STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF

WASTE MANAGEMENT)
DISPOSAL SERVICES OF MAINE,)
NORRIDGEWOCK, SOMERSET)
)
#S-010735-WD-YB-N)

APPLICATION FOR CROSSROADS LANDFILL EXPANSION
PERMIT, MAINE HAZARDOUS WASTE, SEPTAGE
AND SOLID WASTE MANAGEMENT ACT
PUBLIC HEARING

PRESIDING OFFICER: SUSANNE MILLER

VIDEOCONFERENCE HEARING reported by Robin J. Dostie, a Notary Public and court reporter in and for the State of Maine, on October 1, 2020, via live Zoom meeting commencing at 1:00 p.m.

REPRESENTING DEP STAFF:

DAVID BURNS, DIRECTOR, BRWM
VICTORIA ELEFTHERIOU, DEPUTY DIRECTOR, BRWM
MOLLY KING, DIRECTOR, DIV. OF TECHNICAL SERVICES
LINDA BUTLER, PROJECT MANAGER
GAIL LIPFERT, ENVIRONMENTAL HYDROGEOLOGY SPECIALIST
KATHY TARBUCK, SENIOR ENVIRONMENTAL ENGINEER
RUTH ANN BURKE, OFFICE SPECIALIST

COUNSEL TO THE DEPARTMENT:

KATHERINE TIERNEY, ASSISTANT ATTORNEY GENERAL
PEGGY BENSINGER, ASSISTANT ATTORNEY GENERAL

PARTIES

Applicant: Waste Mgmt. Disposal Services of Maine

Sherwood McKenny, District Engineer
Waste Management Disposal Services of Maine
P.O. Box 629
Norridgewock, ME 04957
(207) 240-9787
smckenne@wm.com

Juliet Browne, Esq.
Verrill
One Portland Square
Portland, ME 04101-4054
(207) 253-4608
jbrowne@verrill-law.com

Mathew Todaro, Esq.
Verrill
One Portland Square
Portland, ME 04101-4054
Portland, ME 04101-4054
(207) 253-4932
mtodaro@verrill-law.com

Scott Luettich, P.E.
Geosyntec Consultants
(207) 446-0140
SLuettich@Geosyntec.com

Intervenor: Town of Norridgewock

Richard LaBelle, Town Manager
Town of Norridgewock
16 Perkins Street, P.O. Box 7
Norridgewock, ME 04957
(207)634-2252
townmanager@townofnorridgewock.com

Robert Grillo
CMA Engineers, Inc.
10 Free Street, 2nd Floor
Portland, ME 04101
(207) 590-5598
rgrillo@cmaeneinggers.com

PARTIES CONTINUED

Interested Persons:

Sean Mahoney, Executive Vice President
Conservation Law Foundation
53 Exchange Street, Suite 200
Portland, ME 04101
(207) 21--6439 ext. 5102
Smahoney@clf.org

PROCEEDINGS

MS. MILLER: Well, good afternoon, everybody. I now call to order this public hearing of the Maine Department of Environmental Protection on the application for a license filed by Waste Management Disposal Services of Maine for a solid waste landfill expansion. The license application is for the proposed Phase 14 solid waste landfill expansion at the Crossroads Landfill located in Norridgewock, Maine.

Before we get started, I'd like to just go over some considerations for Zoom Etiquette. First, make sure to stay muted unless you're speaking. So basically everybody should be on mute unless it's your turn to speak. Second, turn off your video unless you're actively participating in the hearing. So basically the parties, you know, can keep their video on. We want to make sure that if you're just kind of observing and listening in, if you can turn your video off that will help with the overall, you know, audio/visual presentation piece. Finally, should you have any questions you can send a message to Ruth Ann Burke, who is moderating this session through a private chat message. To do to this just go to the chat function and make sure you send a

message to Ruth Ann and not to the entire group unless you want everybody to see what you're saying.

My name is Susanne Miller. I am the Director for the Department's Eastern Maine Regional Office and I have been designated the Presiding Officer for this matter by the Commissioner of the Department. This designation is limited in its scope to the authority necessary to conduct a hearing and administer governing procedural statutes and regulations in the development of the administrative record. My role does not include the ultimate decision-making authority on the merits of the application, which the Commissioner expressly retains.

This hearing is to gather evidence to evaluate the application submitted by Waste Management pursuant to the Department's requirements under Maine's Solid Waste Management Rules, specifically Department Rules 400, 401, and 405, and Maine's Statutes, specifically 38 M.R.S. Section 1310-N and 2101. The purpose of the hearing is to receive testimony from the parties and the general public on whether the proposed project meets these requirements. The information collected from this hearing process and from the administrative record as

a whole will help the Department make an informed decision based on the facts and statutory requirements.

Waste Management must meet all of the applicable licensing criteria in its written submissions, but this hearing will focus on a subset of the criteria, those that are of most concern to the town, the public, and the Department. The criteria for consideration at the hearing are limited to the following: Groundwater aquifer protection; visibility of the landfill; noise; odors; the solid waste hierarchy; and recycling. These hearing criteria are described in more detail in the Second Procedural Order, which was issued on June 9, 2020.

Joining us on Zoom from the Department of Environmental Protection today are David Burns, the Director of the Bureau of Remediation and Waste Management; Victoria Eleftheriou, the Deputy Director for the Bureau of Remediation and Waste Management; Molly King, the Director of the Division of Technical Services; Linda Butler, the Project Manager; Gail Lipfert, the Environmental Hydrogeology Specialist; Kathy Tarbuck, Senior Environmental Engineer; Ruth Ann Burke, the Office Specialist and she's also moderating this for us. And also with us are

Katherine Tierney and Peggy Bensinger will be joining us a little bit later, Assistant Attorneys General and Counsel to the Department.

This public hearing is being recorded and will be transcribed. Copies of the transcript will be available upon request once the transcript is completed. Our court reporter is Robin Dostie from Dostie Reporting Service. Prior to presenting your direct testimony or cross-examining a witness, please state your name clearly and who you are affiliated with. I may need to ask questions from time to time to clarify names, affiliations, and exhibits just to ensure that it is clear for the transcript, so please bear with me as that occurs.

As I mentioned, Ruth Ann Burke from the Department will be moderating the hearing using the Zoom platform. As we progress through the hearing, please direct any questions or issues to Ruth Ann through the private chat function on Zoom. As a reminder, everybody should check to make sure that their mute button is on when they are not speaking so that any side conversations or unwanted conversations are not included in the record transcript and also so as not to interrupt who is speaking. The only exception to this will be for a party representative

who wishes to voice an objection during the course of the adjudicatory hearing process.

This hearing is being held by the Department pursuant to the Maine Administrative Procedure Act, Title 5, Sections 9051-9064 and Chapter 3 of the Department's Rules, Rules Governing the Conduct of Licensing Hearings. On May 28, 2020 and August 21, 2020, the Department held pre-hearing conferences using Zoom in which this hearing's procedures were discussed. The procedures and rulings for this hearing are specified in three Procedural Orders as follows: The First Procedural Order issued April 4, 2020; Second Procedural order June 9, 2020; the Third Procedural order August 24, 2020.

