the aforementioned documents hereinafter collectively referred to as the "Contract Documents"), all of which are hereby incorporated herein as a part of this Subcontract and made available to the Subcontractor.

2. **Specific Work to be Performed.** The Subcontractor and Moore agree that the materials and equipment to be furnished and work to be done by the Subcontractor are as set forth on Exhibit "A" attached hereto and incorporated herein. The Subcontractor shall expedite work to the fullest extent to avoid delay in any other portion of the work and to insure completion within the Contract limits.

and further clarified in exhibit "C"

3. **Payment.** Moore agrees to pay the Subcontractor for the performance of this Subcontract upon successful completion as determined by Moore and approvals required by any and all associated agencies noted by the contract documents of the work set forth on Exhibit "A" the sum of Six hundred ninety five thousand, eight hundred sixty dollars
and 0/100 (\$ 695,860.00)

) Dollars, subject to additions and deductions for changes as may be agreed upon in writing, and to make progress payments when due in accordance with the following guidelines:

(a) The Subcontractor shall be paid within seven days, unless otherwise provided in the Contract Documents, upon Contractor's receipt of payment from Owner for work performed by Subcontractor under this Subcontract.

up to 120 days

(b) Moore will retain 10% of each progress payment. The final ten (10%) percent payment to the Subcontractor shall be due when the work described in this Contract is fully completed and performed in accordance with the Contract Documents. Before issuance of the final payment, the Subcontractor shall submit evidence satisfactory to Moore that all payrolls, material bills, and all known indebtedness connected with the Subcontractor's work have been satisfied.

(c) ~~Notwithstanding the foregoing, the Subcontractor agrees that Moore may withhold and offset any progress payments due under this Subcontract in satisfaction of any delinquent progress payments due to Moore by the Subcontractor under any other contract between Moore and the Subcontractor.~~

4. Extension of Time. No extension of time of this Subcontract will be recognized without the written consent of Moore, which consent shall not be withheld unreasonably.

5. Performance and Payment Bonds. Moore shall notify subcontractor of bonding requirements prior to execution of any subcontract agreement.

6. Temporary Site Facilities. The Subcontractor shall furnish any temporary site facilities to accommodate its own work force if the Subcontractor's needs exceed the facilities supplied by Moore for its own use.

7. Insurance. Unless otherwise provided herein, the Subcontractor shall have direct liability and be fully responsible for all acts of its employees, agents and invitees.

Prior to starting work, the insurance required to be furnished by the Subcontractor shall be obtained from an insurance company or companies which can provide proper and adequate coverage, and satisfactory evidence will be furnished to Moore that the Subcontractor has complied with the requirements.

The Subcontractor agrees to carry such insurance as is necessary to protect Moore from liability or loss and to hold and save harmless Moore from any liability whatever arising out of the Subcontractor's operations. The Subcontractor agrees to comply with the laws of the Federal Government and of the state where the Project is located as to Worker's Compensation, Unemployment and Social Security Acts. The Subcontractor is to furnish to Moore Certificates of Insurance as a condition of this Contract. The limits of this insurance are the same as those described in the Contract Documents between Moore and the Owner. The Subcontractor also agrees to add Moore as "additional insured" under the above policies. Copies of these requirements are attached hereto as Exhibit "B" and made a part of this Subcontract. Cost of insurance for the Subcontractor shall be included in the Subcontract price.

The insurance carrier is to notify Moore 30 days prior to the cancellation of any coverage in these certificates.

8. Job Conditions. The Subcontractor shall comply with all local, state and federal laws and regulations relating to labor standards, nondiscrimination, safety (OSHA), construction safety, hazard communications and any laws or regulations applicable to this Project. The Subcontractor shall be responsible for all citations, fines, penalties or other liabilities incurred by the Subcontractor or Moore by reason of the Subcontractor's noncompliance, whether intentional or nonintentional.

9. Obligations of Subcontractor. In addition to the foregoing provisions, the Subcontractor shall:

(a) Be bound to Moore by the terms of the Contract Documents and this Agreement, and assume toward Moore all the obligations and responsibilities that Moore, by those documents, assumes toward the Owner, as applicable to this Subcontract and shall not unlawfully discriminate against any employee or applicant for employment.

(b) Submit to Moore applications for payment at such times as stipulated hereinabove so as to enable Moore to apply for payment. If payments are made on valuations of work done, the Subcontractor shall, before the first application, submit to Moore a schedule of values of the various parts of the work, aggregating the total sum of the Contract, made out in such detail as the Subcontractor and Moore may agree upon, or as required by the Owner, and, if required, supported by such evidence of its correctness as Moore may direct. This schedule, when approved by Moore, shall be used as a basis for Certificates for Payment, unless it is found to be in error. In applying for payment, the Subcontractor shall submit a statement based upon this schedule.

If payments are made on account of materials not incorporated in the work but delivered and suitably stored at the site, or at some other location agreed upon in writing, such payments shall be in accordance with the terms and conditions of the Contract Documents.

(c) Pay for all materials and labor used in, or in connection with, the performance of this contract, through the period covered by previous payments received from Moore, and furnish satisfactory evidence when requested by Moore, to verify compliance with the above requirements.

(d) Make all claims for extra work, for extensions of time and for damage for delays or otherwise, promptly to Moore in compliance with the Contract Documents.

(e) Take necessary precautions to properly protect the finished work of other trades.

(f) Keep the site and premises clean at all times of debris arising out of the operation of this Subcontract. The Subcontractor shall not be held responsible for unclean conditions caused by other contractors or subcontractors, unless otherwise provided for.

(g) Comply with all statutory and/or contractual safety requirements applicable to his work, and/or initiated by Moore, and shall report within 3 days to Moore any injury to the Subcontractor's employees at the site of the project.

(h) Guarantee his work against all defects of materials and/or workmanship as called for in the plans, specifications and addenda, or if no guarantee is called for, then

for a period of one year from the dates of partial or total acceptance of the Subcontractor's work by the Owner.

(i) Agree that if the Subcontractor should neglect to prosecute the work diligently and properly or fail to perform any provision of this Contract, Moore, after three days written notice to the Subcontractor, may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due to the Subcontractor; provided, however, that if such action is based upon faulty workmanship or neglect, the Architect or Engineer shall first have determined that the workmanship and/or materials is defective.