Notice of this public hearing was published in the Kennebec Journal/Maine Sentinel on September 1, 2020 and September 22, 2020. Notice was also sent to the parties as well as those persons and entities set forth in Chapter 3 and all those specifically requesting notification.

There will be two distinct portions of the hearing. During the daytime portion of the hearing, the Department will receive evidence from the Applicant and the Intervenor. The Intervenor in this proceeding is the Town of Norridgewock and the

Applicant is Waste Management. During the evening portion of the hearing the Department will hear testimony from the general public.

All witnesses at this hearing will be sworn including members of the general public. All witnesses, including members of the public are subject to cross-examination from the Applicant and the Intervenor and questions from the Department staff.

All evidence already entered into the record is available on the Department's website. If you have any difficulty locating a specific document or need more information you may contact Linda Butler, the Project Manager for the Department.

All participants in the public hearing are expected to conduct themselves professionally and respectfully in their dealings with the public and the Department throughout all of these proceedings. The goal is to have a fair and productive public hearing and I thank you in advance for participating and for your patience as we get used to doing this virtually.

With that, we will get the proceeding started beginning with the Applicant's opening statement from Ms. Browne.

JULIET BROWNE: Thank you. Good afternoon, everybody. Juliet Browne from the law firm of Verrill in Portland Maine, counsel for Waste Management. Also here today with me is my colleague Matt Todaro. And on behalf of the entire Waste Management team, I just want to express our appreciation for the opportunity today to present information on the Phase 14 project and answer questions from the Department and the Town and then hear this evening from members of the public.

I also want to thank the Department staff for the incredible amount of work that they have done to review this application. It's a highly technical very voluminous application and as you can tell from the number of staff that are involved, it's required a great deal of effort by staff to review and we appreciate the deliberate process in which that review has occurred.

I also want to thank the Town, which is the host community here. Waste Management has always worked to be a partner with the Town and worked hard. We want to make sure that we are very responsive to questions and concerns that the Town may have, not only today, but, quite frankly, every day because we really value the importance of that relationship and

want to make sure we remain a good corporate citizen with the Town.

We obviously, and as the Presiding Officer mentioned, are not going to go through the entirety of the application or all of the review criteria, so we are focusing on those topics that the Department and the Town identifies as of most interest. And we previously provided copies of PowerPoint presentations and our plan is to have our witnesses present the information that's on those PowerPoint presentations. And presenting today will be Jeff McGown and Sherwood McKenny from Waste Management; Scott Luettich from Geosyntec; Alistair Macdonald from Golder Associates; Scott Bodwell from Bodwell EnviroAcoustics; and Lisa Wilkinson from SCS Engineers. There are some additional individuals that are on the panels, they won't be presenting, but they are available to answer questions on cross and that includes Nick Yafrate from Geosyntec, Brendan Lennon from Golder Associates, and Joe Iannuzzi from Waste Management. We also have present on behalf of Waste Management Chris Prucha. He is the Director of Groundwater and Technical Programs for Waste Management and is available to answer questions as well if necessary and appropriate.

MS. MILLER: Juliet, can you just tell me how you spell his last name?

JULIET BROWNE: P-R-U-C-H-A.

MS. MILLER: Thank you.

JULIET BROWNE: Not as it sounds. And I'd be happy to follow-up with Robin on names and spellings.

We obviously wish we could be presenting in-person. Obviously for health reasons we can't, so bear with us as we all work with the technology. I hope it will be seamless, but inevitably there will be technological glitches. If for some reason you can't see, we'll be sharing screens a lot, if you can't see slides or if you can't hear the witness, you know, let us know either through the chat function or interrupting if appropriate because we want to make sure this is as efficient, meaningful process for everybody as it can possibly be given the format.

That's all on my end. I'll turn it over to the Town and then we'll just jump right into the presentations so that you can hear from Waste Management and its consultants about the Phase 14 project and answer questions on it. And, again, thank you all for your time here today and for

working through the virtual format. We really appreciate it.

MS. MILLER: Thank you, Ms. Browne. So, yes, now if the Town is ready to present any introductory or opening statement they can go ahead and do so.

RICHARD LABELLE: Thank you. My name is Richard LaBelle. I'm the Town Manager for the Town of Norridgewock. And just real briefly, I want to thank the Department for their time and allowing us the opportunity to be intervenors here and protect the best interest of our community as a whole is important and in order to do that we need competent assistance on our end and for that we have elected Bob Grillo, who is an engineer with CMA Engineers, so largely he will be speaking on our behalf especially for the technical items here today and so we'll be deferring to him in large part.

We're here, as I said earlier, to protect the interests of our community as a whole and our ability to vet the witnesses and ask appropriate questions on behalf of the residents and taxpayers. We're hoping that our questions will be answered satisfactorily and we'll have sufficient explanations that, yes, are great for the qualified folks but also

the every day person to have a thorough understanding of what's going on. We appreciate the index of information from Waste Management that has come over to us electronically and so hopefully we'll navigate those and everybody will learn something today on behalf of the public.

To give a little bit of perspective, and most of you are aware of this, but we did complete our host negotiations last fall and the first item increase on that, which is one of three phases, took place on the 1st of January, so we have already benefited from this new agreement and that will continue until when and if the new phase is approved and they begin to landfill in that section. From our perspective moving forward, we have a local site plan review ordinance that they will have to comply with after or maybe at the same time as the state application is pending, but, again, that's of interest to us here today to allow us to tune into some of those preliminary interests.

So, again, we appreciate the Department in terms of the proceeding that's here today. We thank you for allowing us to participate. We thank Waste Management for their courtesy of answering our questions so far very clearly to date and thank you.

MS. MILLER: Thank you, Mr. LaBelle. Okay. So the first witnesses we have on our agenda are Mr. McGown and Mr. McKenny and I need to swear you both in. So I see Mr. McGown. There you are, Mr. McKenny. Okay. So if you can both raise your right hand and do you swear or affirm that the testimony you are about to give is the whole truth and nothing but the truth?

JEFFREY MCGOWN: It is.

SHERWOOD MCKENNY: It is. I do.

MS. MILLER: Thank you. And, please, go ahead.

JEFFREY MCGOWN: Thank you. Good afternoon. My name is Jeff McGown. I am the Senior District Manager for Crossroads Landfill located in Norridgewock. I am just completing my 28th year with Waste Management. I live in the Town of Norridgewock. We work very closely with the community. As Richard stated earlier, we have a new host community agreement with what we feel are very significant benefits to the Town of Norridgewock.

Crossroads provides essential and cost-effective municipal solid waste disposal capacity for approximately 55 communities in western and central Maine. You'll see in green on the map

the Crossroads communities. They range from the mid-coast easterly to the Newport region, north to Greenville and over to Jackman and then down to western Maine in the Rumford/Mexico area. We also provide vital back up capacity to the communities in yellow, Maine Waste to Energy in Auburn, and the municipal review communities in lighter green in the Bangor region.

For these communities Crossroads provides a critical and cost-effective disposal option not provided by other facilities in the state. Existing capacity provided by the Phase 8 expansion will be fully utilized by 2024. Phase 14 will allow the facility to continue to serve the needs of Maine communities and businesses for years to come. The Crossroad facility is also important in keeping costs stable and competitive in Maine. Without Phase 14 there will be a significant shortage of landfill capacity in the state. Sherwood.

SHERWOOD MCKENNY: Good afternoon. My name is Sherwood McKenny and I am the District Engineer at Crossroads Landfill. I have worked for Waste Management over 30 years and live locally throughout that time period.

This slide represents an aerial photograph

of Crossroads facility. To help you get your bearings the cursor is currently shown on a local landmark known as the Central Maine Regional Airport. Near the airport is a residential transfer station, which is located on the Airport Road. The site entrance off from Route 2 is where waste hauling vehicles access the facility and proceed to the scale house before traveling to the active Phase 8 landfill disposal cell. This cell is projected to be filled by early 2024 whereby development of the proposed Phase 14 is necessary in order to continue landfill disposal operations at Crossroads. The design and permitting process related to the Phase 14 landfill is currently under way. Approval of this landfill development will provide additional capacity for those municipalities and businesses within Crossroads' disposal region once Phase 8 landfill has been filled. Also shown on this aerial photo is the landfill gas to energy plant, which will be discussed in more detail in subsequent presentations as well as several landfill units that have achieved final permitted grades and have since been closed in accordance with state regulations.

Next slide, please. Since a site visit was not possible for COVID-19 reasons, I would like to

take this opportunity to walk through several photographs of the Phase 14 area. For orientation purposes, north is straight up on all of the aerial images shown in the upper left corner, which provide the location associated with each photograph which is shown in the lower right corner.

This picture was taken from the southeast end of the Phase 14 area looking northeast. This is an old haul road to a previously used soil borrow area that Waste Management has since reclaimed. The borrow area provided soil material for former landfill cell construction projects previously completed at Crossroads. This slide also reflects a former borrow source located along a peninsula of trees that was reclaimed and vegetated when the soil materials were depleted. This picture was taken from the southeast corner of Phase 14 looking northwest.

This slide shows an embankment of stockpiled soils not suitable for use in landfill cell and camp projects previously completed at Crossroads. This picture was taken from the northeast side of the Phase 14 area looking southwest. This photo was taken from a wooded area in the west portion of Phase 14 looking east. This photo was also taken in a wooded area in the northwest portion of Phase 14

facing southeast.

Lastly, this slide presents a photo snapped from the central north area of Phase 14 facing southeast, which depicts a vegetated soil stockpile along a woods line from previous landfill cell construction events at Crossroads. That concludes our photographs of the Phase 14 area.

Next slide, please. Prior to the solid waste permit application process in this public hearing, Crossroads provided a preliminary information report to the Maine DEP in December 2017 followed by submission of a public benefit determination application, which the Department approved through issuance of a license in December 2018.

Next slide, please. The solid waste permit application was submitted to the Department in October 2019. This application includes significant information relevant to the development of Phase 14. This public hearing, however, is intended to focus on certain topics of the application identified by the parties in this process. The contents within the solid waste permit application package includes six volumes. Volume I consists of an application form and general information requirements. The Natural

Resources Protection Act application report is provided in Volume II. Volume III includes the geologic and hydrogeologic assessment report. Volume IV contains the landfill engineering report. The site operations manual can be found in Volume V. And Volume VI provides the draft construction bid documents.

Next slide please. Lastly, I would like to discuss the Phase 14 time line. Environmental studies occurred in 2017 and 2018. These studies will be discussed in detail later in the Phase 14 development and groundwater protection presentations. As previously mentioned, the preliminary information report on site suitability was accepted by the Maine DEP in 2018. Also discussed earlier, the public benefit determination license was obtained in 2018. In 2019, Crossroads successfully worked with the Town of Norridgewock to negotiate a host community agreement as previously mentioned by Mr. LaBelle. Crossroads submitted the Maine DEP solid waste permit application in October 2019. These milestones just discussed and identified with a checkmark have been completed to date. Crossroads will be seeking a local site plan review approval in late 2020 and early 2021 with the Town of Norridgewock's Planning

Board. If all approvals just described are granted, Waste Management will commence detailed engineering design and infrastructure construction in 2021 and 2022. Construction of Phase 14A is projected to start in 2023 followed by waste acceptance thereafter.

This concludes my presentation. Thank you for your time.

MS. MILLER: Thank you, very much, Mr. McGown and Mr. McKenny.

Okay. So at this point, we have an opportunity for the Town, Mr. LaBelle or Mr. Grillo, to present any questions on cross-examination for Mr. McGown and Mr. McKenny.

ROBERT GRILLO: And I have none. This is Bob Grillo.

MS. MILLER: Okay. How about anybody here from the Department? I guess just go ahead and ask if you do. No questions from the Department.

So I guess we'll go ahead and start the next witnesses, which -- and I do apologize if I mispronounce anybody's name. Mr. Luettich and Mr. Yafrate to talk about visibility. Thank you.

SCOTT LUETTICH: Okay. This is Scott Luettich speaking. Can everybody hear me? And I

assume people can hear me. And can you see my screen, which is the first slide? No, you cannot. Hang on. Can you see the first slide now on my presentation?

MS. MILLER: That's fine.

JULIET BROWNE: Yup, we see it now, Scott.

SCOTT Luettich: Okay. Great. Okay, again, my name is Scott Luettich. I was born and raised here in central Maine and have been the lead design engineer or construction engineer for several of the landfill units at the site since 1993. My presentation will focus a little bit on the Phase 14 development, the landfill itself, the design and then the second half of the presentation we'll hone in on the visibility assessment that we performed.

Let's see. Now, if I can advance the slides here. Here we go. Okay. Just qualifications of Geosyntec are shown here. I wouldn't go through these in detail, but I've been practicing as a professional engineer for over 30 years -- 35 years now, 29 years of which have been at the Crossroads Landfill. Nick Yafrate, one of the key designers who works on the project has been working on the Crossroads project for about 10 years.

Sherwood showed this aerial view of the

landfill a few minutes ago. Again, just the bearings, Route 2, the site entrance and Phase 14 being located on this back portion of the property. The footprint here is about 48.6 acres. And if we zoom in on that and rotate it slightly this is the grading for the liner system that will be performed.

MS. MILLER: Excuse me, Mr. Luettich, I just realized I did not swear you in. I don't mean to interrupt you.

SCOTT Luettich: By all means.

MS. MILLER: But I've got to do that -- I've got to do that now.

SCOTT Luettich: Sure.

MS. MILLER: So if you wouldn't mind raising your right hand, do you swear or affirm that the testimony you have given and you are about to give is the whole truth and nothing but the truth?