(j) Agree that Moore's equipment will be available to the Subcontractor only at Moore's discretion and on mutually satisfactory terms.

(k) Furnish periodic progress reports of the work as mutually agreed upon, including the progress of materials or equipment that may be in the course of preparation or manufacture.

(l) Make any and all changes or deviations from the original plans and specifications without nullifying the original contract when specifically ordered to do so in writing by Moore. Prior to the commencement of this revised work, the Subcontractor shall submit promptly to Moore written copies of the cost or credit proposal for such revised work in a manner consistent with the Contract Documents.

(m) Cooperate with Moore and other Subcontractors whose work might interfere with the Subcontractor's work and to participate in the preparation of coordinated drawings in areas of congestion as required by the Contract Documents, specifically noting and advising Moore of any such interference. Damages and/or costs incurred to other work or other infrastructure by work performed or from neglect by the Subcontractor, shall be the financial responsibility of the Subcontractor.

(n) Cooperate with Moore in scheduling his work so as not to conflict or interfere with the work of others. To promptly submit shop drawings and samples, as required in order to carry on said work efficiently and at a speed that will not cause delay in the progress of Moore's work or other branches of the work carried on by other Subcontractors.

(o) Comply with all Federal, State, and Local laws and ordinances applying to the project and to comply and give adequate notices relating to the work to proper authorities and to secure and pay for all necessary licenses or permits to carry on the work as described in the Contract Documents as applicable to this Subcontract.

(p) Comply with Federal, State and Local tax laws, Social Security Laws, Unemployment Compensation Laws and Worker's Compensation Laws insofar as applicable to the performance of this Subcontract.

(q) Agree that all work will be done subject to the final approval of the Architect or Engineer, and Owners representative and his decision in matters relating to compliance shall be final, if within the terms of the Contract Documents.

(r) Any financial liabilities incurred by Moore for work done by the subcontractor or related to his installation which is found to be unsatisfactory shall be paid for by the Subcontractor, including liquidated damages.

(s) Any work or materials provided by a third party to the Subcontractor shall adhere to the requirements of the Contract Documents and all liability for such work or materials is solely the Subcontractor's.

10. Obligations of Moore. Moore shall:

(a) Not issue or give any instructions, orders or directions directly to employees or workmen of the Subcontractor other than to the person(s) designated as the authorized representative (s) of the Subcontractor.

(b) Make no demand for liquidated damages in any sum in excess of such amount as may be specifically named in the subcontract, provided, however, no liquidated damages shall be assessed against the Subcontractor for delays or causes attributable to Moore, to other Subcontractors or arising outside the scope of this Subcontract.

(c) Give the Subcontractor an opportunity to be present and to submit evidence in arbitration involving his rights.

11. Indemnification. To the fullest extent permitted by law, the Subcontractor expressly agrees to defend (at the Subcontractor's expense and with counsel acceptable to Moore), indemnify, and hold harmless the Owner, Moore, Architect, Architect's Consultants, Engineer, Construction Manager, Lender, and any other parties which Moore has agreed to indemnify as named or referenced in the project contract documents as attached to and made a part of this Subcontract, and their respective Officers, Directors, Shareholders, Employees, Agents, Successors, Affiliates, and Assigns from and against any and all claims, suits, losses, causes of action, damage, liabilities, fines, penalties, and expenses of any kind whatsoever, including without limitation arbitration or court costs and attorney's fees, arising on account of or in connection with sickness, bodily or personal injuries to, or the death of any person, or any and all damages to property including loss of use, from or in any manner connected with the work performed by or for the Subcontractor under this Subcontract, caused in whole or in part by the presence of the person or property or the negligent acts or omissions of the Subcontractor or any of its Employees, Agents, Representatives, Sub-Subcontractors, or suppliers or anyone for whose acts they may be liable, ~~including without limitation, whether or not related to so-called "nondelegable duties" if so permitted by law, such claims, damage, loss or expense caused in part by the negligent acts or omissions or the presence of the person or property of a party indemnified hereunder.~~ Such obligation shall not be construed to negate, abridge, or reduce

other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Paragraph.

12. BINDING ARBITRATION. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be subject to settlement by binding arbitration. If the parties are unable to agree upon a single arbitrator, then the matter for arbitration shall be settled by the Construction Industry Rules of the American Arbitration Association upon application by either party. The arbitration shall be conducted in accordance with the rules then prevailing of the American Arbitration Association or any successor thereof.

13. Entire Agreement. This Agreement represents the entire agreement between the parties and shall be binding upon each of the parties, their heirs, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this agreement under seal, the day and year first above written.

CONTRACTOR:

R. H. MOORE COMPANY, INC.

Attest:

(Seal)

By:

Its:

SUBCONTRACTOR:

UTILITY SERVICES AUTHORITY, LLC

By:

Its:

Attest:

(Seal)

By:

Its:

Exhibit "A"

The Work to be performed

1. Furnish and Install

Labor and equipment to install by HDD

3,854/lf of 20" FPVC (RHM to Provide)

Bores on sheets C-8 thru C-10, C-10 thru C-12, @ \$ 119.00/lf. \$ 458,626.00

2,550/lf of 20" FPVC (RHM to Provide)

Bores on sheets C-4, C-14, C-17, C-18 and C-19, C-19, C-22, C-25 and 26
@ \$89.00/lf. \$ 226,950.00

Sub-Total \$ 685,576.00

Bond 1-1/2 % \$ 10,284.00

Total \$ 695,860.00

A-1

Exhibit "B"Insurance Provisions**SUBCONTRACTOR'S INSURANCE**

Before commencing the subcontract work, and as a condition precedent for payment, the Subcontractor shall purchase and maintain insurance, in conformance with the provisions contained in this Exhibit. This insurance will provide a defense and indemnify Moore against any and all claims of any nature whatsoever, arising out of the Subcontractor's operations under this Agreement. This insurance shall apply regardless of whether the operations, actions, derelictions or failures to act, from which the claim arises, are attributable to the Subcontractor, any of its consultants, officers, agents, subcontractors, employees, or anyone directly or indirectly employed by any of them, including anyone for whose acts any of the aforementioned may be liable by operation of statute, government regulation, or applicable case law.