SCOTT Luettich: I do.

MS. MILLER: Thank you. Sorry about that.

SCOTT Luettich: Oh, that's quite all right. Do you need me to go back to the beginning or are you okay starting here?

MS. MILLER: You're okay starting where you're at.

SCOTT Luettich: Very good. So the Phase 14

entire limit of waste will occupy 48.6 acres. The landfill we divided into five subcells or subphases, Phase 14A, B, C, D, and E. The bottom of the landfill where the liner system will be established will be -- will be constructed by excavating down into the ground surface in this location and grading the bottom of the landfill so that it drains -- the liner system drains from north to south to five leachate collection sumps along the south border of the footprint.

As I mentioned, these grades will be largely established by excavating down into the ground surface and constructing a berm, a perimeter berm around the landfill. The excavation process is -- will be conducted to remove -- there are several stockpiles of old material in this area that will be removed, but then an existing aeolian sand deposit will be removed from within the footprint of the base of the landfill as shown here. The shaded areas that you see are areas where we will actually over excavate, so excavate deeper than we have to to remove all of the sand and then build back with compacted clay to get to the subgrade of where the liner system will start. In concept, modern day waste containment systems have a few important

features that I'll describe. Probably the most important one is the liner system. It's a multi-layered liner system that meets the Maine state regulations underneath the -- the waste.

For Phase 14, again, I mentioned it will be actually up to 4 feet of compacted clay in some areas, in those shaded areas ranging up to 4 feet underneath the first layer of the liner system, first formal layer of the liner system, which will be a minimum 12 inches of compacted clay low permeability soil. Above that is a geosynthetic clay liner consisting of both -- a bentonite material that is purposefully made to swell up when hydrated and provides additional sealant. Above that a high density polyethylene geomembrane liner. Polyethylene geomembrane liners have been used in waste containment systems, liners, and covers now for several decades. And then above that are the drainage layers that will convey leachate trickling down through the waste off the liner system and into the sumps that will be located within each cell that I mentioned -- I showed before along the south end of the site. From there, the leachate will be pumped to, I'll get to that in the next slide, to the on-site storage tanks, but cover system -- interim

and final cover system materials are placed over the waste to shed rain water and melting snow so that it never gets a chance to enter the waste to begin with. All of this is a combined effect to reduce the chance of impacts to the environment from liquid leaking or leaving the facility.

As I mentioned, Waste Management will install a pipeline, actually a double wall dual containment pipeline from Phase 14 to the on-site leachate storage tank facility. From there, the leachate will be taken via tanker trucks to either the Sappi Paper Mill plant or the Anson/Madison sanitation treatment plant.

The next important part of maintaining good containment of -- and protection of the environment is to extract gas from the waste. Waste as it degrades does create gas and that gas is actually extracted from the waste with collection wells under vacuum. And for Phase 14, well, actually, this is a photograph of what a gas well looks like as it protrudes up from a vegetated cover system. For Phase 14, Waste Management intends to install a pipeline from the Phase 14 area along the general alignment here along their existing access road to the gas to energy plant that operates at the

facility. Lisa Wilkinson with SCS will describe that in much more detail later this afternoon.

The visual impact assessment report that we -- and study that we did last year is governed by two regulations. The first regulation in Chapter 400, Section 4.F(1) states that the landfill facility may not unreasonably interfere with views from established public viewing areas. Section 400 -- I'm sorry, Chapter 400, Section 4.F(3) states that the application must include evidence that affirmatively demonstrates that the proposed solid waste facility will not unreasonably adversely affect existing uses and scenic character including the following information: The nature, location, design, and site of all buffers and visual screens within those buffers to be established or retained.

These two regulations require -- the visual impact assessments take on two aspects, one being a regional landform assessment more from a distance and then visibility from nearby -- nearby vantage points on some of the surrounding roads for Phase 14 within about a mile of the site. Much of the regional assessment is based on previous regional assessments that were done in 1996 and 2001 for previously constructed units at the Crossroads facility.

Some of the basic input parameters, Phase 14 will be constructed and filled incrementally over a period of about 17 years. When filled and closed it will occupy 48.6 acres and with a peak height of 150 to 200 feet above the surrounding terrain. During filling, the landfill will be covered with daily cover materials. Temporary membrane covers may be used to further prevent stormwater to shed that stormwater prior to it leaving -- prior to it entering the waste and to keep landfill odors from emanating from the waste. As portions of the landfill reach their final height, a final cover system consisting of multiple layers similar to the liner system will be placed over the waste and vegetated.

The regional landforms, much of the information here is take from within a three mile radius of the site. The regional assessment consists of three criteria really, one is landform, the other one is land use, and the third one is vegetation. When it comes to landform, to interfere with views from established public viewing areas a feature must have some kind of starkly distinct landform, a geometric shape, for instance, that is different from other landforms in the area.

This part of central Maine is a rural landscape dominated by rolling topography. The Kennebec River runs through the town here about a mile or mile-and-a-half from the facility. That's the topographic low at about elevation 180. The topographic high is Mount Tom, which is about three-and-a-half miles south of the facility, so it's just off this image, but that's the topographic high at elevation 740. The area contains a variety of landform features, hills and valleys, that affect the viewpoints and fields of vision. And as I mentioned, Phase 14 will eventually extend about 150 to 200 feet above the surrounding ground surface similar to these other topographic landforms in the area.

With respect to land use, the majority of the land use in this part of central Maine is agricultural or wooded lots. Some industrial uses include sand and gravel, borrow pits, and of course the airport located west of the Crossroads facility. As shown on this slide and the previous one, the land use proposed by Waste Management for Phase 14 is consistent with the other land uses in this part of central Maine. Vegetation in this region is a mix of deciduous and evergreen trees, you know, soft woods and hard woods, but many of them evergreens and fir

trees that create a landscape pattern of open and forested areas. The growth rate of trees in this area is generally 1 to 2 feet per year, so the younger vegetation in any of these areas but the buffer areas associated with Phase 14 can be expected to grow 15 to 30 feet during the period at which Phase 14 is filled. This photograph was taken about a year ago and as you can see the landform by the -- the landforms and vegetation and appearance of the closed facility as well as even portions of Phase 8 are consistent with other landforms and visual images of other parts of this part of the central Maine area.

The visual assessment from nearby vantage points require 3D modeling from specific locations. One of the benefits of Phase 14 is the large setback offered by this location, that the closest one from Airport Road is 850 feet, and as I showed on one of the previous aerials this is -- much of this area is occupied by a large stand of trees. Route 2 is about a little over half a mile from Phase 14 and the closest boundary on the airport property is 4,000 feet to the west.

Five vantage points were modeled for the visual assessment of Phase 14. A first vantage point

was requested by DEP was added to the study. The first vantage point is down here at the site entrance. It's about a half a mile from the edge of Phase 14. The picture in the upper left-hand corner shows a photograph of the existing condition, so this -- this is what it looks like if you were to drive into the facility today. The lower right-hand picture shows what the landfill would look like at its peak height relative to this position, this vantage point.

Waste Management has constructed visual barriers along much of Route 2 on the edge of its property along much of Route 2. This is a picture of what the existing visual barrier looks like. Waste Management will be constructing a very similar visual barrier in this location so that although without it this is what one would see; with it, this is what you'll see. So this is the -- the land -- the landfill will be obscured from vision from vehicles passing this part of Route 2 or turning into the facility.

The second vantage point is about a quarter mile further east on Route 2 next to the Baker barn. The picture in the upper left-hand corner is what it looks like today. The image in the lower right-hand

corner is what it would look like as the landfill approaches peak -- peak elevation. Again, Waste Management owning this property is planning to install a visual barrier at this location, which will render the landfill opaque from this vantage point as well.

Vantage point three is on Airport Road about three-quarters of a mile from its intersection with Route 2. This is an area where there is an open field immediately adjacent to the road and that field is not owned by Waste Management; however, there is a large stand of trees much of which is on Waste Management property between this point and where the landfill will be. And you can see just over here in the very right-hand side as it approaches full height the landfill will have some limited visibility from this area, but certainly not much.

Vantage point four is on Airport Road about a half a mile east of its intersection with Childs Road. The vegetation in this area shown on the upper left-hand picture is very dense and as a result the landfill will have virtually no visibility from this vantage point.

Point five is about a quarter mile from the intersection of Child Road and Airport Road. This is

an area where previous wood harvesting activities have left the vegetation adjacent to the road very sparse. Waste Management does not own this property and as a result even though there are trees in the buffer zone here, the 300 foot buffer zone between the landfill edge and the property line, the landfill will have some visibility as it approaches full height from this location. The stretch of road here is not heavily traveled. It's about -- and this part of the road where there will be visibility of the landfill is 4 -- 3 or 400 feet so a vehicle traveling, you know, 35 miles an hour or so would probably have a six or seven or eight second long glimpse or snapshot of the landfill as it approaches full height.

Vantage point six is the one that DEP asked us to include. We added this. It's essentially from the parking lot of the Riverview Memorial School on Route 2 and is a pretty long distance, 8/10 of a mile from the Phase 14 footprint. The upper left-hand corner shows the existing condition. You can just barely see the landfill at quite some distance here in the left-hand part of this image, the 3D image.

Well, the conclusions of our visual impact study are that Phase 14 will not have an unreasonable

adverse effect on the current scenic character of this area. The potential visual impact of Phase 14 will be limited to a relatively short duration only as the landfill approaches its upper and final height. During filling operations the color and texture of Phase 14 will be consistent with a darker earthen color because of the daily cover material placed over it and a vegetative cover system will be incrementally installed over Phase 14 as it is completed. When visible from distant locations the appearance of Phase 14 will be compatible with the surrounding area looking much like the other natural landforms in the area. Phase 14 will not unreasonably interfere with views from the surrounding areas and established public viewing points. Visibility of the landfill from nearby or existing locations will be largely obscured by the existing vegetation and Waste Management will be constructing additional visual barriers at vantage points one and two.

This come completes my presentation.

MS. MILLER: Thank you. Are there any questions for cross-examination from Mr. LaBelle or Mr. Grillo?

ROBERT GRILLO: Yeah, I have a couple of

items here. On the -- on the visibility, Scott, are there areas from higher elevations that might be a little father away that will have a good look down on the landfill and its operations?

SCOTT Luettich: We in no way claim that nobody would be able to see the landfill. The distance from those is quite -- quite a distance, so the question becomes not would somebody be able to see it, but could they be able to readily identify it or distinguish it from other landforms and the results of our study say no it won't be -- it won't represent a stark difference to other landforms or when I say activities, again, from miles away it's hard -- it's hard to discern any activities.

ROBERT GRILLO: Okay. So nothing nearby that looks down on it?

SCOTT LUETTICH: Correct.

ROBERT GRILLO: Okay. I also had -- I want you to speak a little bit to the leachate collection laterals. I was just wondering if you could speak to how those will -- whether there is a need to clean those out and how those would happen. And also you have a relatively flat gradient and I'm just wondering if it affects the settlement where -- are looked at for those laterals.

SCOTT Luettich: When you mean laterals, do you mean the pipes within the landfill or the pipes running out to the leachate tanks?

ROBERT GRILLO: I'm sorry, it's the -- it's the horizontals that are set 120 feet apart within the landfill that connect to the central header.

SCOTT Luettich: I see. Okay. The requirement of maintaining head off the liner system or minimizing head on the liner system, in large part don't rely on those laterals. The laterals are a redundant feature to -- to augment the removal of leachate from the liner system. The liner is in areas not -- not sloped steeply but does provide the resulting gradient for leachate to be removed from the liner system and maintain minimal head on the liner. And the -- the grade on the landfill base is not just right -- set right at the minimum required, but instead was graded in some areas steeper than that in order to reflect and mimic the upper surface of the clay out there to get right down in contact with the clay. Does that answer -- well, I think you asked about clean-outs of those; is that correct?

ROBERT GRILLO: Yes, I did. Yup.

SCOTT Luettich: Okay. Clean-outs will be located along the headers for those. We haven't seen

an instance where the laterals -- clean-outs of the laterals are needed. It's not to say that they couldn't be provided, especially if they extend out to the perimeter of the landfill, but the clean-outs of where the leachate has to get conveyed down to the sump will be located at the end of the pipe, both ends of those pipes.

ROBERT GRILLO: Okay. Thank you.

MS. MILLER: Any other questions, Mr. Grillo?

ROBERT GRILLO: No, thanks.

MS. MILLER: Okay. I'm going to call each of the names of the staff and the Department to make sure that if they have any questions it's a little bit more efficient if I just call everyone's name out because I can't see everybody. So we'll start with Ms. Butler, do you have any questions for Mr. Luettich?

MS. BUTLER: No, I do not. Thank you.

MS. MILLER: Thank you. Ms. King.

MS. KING: No, I do not. Thank you.

MS. MILLER: Ms. Lipfert.

MS. LIPFERT: No, I do not.

MS. MILLER: Ms. Tarbuck.

MS. TARBUCK: I do. And can you hear me?

MS. MILLER: Yes.

SCOTT LUETTICH: Yes.

MS. TARBUCK: Okay. Thanks. And my question is pertaining to visibility and it -- you stated in the visual impact conclusions that the potential visual impact of the Phase 14 landfill will be limited to a relatively short duration only as the landfill reaches its elevation and is installed with a vegetative final cover system. And I was wondering if you could please outline the proposed final closure schedule as it relates to visibility, you know, kind of defining that relatively short duration.