Proof of this insurance shall be provided to Moore before the work commences, as set forth below. In no event shall the failure to provide this proof, prior to the commencement of the work, be deemed a waiver by Moore of Subcontractor's insurance obligations set forth herein.

In the event that the insurance company(ies) issuing the policy(ies) required by this exhibit deny coverage to Moore, the Subcontractor will defend and indemnify Moore at the Subcontractor's expense.

MINIMUM LIMITS OF LIABILITY

The Subcontractor must maintain the required insurance with a carrier rated A- or better by A. M. Best.

The Subcontractor shall maintain at least the limits of liability as set forth below:

Commercial General Liability Insurance

\$1,000,000 Each Occurrence Limit (Bodily Injury and Property Damage)

\$2,000,000 General Aggregate

\$2,000,000 Products/Completed Operations Aggregate

\$1,000,000 Personal and Advertising Injury Limit

Comprehensive Automobile Liability Insurance

\$1,000,000 Combined Single Limit Bodily Injury and Property Damage

Excess/Umbrella Liability**\$1,000,000 Each Occurrence****\$1,000,000 Aggregate****Workers' Compensation and Employers' Liability Insurance****\$100,000 Each Accident****\$500,000 Each Employee for Injury by Disease****\$500,000 Aggregate for Injury by Disease****Additional Insured Status and Certificate of Insurance**

Moore and Owner, along with their respective officers, agents and employees, shall be named as additional insureds for Operations and Products/Completed Operations on the Subcontractor's Commercial General Liability Policy, which must be primary and noncontributory with respect to the additional insureds. This insurance shall remain in effect as set forth below, in the "Continuation of Coverage" provision.

It is expressly understood by the parties to this Contract that it is the intent of the parties that any insurance obtained by Moore is deemed excess, non-contributory and not co-primary in relation to the coverage(s) procured by the Subcontractor, any of its consultants, officers, agents, subcontractors, employees or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of the aforementioned may be liable by operation of statute, government regulation or applicable case law.

A Waiver of Subrogation Clause shall be added to the General Liability, Automobile and Workers Compensation policies in favor of Moore and Owner, and this clause shall apply to Moore's and Owner's officers, agents and employees, with respect to all projects during the policy term.

Prior to commencement of work, Subcontractor shall submit a Certificate of Insurance in favor of Moore and an Additional Insured Endorsement (in form acceptable to Moore) as required hereunder. The Certificate shall provide for 30 days' notice to Moore for cancellation or any change in coverage.

NO LIMITATION ON LIABILITY

In any and all claims against the additional insured by any employee of the Subcontractor, anyone directly or indirectly employed by the Subcontractor or anyone for whose acts the Subcontractor may be liable, the indemnification obligation shall not be limited in by any

limitation on the amount or type of damages, compensation or benefits payable by or for the Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

CANCELLATION, RENEWAL AND MODIFICATION

The Subcontractor shall maintain in effect all insurance coverages required under this Agreement at the Subcontractor's sole expense and with insurance companies acceptable to Moore. The policies shall contain a provision that coverage will not be cancelled or not renewed until at least thirty (30) days prior written notice has been given to Moore. Certificates of insurance showing required coverage to be in force pursuant to the Minimum Limits of Liability set forth hereinabove must be delivered to Moore prior to commencement of the Subcontract Work. In the event the Subcontractor fails to obtain or maintain any insurance coverage required under this Agreement, Moore may, at its sole discretion, purchase such coverage as desired for Moore's benefit and charge the expense to the Subcontractor, or, in the alternative, terminate this Agreement.

CONTINUATION OF COVERAGE

The Subcontractor shall continue to carry Completed Operations Liability Insurance for at least three years after either ninety (90) days following Substantial Completion of the Work or final payment to Moore, whichever is later. The Subcontractor shall furnish Moore evidence of such insurance at final payment and in each successive year during which the insurance coverage must remain in effect.

ACKNOWLEDGMENT OF REFERRAL OF THIS PROVISION TO SUBCONTRACTOR'S INSURANCE AGENT OR BROKER

The Subcontractor represents that he has provided a copy of the "Insurance Provisions" to his insurance agent and/or broker, and that the Subcontractor has instructed the agent/broker to provide insurance in full compliance with the terms and conditions herein.

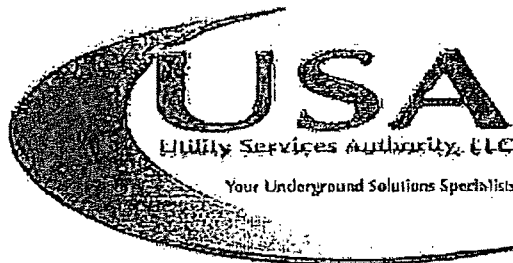
Moore and Subcontractor hereby acknowledge that this Exhibit is considered a material term of their contract.

Exhibit "C"

BID PROPOSAL

June 9, 2011

Customer: All Bidders
Attn: Project Estimator



RE: Dorchester Co – Wastewater System Improvements
USA Job No. 7035-0654

Utility Services Authority, LLC proposes to complete the work described below, including, unless specifically indicated, all labor and equipment, for the prices indicated.

THE FOLLOWING ARE INCLUDED IN THE ESTIMATE:

- Sht C4 - Install by HDD approximately 300 LF of 20" FPVC or 24" HDPE - \$89.00/LF
- Sht C8-10 Install by HDD approximately 1770 LF of 20" FPVC or 24" HDPE - \$119.00/LF
- Sht C10-12 Install by HDD approximately 2084 LF of 20" FPVC or 24" HDPE - \$119.00/LF
- Sht C14 Install by HDD approximately 198 LF of 20" FPVC or 24" HDPE - \$89.00/LF
- Sht C17 Install by HDD approximately 485 LF of 20" FPVC or 24" HDPE - \$89.00/LF
- Sht C18-19 Install by HDD approximately 360 LF of 20" FPVC or 24" HDPE - \$89.00/LF
- Sht C19 Install by HDD approximately 400 LF of 20" FPVC or 24" HDPE - \$89.00/LF
- Sht C22 Install by HDD approximately 357 LF of 20" FPVC or 24" HDPE - \$89.00/LF
- Sht C25-26 Install by HDD approximately 450 LF of 20" FPVC or 24" HDPE - \$89.00/LF