SCOTT Luettich: The -- the schedule foreclosure of segments of that -- of the landfill, I believe, were conveyed in the permit drawings in Phase 4 -- in Volume IV of the permit application. The exact schedule for when that gets placed incrementally hasn't been determined because as you can appreciate the landfill filling sequence and exactly how quickly the landfill gets filled remains to be seen. It's all a function of how quickly the waste comes into the site and where it makes sense to deposit that landfill and reach final height. So we have not developed a precise schedule for closure,

however, you may recall in one of the comments from the Department there was a request of -- for agreement by Waste Management to install the final cover system incrementally, so not wait until the whole landfill is full before placing the cover system on it and Waste Management agreed to that. In fact, Waste Management wants to do that to limit the potential for more liquid getting in, you know, waste -- stormwater getting into the waste and so on. So it's -- it's a mutual agreement that the best thing we can do is close the landfill incrementally as those final heights are achieved. Sherwood, do you have anything to add to scheduling on the final closure?

SHERWOOD MCKENNY: Does that answer your question, Kathy?

MS. TARBUCK: I think it does. I just wanted to make sure that it was relative to visibility that final closure, I just wanted a little bit of clarification on that.

SCOTT Luettich: Certainly visibility plays a role and it's -- there's one actually that I didn't mention. I mentioned more in terms of shedding stormwater and keeping liquid out of landfill, but just as importantly Waste Management does not want

this landfill to be visible, so providing that vegetated cover system in areas that are ready for it they have a vested interest in doing that as well.

MS. TARBUCK: Thank you.

MS. MILLER: Anything else, Ms. Tarbuck?

MS. TARBUCK: None at this moment. Thanks.

MS. MILLER: Thank you. Ms. Eleftheriou.

MS. ELEFTHERIOU: No comments for me. Thank you.

MS. MILLER: Thank you. Mr. Burns.

MR. BURNS: Yes, I have a couple of questions. With regards to Mount Tom being the highest point nearby, I think you said that was about three-and-a-half miles away. Can you just speak towards the use of Mount Tom? Is it a hiking recreational area? What would be the potential for views from the top of that towards the landfill?

SCOTT Luettich: I am not intimately familiar with Mount Tom and its uses. I do know that people hike it and at elevation 740 it wouldn't surprise me on a clear day that you could see the three-and-a-half miles to the Crossroads facility. At three-and-a-half miles the question is could the footprint, you know, of a waste placement area, which, Sherwood, you might want to comment on the

active area of a landfill being typically the waste face maybe being a couple three or four acres at any given time is -- is very minimal when you're at a distance of three-and-a-half miles. So the likelihood of people being able to discern the activities or it interfering with the view from Mount Tom are not significant and it would take a lot of precise looking to really even be able to understand what was going on at that kind of distance especially at an active working face. The rest of the landfill will be covered with daily cover or final cover at that point or not yet constructed; in which case, you'll just see what some of the pictures showed earlier. Sherwood, do you have anything to add there?

SHERWOOD MCKENNY: I do not, Scott. Hopefully that response is adequate. I would defer to David and ask if he has any follow-up questions relative to your response.

MR. BURNS: Yeah, I would like to follow-up on that just a little bit more. If somebody could speak towards the frequency, I am just not familiar with Mount Tom. Is this a heavily used area by people hiking and recreating or is this an infrequent casual use. Can you speak to that nature?

SHERWOOD MCKENNY: I believe it is infrequently used, but I'm not absolutely certain.

MR. BURNS: And is it wooded at the top or does it have a view?

SHERWOOD MCKENNY: I believe it is largely wooded at the top. I am a little familiar with the area, but not completely.

SCOTT Luettich: That's consistent with my understanding. The aerial images that I've looked at show it being largely wooded. Whether or not there are discreet places that could be visible, I honestly don't know. We could certainly investigate that and return some information.

MR. BURNS: All right. I have one other area of question and this might take Mr. McKenny as well, so you might want to stay on.

SHERWOOD MCKENNY: Okay.

MR. BURNS: When you were talking about the development of Phase 14 you talked about the unsuitable stockpile. You talked about that in your first photograph, if I recall. What is the disposition of that going to be? It's fine grained material. Do you have defined areas of the site that you're going to utilize that on?

SCOTT Luettich: Sherwood, I can take a stab

at that because I know you and I have talked about the idea of using that material for the visual barrier berms that I mentioned at vantage points one and two, so moving that material out, creating the berms on which the trees will be planted. I think that's one intended use that you have for it; is that right?

SHERWOOD MCKENNY: That is the primary, yes.

MR. BURNS: Do you have any indication of how much material those berms will take or can be used relative to the size of the unsuitable stockpile? And ultimately where I'm heading with this, just so you understand, is being a fine grain material it has a high potential to be erosive --

SHERWOOD MCKENNY: Yes.

MR. BURNS: -- and I'm just trying to understand where you're intending to use it.

SHERWOOD MCKENNY: Yes, certainly. Scott, I think Geosyntec came up with back of the number volumes specific to what we would need to construct those berms and I don't recall what that volume was. I can remember looking at those unsuitable stockpiles and comparing the volume that you had provided to the volume of stockpiles and it was essentially -- we have essentially enough volume within those

stockpiles to construct those berms, but I just don't remember the volume that you provided. I don't know if you do off the top of your head.

SCOTT Luettich: I don't. Again, this is a question that can easily be answered though in a follow-up correspondence if that's acceptable because, as you know, we did look at the volume of material that would need to be moved and we looked at the volume of material that we used to construct these berms just to make sure we were in the right ballpark and we were, so it -- but the exact numbers I just don't have the off the top of my head.

MR. BURNS: Okay. Thank you. I have no more questions.

MS. MILLER: Thank you, Mr. Burns. Ms. Tierney.

MS. TIERNEY: I don't have any questions. If I could just make a request though since I'm unmuted that everybody refrain from using first names if we could and use Mr. or Ms. just because this is a formal hearing. Thank you.

MS. MILLER: Okay. Ms. Bensinger.

MS. BENSINGER: No, I don't have any questions. Thanks.

MS. MILLER: Okay. I actually have a

question. So in the visuals you showed some photos of what the -- what it might look like, you know, at sort of its last phase when it's the highest and you sort of gave us some predictive visuals and you showed us what it would look like with, you know, the tree buffer that you planed on planting in a couple of different instances. I guess what I'm wondering is would that still look similar in the wintertime? Would that make a difference? Are those the kinds of trees that are going to have any loss of leaves or anything like that? Is that going to have an impact generally on the visual that you will be seeing?

SCOTT Luettich: It's a good question and it's one that the DEP asked us as well when they read our initial visual impact study. The planted trees that Waste Management uses are evergreen trees so they don't lose the leaves so they stay opaque throughout the year, so the barriers would not change in appearance and become thinner the way that leaves that lose their leaves -- trees that lose their leaves in the winter would.

MS. MILLER: Thank you. Okay. Moving on. Thanks, Mr. Luettich for your testimony. And we can go ahead onto our next witness. The next set of witnesses we have are from Golder Associates. We

have Mr. Macdonald and Mr. Lennon and I will turn it over to you. I have to swear you in before I forget again.

ALISTAIR MACDONALD: Yes, that's a spectrum idea.