NOTES:

- HDPE Prices include fusion, install by HDD, and bore logs ONLY – NO MATERIALS
- FPVC Prices include install by HDD and bore logs ONLY – NO MATERIALS or FUSION
- If bonding is required – an additional (1 1/2%) will be added to the contract

RESPONSIBILITIES OF GENERAL CONTRACTOR/OWNER AT NO COST TO UTILITY SERVICES AUTHORITY, LLC

- A. Procurement of all HDPE pipe and appurtenances including trace wire.
- B. Procurement and fusion of all FPVC pipe and appurtenances including trace wire.
- C. Centerline staking and professional survey for as-built drawings
- D. Location of utilities or structures not located by the local one call utility locating system.
- E. Proposed centerline staking will be requested at 50' intervals on all lines.
- F. USA will do rough grade restoration of areas disturbed during the work indicated above. All final restoration is to be completed by the owner or general contractor at no cost to USA.
- G. Ample access and right of way to project, clearing and grubbing as requested, suitable for truck transportation with sufficient size to accommodate drill and mud system.
- H. Testing as specifications require.
- I. Permits, licenses and written permission from governmental authorities and private land owners to perform work

6001 SCHOOVER DR. • PO BOX 910 • BELLEVILLE, MI 48112
PHONE: (734) 481-0878 • FAX: (734) 482-1305

1 of 2

RH Moore002598

- J. All connections and tie-ins/tails will be required to be dug to grade.
- K. All safety signage as necessary water/land as per D.O.T. and Marine specifications
- L. Water source within 1 Mile of project.

GENERAL CONDITION:

- A. Pay limits are from point of entry to point of exit
- B. Our quote includes one mobilization and demobilization to site. Additional mobilization and demobilization, for any reason, will be at a rate of \$10,000.00 each way per move, for a total of \$20,000 per rig.
- C. Our quote does not include any stand by time waiting for owner/general contractor to complete any portion of their work or change in the site conditions. Our rate for standby time is \$2,500.00 per hour up to four hours and then \$15,000 per day.
- D. Crossing designs must be reflective of industry standards. Please refer to ASTM, ASCE and NASTT guide lines, to including geometry, pipe thickness and integrity, ground contours, pullback alignment, allotted workspace, and depth of cover beneath obstacles. If additional length is required for constructability, a per foot charge will be added to the contract.
- E. Utility Services Authority, LLC has assumed that site conditions are conducive to horizontal directional drilling and that no unforeseen obstacles such as caverns, fissures, boulders, gravel, cobble, rock will be encountered. If such conditions exist, Utility Services Authority, LLC reserves the right to cease operations and/or renegotiate at an equitable adjustments with the owner/general contractor. If unable to negotiate, our standby rate plus mobilization charges will be enforced.
- F. Quote does not include hazardous waste boring.
- G. This project can be scheduled as soon as this office receives a signed approval or purchase order.

Terms:

- A. Proposal does not include any, use tax, sales tax, occupational tax, or any other taxes other than state/federal income tax.
- B. This quotation is subject to mutually agreeable contract terms and conditions.
- C. Quote is good for 30 days
- D. No retainage will be held from USA by the owner/general contractor. per subcontract
- E. ~~Net 30 days~~

If you have any questions or concerns you can reach me in the office at (313) 350-1053

Thank you,

Chris Lamb
Project Manager

R. H. MOORE COMPANY, INC.
P. O. BOX 830 - 10601 S. C. HIGHWAY 707
MURRELLS INLET, S. C. 29576
PHONE: 843 - 650 - 2155 FAX: 843 - 650 - 0742

TO: Underground Solutions

13135 Danielson Street Suite 20

Poway CA, 92064

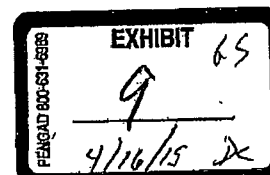
PURCHASE ORDER

P O. Number	985-5
Date:	28-Jul-11
Job Number:	965
Terms:	30 Days
Ship Via:	Best Way
Date Required	ASAP
Supplier Phone	804-739-9132
Attention:	Gary Shepherd
Page 1 of 1	

SHIP TO:		QUANTITY	UNIT	ITEM DESCRIPTION	UNIT PRICE	TOTAL
6404	LF	20" FPVC DR 25 DIPS Green	\$	99.00	\$	633,996.00
1	LS	DEDUCT CHANGE ORDER	\$	(35,000.00)	\$	(35,000.00)
					\$	-
		For Billing The deduct will be at \$ 5.47/lf.			\$	-
					\$	-
					\$	-
					\$	-
					\$	-
					\$	-
					\$	-
					\$	-
					\$	-
					\$	-
					\$	-
		All Purchase Orders are subject to engineer's approval of Submittals				
					\$	598,996.00
				7% Sales Tax	\$	41,929.72
				Total	\$	640,925.72

Robert M. Pickering
Robert M. Pickering F

Robert M. Pickering Project Manager



RH Moore002125

STATE OF SOUTH CAROLINA

COUNTY OF DORCHESTER

R. H. Moore Company, Inc.

Plaintiff,

v.

Knight's Precast, Inc., Tobias & West, LLC,
 Eric W. Tobias, P.E., Dorchester County Water
 and Sewer Department, Underground Solutions,
 Inc. and B.P. Barber and Associates, Inc. n/k/a
 URS Corporation, and Utility Services
 Authority, LLC,

Defendant.

) IN THE COURT OF COMMON PLEAS
) FIRST JUDICIAL CIRCUIT
) CASE NO.: 2012-CP-18-2001

)
)
)
) **PLAINTIFF'S ANSWERS TO THE**
) **FIRST SET OF INTERROGATORIES**
) **FROM DEFENDANT UTILITY**
) **SERVICES AUTHORITY, LLC**

TO: HARRY CLAYTON (CLAY) WALKER, JR., ESQUIRE AND REYNOLDS H.
BLANKENSHIP, JR., ESQUIRE, ATTORNEYS FOR UTILITY SERVICES
AUTHORITY, LLC

Plaintiff, answering the interrogatories propounded by Defendant Utility Services Authority, LLC. (hereinafter "Defendant" or "Utility Services"), states as follows:

GENERAL OBJECTIONS:

Plaintiff states the following General Objections to Defendant's First Set of Interrogatories which are incorporated in and made a part of each answer set forth below:

1. To the extent that Defendant's Interrogatories are inconsistent with or enlarge upon the South Carolina Rules of Civil Procedure, Plaintiff objects to such Interrogatory.
2. Plaintiff objects to each Interrogatory which seeks the disclosure of information which is protected by the attorney-client privilege, the work product doctrine, or any other applicable privilege or doctrine.
3. Plaintiff objects to each Interrogatory to the extent that it requests information in the possession of persons or entities that are not under the control of Plaintiff.
4. Plaintiff reserves the right to supplement or amend these answers.

**DEPOSITION
EXHIBIT**

THORNTON 19

ANSWERS TO INTERROGATORIES

1. Identify by name and title all persons who are answering these interrogatories on behalf of Plaintiff.

Answer: Interrogatories are being answered by R. H. Moore Company, Inc. with assistance of counsel. For the identity of persons having factual knowledge about the issues in the case, see Plaintiff's answer to interrogatory number 2 below.

2. Give the names and addresses of persons known to Plaintiff or counsel to be witnesses concerning the facts of the case and indicate whether or not written or recorded statements have been taken from the witnesses and indicate who has possession of such statements.

Answer:

Steve Thornton, R.H. Moore Company, Inc.
10601 Hwy. 707
Murrells Inlet, SC 29576

Steve Thornton, Project manager for the PS 67 project has knowledge of all daily activities of the project and was on site for the installation of the wet well and replacement. No written or recorded statement.

Joe Balles, R.H. Moore Company, Inc.
10601 Hwy. 707
Murrells Inlet, SC 29576

Joe Balles, Project superintendent for all Charleston area projects, has knowledge of the project and was on site for the well installation as well as the pipe installation between the existing wet well and new wet well structure. No written or recorded statement.

Henry Moore, R.H. Moore Company, Inc.
10601 Hwy. 707
Murrells Inlet, SC 29576

Henry Moore, President of R.H. Moore Company, Inc., has extensive education and pipe industry knowledge and was on site for the wet well installation. Mr. Moore has knowledge of the wet well failure and replacement. No written or recorded statement.

Kevin Moore, R.H. Moore Company, Inc.
10601 Hwy. 707
Murrells Inlet, SC 29576

Kevin Moore, Vice president of R.H. Moore Company, Inc., has knowledge of the project and was on site for the installation of the wet well as well as a majority of the replacement. No written or recorded statement.

Billy Lawson, R.H. Moore Company, Inc.
10601 Hwy. 707
Murrells Inlet, SC 29576

Billy Lawson, Foreman for R.H. Moore Company, Inc., has knowledge of the project and was on site for the installation of the wet well as well as the installation of the pipe between the existing wet well and new wet well structure. No written or recorded statement.

Chris Moody, R.H. Moore Company, Inc.
10601 Hwy. 707
Murrells Inlet, SC 29576

Chris Moody, Foreman for R.H. Moore Company, Inc., has extensive knowledge of the pipe industry and has knowledge of the PS 67 project. Mr. Moody was on site for the installation of the pipe between the existing wet well and new wet well structure. No written or recorded statement.

Chuck Layton and Representatives of Knights Precast, Inc.
c/o Steven L. Smith, Esquire
Smith & Closser, P.A.
Post Office Box 40578
Charleston, South Carolina 29423-0578

Chuck Layton and Representatives of Knights Precast have knowledge of the project. See transcript of 30(b)(6) deposition of Knights Precast by Chuck Layton taken March 19, 2014.

Eric W. Tobias, Tobias & West, LLC
1127 Queensborough Blvd #201
Mount Pleasant, SC 29464

Eric Tobias designed the failed structure for Knights Precast and has knowledge of the project. No written or recorded statement. See transcript of 30(b)(6) deposition of Tobias & West, LLC by Eric W. Tobias taken March 18, 2014.

John Weldon, P.E., URS, Inc.
4016 Salt Pointe Parkway
North Charleston, SC 29405

John Weldon, an Engineer for URS, Inc. (BP Barber), was responsible for the PS 67 project and has knowledge of the project. No written or recorded statement.

Ross Osterritter, URS, Inc.
4016 Salt Pointe Parkway
North Charleston, SC 29405

Ross Osterritter, an Inspector for URS, Inc. (BP Barber), was responsible for the inspection of the PS 67 project and has knowledge of the project. No written or recorded statement.

Daniel Huggins, P.E., URS, Inc.
4016 Salt Pointe Parkway
North Charleston, SC 29405

Daniel Huggins, an Engineer for URS, Inc. (BP Barber), stamped the project plans and has knowledge of the project. No written or recorded statement.

Kristen Champagne, P.E., Dorchester County Public Works
201 Johnston Street
St. George, SC 29477

Kristen Champagne is an Engineer and Director of Public Works for Dorchester County Public Works and has knowledge of the project. No written or recorded statement.

Jason Coffman, Dorchester County Public Works
201 Johnston Street
St. George, SC 29477

Jason Coffman is a Project engineer for Dorchester County Public Works and has knowledge of the project. No written or recorded statement.

Danny Harmon, Dorchester County Public Works
201 Johnston Street
St. George, SC 29477

Danny Harmon is an Inspector for Dorchester County Public Works and has knowledge of the project. No written or recorded statement.

Bob Rush - BB& T Boyle Vaughn Insurance
P.O. Box 8628
Columbia, SC 29202

Bob Rush, Insurance agent for BB & T Boyle Vaughn Insurance, is familiar with the wet well failure and is familiar with R. H. Moore Company. No written or recorded statement.

Representatives of Underground Solutions, Inc.
c/o Franklin J. Smith, Jr., Esquire
Richardson, Plowden, Carpenter & Robinson, P.A.
Post Office Drawer 7788
Columbia, SC 29201

Representatives of Underground Solutions, Inc. have knowledge of the design, manufacture and supply of the FPVC pipe used on the project, as well as component parts, materials, fusion machines and tools. No written or recorded statement.