MS. MILLER: Thank you. It's good to remind me because it's easy to forget. Okay. If you could raise your right -- I can't see you, so if you could turn your video on.

ALISTAIR MACDONALD: I'm sorry. I thought I did.

MS. MILLER: You might have. It just might be taking a little while. I don't see you. Now, I see you.

ALISTAIR MACDONALD: There we go.

MS. MILLER: Okay. If you wouldn't mind raising your right hand. Do you swear or affirm that the testimony you are about to give is the whole truth and nothing but the truth?

ALISTAIR MACDONALD: I do.

MS. MILLER: Thank you.

ALISTAIR MACDONALD: Okay. Hello, everyone. I'm Alistair Macdonald. I'm a Professional Geologist certified in the State of Maine and I'm speaking to you today because the Phase 14 submittal that's

related to geology and hydrogeology were done under my direction and supervision. I have been working at the Waste Management Crossroads facility since the late 1990s, which has allowed me to become very familiar with the geologic and hydrogeologic conditions of the entire Crossroads facility. I am joined today by Mr. Brendan Lennon. He is also a Professional Geologist and we worked closely together to prepare the submittals.

I'm going to start my presentation today by describing the site investigations we conducted and then I'll walk through our interpretations of the geologic and hydrogeologic conditions. I'll then present our time of -- travel time calculations and then wrap up by presenting the proposed water quality monitoring program.

So the overall objective of our site investigations was to meet the requirements of the Chapter 401 sections I have listed here on the screen. And as you might expect, the rules focus on collecting data to support a detailed characterization of the geology and hydrogeology and that supports the time of travel calculations that is needed to develop the water quality monitoring program. I'd say more generally that the objective

of this work is to demonstrate that the proposed facility meets the necessary siting criteria and that the natural site conditions along with the engineering controls will be protective of natural resources.

Although the geology and hydrogeology in other parts of the Crossroads facility have been studied intensively there was little existing subsurface information available for Phase 14 at the outset of this project. So to develop the detailed information that's necessary to meet the requirements of the Maine Solid Waste Rules and to support the permit application we conducted a series of site investigations in the Phase 14 area beginning in 2017, which continued through the early 2020.

At the end of the series of investigations that we completed, we had installed 36 overburden piezometers within and around the perimeter of Phase 14 as shown here. For those who aren't familiar with the terminology, a piezometer is simply a well that's used specifically to measure water levels as opposed to a monitoring well, which is typically to collect samples for laboratory analyses. Each of the piezometers we installed is screened within one of three distinct overburden units that I'll describe

shortly. During the installation of these piezometers, which for the most part were installed early on in our investigation activities, we collected quite a few samples to begin building our understanding of the subsurface conditions. And then subsequently, we used these piezometers for both hydraulic testing and for water level monitoring.

In addition to the overburden piezometers, we also installed 12 overburden monitoring wells around a perimeter of Phase 14, which I have added here in color. Most of these wells will become part of the proposed water quality monitoring program for the site that I'll describe at the end of the presentation. We also installed four bedrock monitoring wells, one on the north side of Phase 14 and three on the south side. To obtain data on the interaction between groundwater and surface water, we installed seven paired stream piezometers and staff gauges. These are shown here by the blue triangles.

Golder's investigations were also supplemented by the geotechnical investigations conducted by Geosyntec that included 22 geotechnical borings illustrated here as green squares, and the installation of 14 vibrating wire piezometers and six stand pipe piezometers illustrated as colored

circles. Geosyntec's work also included piezocone testing or CPTs. These were conducted at 45 locations as shown by these green symbols. And the CPTs provided us with useful additional lithologic or subsurface information.

So in total, geologic and hydrogeologic data were collected at almost 150 locations within and around proposed Phase 14. And in addition to the subsurface explorations, we also collected numerous soil samples for laboratory testing including grain size and permeability. We conducted slug tests or hydro -- hydraulic connectivity tests with 40 monitoring wells and piezometers. We completed a 72 hour groundwater pumping test and we've collected over 30 rounds of depth to water measurements in the piezometer and monitoring well network.

We used all of the data that we collected to develop a detailed characterization of the geologic conditions. Here, I'm showing a generalized profile of the geologic units that we encountered during our investigations. Starting at the top of this profile are the ground surface we first encountered what we referred to in the application as undifferentiated soils. This includes very shallow unsaturated surface soils, but also the stockpiled fill

materials, which were just being discussed. These materials are not present everywhere and will be removed as part of landfill construction.

Below the undifferentiated soils we typically encountered a silty fine sand, but not in all locations. These sands will also be removed beneath the base of the landfill as part of landfill construction. The sand is underlain in all areas by what we refer to as a stiff upper clay. This material is a moist, gray/brown medium stiff to very stiff clay, which is underlain in most areas, but not all, by a relatively homogenous soft -- very soft clay that's typically moist to wet. The clays are underlain in all locations by a glacial till, which is typically described as a gray/brown clay fine to coarse sand and gravel. The till represents what we refer to as the base of the overburden units, which overlie the bedrock which is a dark to dark gray sandy meta limestone that belongs to the same formation.

Here, we're looking at a geologic cross-section oriented northeast through southwest across Phase 14, which I'm using to illustrate a few key items. The first is just the slope of the ground surface or the topography from northeast to

southwest. And similarly, you see the top of bedrock surface also dips from northeast to south southwest and actually dips a little more steeply. Next, you'll note that the dip and overall thickening of the overlying overburden sequence. And in a few minutes we'll discuss how this topography and geologic structure influences groundwater flow direction. And last, you'll note the absence of soft clay beneath the northwest corner of Phase 14, but you'll also note how the soft clay thickens to the southwest.

This slide shows a conceptualization of the landfill base liner and cross-section. As you can see, the landfill is designed to take advantage of the natural topography and subsurface conditions. As I previously mentioned, the fill and fine sand that were present beneath the base liner will be removed prior to liner construction. As Mr. Luettich described earlier, imported fill will be placed and compacted after removal of the sand to achieve the required baseline elevations in some locations. Where there is no soft clay this imported and compacted fill will be tested to ensure that it has hydraulic conductivity of less than 1 times 10 to the minus 5 centimeters per second. In other locations

where there is no soft clay but fill placement isn't required to achieve base grades the existing clay surface will be scarified and then recompacted and again tested to confirm that the in situ clay has a hydraulic conductivity of 10 to the minus 5 or less and that will be done, again, prior to liner construction.

So now I'm going to move onto a discussion of the hydrogeologic conditions. We identify four hydrostratigraphic units as shown conceptually in this diagram. The uppermost unit is the silty fine sand, which depending on the location is continuously saturated, seasonally saturated or dry year-round. The blue line conceptually represents the phreatic surface, which rises and falls seasonally. So if you imagine this line moving up or down you can visualize how the areas of sand saturation increase and decrease seasonally. But as I mentioned in a previous slide, the fine sand will be removed beneath the base liner and the landfill base subgrades will be within or at the top of the clay surface or on top of the compacted fill brought in to raise the subgrade elevation after sand removal.