Representatives of Utility Services Authority. LLC
P. O. Box 910
Belleville, MI 48112

Representatives of Utility Services Authority, LLC provided the labor and equipment to install the 20" FPVC on the Project and have knowledge of the project. No written or recorded statement.

Dale B. Edwards, P.E.
Engineering Systems, Inc.
4215 Campus Drive
Aurora, IL 60504

Dale B. Edwards, of Engineering Systems, Inc., wrote a preliminary investigative report regarding the inspection of a 20-inch DR21 PVC Pipe for Tom Marti of Underground Solutions. See report dated August 14, 2012, Bates stamped RH Moore 002090-2101.

Plaintiff incorporates by reference any and all witnesses, factual or experts, named by any party to this case in their responses to any other party's Interrogatories and incorporates by reference any and all people whose names appear in any of the documents produced by any party to this case in their responses to any other party's Request for Production of documents.

3. For each person known to Plaintiff or counsel to be a witness concerning the facts of the case, set forth a summary sufficient to inform USA of the important facts known to or observed by such witness.

Answer: See answer to interrogatory number 1.

4. Set forth a list of photographs, plats, sketches or other prepared documents in your possession that relate to the claim or defense in the case.

Answer: Documents in Plaintiff's possession which were previously produced to this Defendant in electronic format (CD) are as follows:

Documents from R. H. Moore Company, Inc.; Bates stamped RH Moore 000001-001674, and

Documents from R. H. Moore Company, Inc.; Bates stamped RH Moore 001675-002824.

5. Set forth an itemized statement of all actual, consequential, and incidental damages claimed to have been sustained by Plaintiff as a result of the alleged breach of contract by USA.

Answer: Plaintiff claims the following damages:

Liquidated Damages	\$ 229,486.00
Wetwell Replacement	\$ 629,485.00
Drill Replacement	\$ 454,938.00
Cost of Money	To be Supplemented

There is 15% Profit in the Wetwell & Drill Replacement Cost.
The Wetwell Replacement number may be subject to some adjustment based upon verification of Wet well costs

Discovery is ongoing and the Plaintiff reserves the right to supplement this response to conform to future damages that may be discovered and/or highlighted by investigations.

6. Please identify and describe all causes of the failure of the FPVC pipe that is the subject of this lawsuit.

Answer: The Plaintiff object to this Interrogatory as overly broad, vague, and unduly burdensome, and to the extent that it seeks a legal conclusion or attempts to elicit attorney client privileged information, attorney work-product information, and/or information prepared in anticipation of litigation. Subject to the foregoing objections, Plaintiff refers to the pleadings and the documents produced in response to Defendant's Requests for Production for the facts known at this time. In particular, Plaintiff refers to the Report prepared by Theodore Padgett dated April 21, 2012, Bates Stamped RH Moore 472-476; and the Report prepared by Craig D. Rogers, P.E. of Rimkus Consulting for Hanover Insurance Company, dated July 30, 2012, Bates stamped RH Moore 428 -446 and the report produced by Timothy W. Rickborn, P.E. of Rickborn & Associates, LLC, dated June 7, 2013, Bates stamped 001670-1674 and the Affidavit Timothy Rickborn, PE. Attached to the Third Amended Complaint.

7. For each cause identified in your answer to Interrogatory No. 6, please set forth all Facts and identify all documents supporting that conclusion.

Answer: See Answer to Interrogatory number 6.

8. For each cause identified in your answer to Interrogatory No. 6, please identify all expert witnesses who will testify at trial on your behalf in support of that conclusion.

Answer: Plaintiff has not, as yet, determined which experts will testify at trial but reserves the right to do so at a later date. Subject to the aforesaid objection, Plaintiff identifies the following as expert witnesses who may testify on behalf of Plaintiffs.

Theodore Padgett - Consulting Engineer
4865 Highlander Lane
Hollywood, SC 29449

Please see the Report prepared by Theodore Padgett dated April 21, 2012, Bates Stamped RH Moore 472-476; for substance of the facts and opinions upon which the expert is expected to testify and the a summary of the grounds for each such opinion. See also Curriculum Vitae of Theodore Padgett attached.

Craig D. Rogers - Rimkus Consulting Group, Inc.
1525 Sam Rittenberg Blvd. Suite 103
Charleston, SC 29407

Craig D. Rogers, Engineer and Property Division Manager for Rimkus Consulting Group, wrote a report claiming design defects on the Project. Please see report prepared for Hanover Insurance Company by Mr. Rogers, dated July 30, 2012, Bates stamped RH Moore 428 -446.

Timothy Rickborn, PE
Rickborn & Associates
266 West Coleman Blvd, Suite 102
Mt. Pleasant, SC 29464

Please see report produced by Timothy W. Rickborn, P.E. of Rickborn & Associates, LLC, dated June 7, 2013, Bates stamped 001670-1674 and the Affidavit attached to the Third Amended Complaint.

Dr. Gene Palermo
Palermo Plastics Pipe Consulting
654 Watershaw Drive
Friendsville, TN 37737

Dr. Palermo is an expert in the evaluation of plastic pipe products and will testify as to his analysis of plastic pipe and plastic pipe failures. See transcript of Deposition of Gene Palermo taken October 14, 2014.

William (Bill) Wright, P.E.
Terracon
1450 5th Street, West
North Charleston, SC 2405

No written or recorded statement.

9. Please identify all acts and omissions by USA, individually or collectively, which you allege constituted breach of contract.

Answer: See Answer to Interrogatory number 6.

10. Please identify all acts and omissions by USA, individually or collectively, which you allege constituted breach of warranty of workmanlike service.

Answer: See Answer to Interrogatory number 6.

11. Please identify all witnesses who have knowledge of the acts and/or omissions identified in your answers to Interrogatory No. 9, Interrogatory No. 10, or both, and specify of which acts and omissions each witness has knowledge.

Answer: See Answer to Interrogatory number 6.

12. Please identify all expert witnesses who will testify at trial on your behalf in support of the conclusion that USA breached the contract and/or the alleged warranty of workmanlike service.

Answer: See answer to interrogatory number 8.

13. For all experts identified in your answers to USA's Interrogatories, please state the following:

a. The name and last known address and telephone number, occupation, and area of expertise or discipline of each such expert;

b. The substance of facts to which each such expert is expected to testify;

c. The opinion held by each such expert to which each such expert will testify;

d. The grounds of each opinion to which each such expert will testify; and

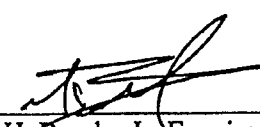
e. The background experience of each such expert with regard to the matters in controversy.

Answer: See answer to interrogatory number 8.

14. Please identify all declarations against interest that you allege have been made by USA.

Answer: Plaintiff is not aware of any declarations against interest made by Utility Services.

SMITH, BUNDY, BYBEE & BARNETT, P.C.



W. H. Bundy, Jr. Esquire
M. Brent McDonald, Esquire
Post Office Box 1542
Mt. Pleasant, South Carolina 29465-1542
Telephone: (843) 881-1623
Attorney for Plaintiff R. H. Moore Company, Inc.

Mt. Pleasant, South Carolina
February 17, 2015

CERTIFICATE OF SERVICE

I, Sarah Foster Rock, an employee of Smith, Bundy, Bybee & Barnett, P.C., hereby certify that true and correct copies of Plaintiff's Answers to the First Interrogatories of Defendant Utility Services Authority, LLC were served on all parties this 17th day of February, 2015, via U.S. Mail and E-Mail as follows:

Steven L. Smith, Esquire
Smith & Closser, P.A.
7455 Cross County Road, Suite One
Post Office Box 40578
Charleston, South Carolina 29423-0578
Attorney for Knights Precast, Inc.
ssmith@Scnlaw.com

Paul E. Sperry, Esquire
C. Robin Graham, Esquire
Carlock Copeland & Stair, LLP
40 Calhoun Street, Suite 400
Charleston, SC 29401
Attorneys for Tobias & West, LLC and Eric W. Tobias
psperry@carlockcopeland.com
rgraham@carlockcopeland.com

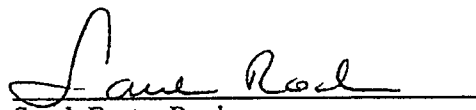
Franklin J. Smith, Jr., Esquire
Richardson, Plowden, Carpenter & Robinson,
Post Office Drawer 7788
Columbia, SC 29201
Attorney for Underground Solutions, Inc.
fsmith@rperlav.com

Jerrold Abeles, Esquire
Arent Fox, LLP
555 West Fifth Street, 48th Floor
Los Angeles, CA 90013
Pro Hac Vice Attorney for Underground Solutions

John G. Frampton, Esquire
201 Johnston Street
St. George, SC 29477
Attorney for Dorchester County Water and Sewer Department
jframpton@dorchestercounty.net

Michael B. T. Wilkes, Esquire
Derek M. Newberry, Esquire
Wilkes Law Firm, P.A.
200 Meeting Street, Ste. 205
Charleston, SC 29401
Attorneys for BP Barber and Associates, Inc. n/k/a URS Corporation
dnewberry@wilkeslaw.com
mwilkes@wilkeslaw.com

Harry Clayton (Clay) Walker, Jr., Esquire
Reynolds H. Blankenship, Jr., Esquire
Walker & Reibold, LLC
PO Box 61140
Columbia, SC 29260
Attorney for Utility Services Authority, LLC
cwalker@walkerreibold.net
rblankenship@walkerreibold.net


Sarah Foster Rock

STATE OF SOUTH CAROLINA

COUNTY OF DORCHESTER

R. H. Moore Company, Inc.

Plaintiff,

v.

Knight's Precast, Inc., Tobias & West, LLC
and Eric W. Tobias, P.E. Dorchester County
Water and Sewer Department, Underground
Solutions, Inc., B.P. Barber and Associates,
Inc. n/k/a URS Corporation and Utility
Services Authority, LLC,

Defendants.

) IN THE COURT OF COMMON PLEAS
) FIRST JUDICIAL CIRCUIT
) CASE NO.: 2012-CP-18-2001

**PLAINTIFF'S RESPONSES TO THE
FIRST SET OF REQUESTS
FOR PRODUCTION FROM
DEFENDANT UTILITY SERVICES
AUTHORITY, LLC**

**TO: HARRY CLAYTON (CLAY) WALKER, JR., ESQUIRE AND REYNOLDS H.
BLANKENSHIP, JR., ESQUIRE, ATTORNEYS FOR UTILITY SERVICES
AUTHORITY, LLC**

Plaintiff, responding to the requests for production propounded by Defendant Utility
Services Authority, LLC, (hereinafter "Defendant" or "Utility Services"), states as follows:

GENERAL OBJECTIONS:

Plaintiff states the following General Objections to Defendant's Requests for Production
which are incorporated in and made a part of each answer set forth below:

1. To the extent that Defendant's Requests are inconsistent with or enlarge upon the
South Carolina Rules of Civil Procedure, Plaintiff objects to such Request.
2. Plaintiff objects to each Request which seeks the disclosure of information which is
protected by the attorney-client privilege, the work product doctrine, or any other applicable
privilege or doctrine.
3. Plaintiff objects to each Request to the extent that it requests information in the
possession of persons or entities that are not under the control of Plaintiff.
4. Plaintiff reserves the right to supplement or amend these responses.

RESPONSES TO REQUESTS FOR PRODUCTION

1. All documents identified in your Answers to Interrogatories.

Response: Documents in Plaintiff's possession which were previously produced to this Defendant in electronic format (CD) are as follows:

Documents from R. H. Moore Company, Inc.; Bates stamped RH Moore 000001-001674, and

Documents from R. H. Moore Company, Inc.; Bates stamped RH Moore 001675-2824.

2. All documents that you contend support one or more of the allegations contained in the Complaint.

Response: See response to request for production number 1.

3. All documents received by any expert who is expected to testify at trial on your behalf.

Response: See response to request for production number 1.

4. All documents provided by Plaintiff or Plaintiff's counsel to any expert who is expected to testify at trial on Plaintiff's behalf.

Response: See response to request for production number 1.

5. A current curriculum vitae or resume for each person whom you may call as an expert witness at the trial.

Response: To be supplemented.

6. All documents reviewed by any expert who is expected to testify at trial on your behalf.

Response: See response to request for production number 1.

7. All documents generated by or on behalf of any expert who is expected to testify at trial on your behalf.

Response: See response to request for production number 1.

8. All correspondence between or among Plaintiff, Plaintiff's counsel, and any expert who is expected to testify at trial on Plaintiffs behalf, including but not limited to letters, notes, emails, text messages, and internet/social media messages.

Response: See response to request for production number 1.

9. Your entire project file related to the subject FPVC pipe.

Response: See response to request for production number 1.

SMITH, BUNDY, BYBEE & BARNETT, P.C.



W. H. Bundy, Jr. Esquire
M. Brent McDonald, Esquire
Post Office Box 1542
Mt. Pleasant, South Carolina 29465-1542
Telephone: (843) 881-1623
Attorney for Plaintiff R. H. Moore Company, Inc.

Mt. Pleasant, South Carolina
February 17, 2015

CERTIFICATE OF SERVICE

I, Sarah Foster Rock, an employee of Smith, Bundy, Bybee & Barnett, P.C., hereby certify that true and correct copies of Plaintiff's Answers to the First Requests to Produce Defendant Utility Services Authority, LLC were served on all parties this 17th day of February, 2015, via U.S. Mail and E-Mail as follows:

Steven L. Smith, Esquire
Smith & Closser, P.A.
7455 Cross County Road, Suite One
Post Office Box 40578
Charleston, South Carolina 29423-0578
Attorney for Knights Precast, Inc.
ssmith@Scnlaw.com

Franklin J. Smith, Jr., Esquire
Richardson, Plowden, Carpenter & Robinson,
Post Office Drawer 7788
Columbia, SC 29201
Attorney for Underground Solutions, Inc.
fsmith@rperlaw.com

John G. Frampton, Esquire
201 Johnston Street
St. George, SC 29477
**Attorney for Dorchester County Water and
Sewer Department**
jframpton@dorchestercounty.net

Harry Clayton (Clay) Walker, Jr., Esquire
Reynolds H. Blankenship, Jr., Esquire
Walker & Reibold, LLC
PO Box 61140
Columbia, SC 29260
Attorney for Utility Services Authority, LLC
cwalker@walkerreibold.net
rblankenship@walkerreibold.net

Paul E. Sperry, Esquire
C. Robin Graham, Esquire
Carlock Copeland & Stair, LLP
40 Calhoun Street, Suite 400
Charleston, SC 29401
**Attorneys for Tobias & West, LLC and
Eric W. Tobias**
psperry@carlockcopeland.com
rgraham@carlockcopeland.com

Jerrold Abeles, Esquire
Arent Fox, LLP
555 West Fifth Street, 48th Floor
Los Angeles, CA 90013
**Pro Hac Vice Attorney for Underground
Solutions**

Michael B. T. Wilkes, Esquire
Derek M. Newberry, Esquire
Wilkes Law Firm, P.A.
200 Meeting Street, Ste. 205
Charleston, SC 29401
**Attorneys for BP Barber and Associates, Inc.
n/k/a URS Corporation**
dnewberry@wilkeslaw.com
mwilkes@wilkeslaw.com


Sarah Foster Rock

Brent McDonald

From: Frank Smith <FSmith@RichardsonPlowden.com>
Sent: Monday, October 19, 2015 4:59 PM
To: Bill Bundy; Brent McDonald; Sperry, Paul E.; Steve Smith
Subject: FW: Case 2012CP1802001- R. H. Moore Company, Inc VS Knight's Precast, Inc , defendant, et al added to Court Roster for period 2015-10-26 through 2015-10-30.

I just wanted to let y'all know that Underground Solutions will be filing an appeal to Judge Goodstein's order tomorrow, so y'all can decide what you want to do with the rest of the case for next week.

Thanks
 Frank

-----Original Message-----

From: Karen Jandron
Sent: Monday, October 19, 2015 4:41 PM
To: Frank Smith
Subject: FW: Case 2012CP1802001- R. H. Moore Company, Inc VS Knight's Precast, Inc , defendant, et al added to Court Roster for period 2015-10-26 through 2015-10-30.

See below!

-----Original Message-----

From: Courtmail18_DoNotReply@sccourts.org [mailto:Courtmail18_DoNotReply@sccourts.org]
Sent: Monday, October 19, 2015 4:31 PM
To: Karen Jandron
Cc: cayer@dorchestercounty.net
Subject: Case 2012CP1802001- R. H. Moore Company, Inc VS Knight's Precast, Inc , defendant, et al added to Court Roster for period 2015-10-26 through 2015-10-30.

REMINDER OF JURY TRIAL ROSTER: Your case is No. 1 for trial..... Presiding Judge: Diane S. Goodstein, Dorchester County Courthouse, 5200 E. Jim Bilton Blvd., St. George, SC, Courtroom D. Roster Meeting @ 9:30 am; Jury Selection @ 10:00 am. Please review the Roster Newsletter at dorchestercounty.net for instructions on continuances, scheduling orders and protection requests.

Thank you, Becky Stevens, Asst. Civil Court Coordinator s/Maite' Murphy Chief Administrative Judge Becky Stevens, Asst. Civil Court Coordinator Dorchester County Clerk of Court's Office bstevens@dorchestercounty.net ~~~ CONFIDENTIALITY NOTICE ~~~ This message is intended only for the addressee and may contain information that is confidential. If you are not the intended recipient, do not read, copy, retain, or disseminate this message or any attachment. If you have received this message in error, please contact the sender immediately and delete all copies of the message and any attachments.

CERTIFICATE OF COUNSEL

The undersigned hereby certifies that this Record on Appeal contains all material proposed to be included by any of the parties and not any other material and that this Record on Appeal complies to the best of my ability with the April 15, 2014 order from the South Carolina Supreme Court entitled "Revised Order Concerning Personal Identifying Information and Other Sensitive Information in Appellate Court Filings."



Franklin J. Smith, Jr.
Carmen V. Ganjehsani
RICHARDSON, PLOWDEN & ROBINSON, PA
1900 Barnwell Street (29201)
Post Office Drawer 7788
Columbia, South Carolina 29202
(803) 771-4400
ATTORNEYS FOR APPELLANT
UNDERGROUND SOLUTIONS, INC.

May 9, 2016.

RECEIVED

MAY 27 2016

SC Court of Appeals