The second hydrostratigraphic unit is the upper and lower clays. Due to the low hydraulic

conductivity these units primarily function as an aquitard, meaning that while the primary groundwater flow direction through the clay is downwards into the till, the overall volume of flow through the clay is very low.

The clays are both underlain by the glacial till, which relative to the other unit is a bit more permeable. Groundwater in this unit is confined beneath the clays with artesian conditions in most areas meaning that the potentiometric surface in the till, which I'm illustrating here with the dashed line rises above the top of the till surface, but because it's confined groundwater flow directions in the till are primarily horizontal. The potentiometric surface in the bedrock is similar to that of the till and also like the till the overall groundwater flow direction is horizontal. There is no zone of strong permeability contrast between the till and the bedrock, so the two units are in direct hydraulic communication meaning that groundwater can flow from one unit to the other with little resistance. However, the vertical gradients or the driving force between the till and the bedrock are weak and they're directly variable, i.e., sometimes these gradients are upwards and sometimes they're

downwards, which means the groundwater sometimes flows from the till to the bedrock and sometimes flows from the bedrock to the till, but because these gradients are weak the predominate flow direction in both units is horizontal.

This table summarizes the average vertical and horizontal hydraulic conductivity values measured in the various hydrostratigraphic units using different testing methods. The unit with the overall lowest hydraulic conductivity as you might expect is the clay. Golder estimated hydraulic conductivity for the clay using three methods, laboratory testing of clay samples, slug testing of wells and piezometers screened into clay and the 72-hour pumping test. The laboratory soil test and the pumping test measure vertical hydraulic conductivity or what we refer to as KV are shown in the two right-hand columns. Both of these testing methods yielded an average hydraulic conductivity in the low 10 to the minus 7 range. And I'll note that these values are 10 to 100 times lower than the siting requirement of 1 times 10 to the minus 5 centimeters per second. Also shown are the horizontal hydraulic conductivity values for the clay till into bedrock. As I mentioned earlier, the values for the till into

the bedrock are very similar, which is why I say there is not a strong permeability contrast between these two units.

So earlier I mentioned that there are locations beneath Phase 14 where there is no soft lower clay. The 10 area on this slide illustrates these locations. Our testing indicates that the stiff upper clay meets to the 10 to the minus 5 centimeters per second standard. However, in locations beneath clay -- I'm sorry. In locations where there is no soft clay beneath the baseline of the landfill the following has been incorporated into the design: Where fill is required to achieve the subgrade elevations the silty clay fill will be compacted and tested to demonstrate that the compacted fill has a maximum vertical hydraulic conductivity of 1 times 10 to the minus 5. If fill placement isn't necessary to meet the base grade elevations, the in-place stiff upper clay will be scarified and recompacted and again tested to demonstrate that the clay has a maximum vertical hydraulic conductivity of 1 times 10 to minus 5. All this testing obviously will be conducted prior to liner construction.

These next few slides illustrate the

potentiometric surfaces measured at the site, the first being a phreatic surface. As shown, the elevation of the phreatic surface is highest on the north side of Phase 14 and decreases to the southwest, south, and southeast consistent with the topography in the geologic structure. Because groundwater flows from higher elevation to lower elevation, the phreatic groundwater in the Phase 14 area flows to the southwest, south, and southeast.

As previously mentioned, the groundwater in the glacial till is confined beneath the clays and consistent with the geologic structure the overall direction of groundwater flow in a glacial till is towards the southwest, south, and southeast. And like the other units and again consistent with the geologic structure, the elevation of the potentiometric surface in the bedrock generally decreases from north to south once again resulting in an overall groundwater flow direction to the southwest, south, and southeast. So we generally refer to the north side of Phase 14 as being the upgradient side of the landfill and the south side as being the downgradient side of the landfill.

I think it's always helpful to look at groundwater flow more regionally to make sure our

local interpretations are consistent with regional conditions. So here I'm showing the Waste Management facility boundary in Phase 14 on a regional topographic map. When we look at the topography carefully, we see that most of the Waste Management property and all of the landfilled areas are located within a topographic basin that slopes to the south. The green lines represent topographic ridges or highs. As we just discussed, the topography and geologic structure strongly control the influence of groundwater flow directions. So these green lines represent what we refer to as groundwater divides and consistent with the topography or the ground surface that slopes downward in opposite directions on each side of these lines so does groundwater flow in opposite directions on each side of these lines.

This slide illustrates the location of a sand and gravel aquifer as met by the Maine Geological Survey along the banks of the Kennebec River and the Town of Norridgewock water supply well is located within this aquifer, but it's on the far side of the groundwater divide between the Waste Management facility and the Kennebec River. The presence of this divide precludes the flow of groundwater from Phase 14 to the sand and gravel

aquifer, the town water supply well, and the Kennebec River. Groundwater flow directions as determined from site wells and piezometers are consistent with the regional groundwater flow conditions indicating groundwater flow to the south and not towards the aquifer, the water supply well or the Kennebec River.

So this slide just summarizes the key findings that I just described, that being that groundwater flow direction in the Phase 14 area are to the southwest, south, and southeast consistent with the topography and the geologic structure and regionally not towards the sand and gravel aquifer or the town water supply.

Next, I'm going to describe our time of travel calculations. These are an important component of the permitting process. The regulations require that we assume that a release occurs from the landfill and then demonstrate that it would take at least six years for this release to reach what is referring to as a sensitive receptor. This demonstration ensures that there is ample time to detect and correct a release if it were to occur. The Maine Solid Waste Rules generally define sensitive receptors as water supply wells and aquifers, recharge areas and various types of surface

waterbodies. So the first step in the process is to identify any potential sensitive receptors, which we did by reviewing regional and local information. And we identified two small streams and Waste Management's office water supply well as the closest potential sensitive receptors for Phase 14.

The next step is to identify pathways to the potential receptors, which start with identifying a point of origin or what we refer to as a theoretical release point. We identify the proposed sumps on the downgradient side of the landfill as the theoretical release points for all of the pathways that we evaluated because they're the lowest point in the landfill cells and represent locations where liquid could conceivably accumulate and create a head to result in a release. We also identified the sumps because, like I said, they're on the downgradient side of the landfill and so they represent the shortest distance between the landfill and the sensitive receptors. I should point out that the accumulation of the liquid in a sump in and of itself does not mean that a release would occur. In fact, a leak from a sump is quite unlikely because the sumps will be constructed with two layers of very low hydraulic conductivity, a GCL, a geosynthetic clay

liner, and that's also overlain by a 60 mil geomembrane. In fact, a release from anywhere in the landfill is unlikely due to the number of redundant systems that are incorporated into the landfill design.

So my next few slides conceptually illustrate the pathways we evaluated including three originally identified by Golder and two that were theorized by Maine DEP. The first two pathways we evaluated are shown conceptually here. Both evaluate a release from a sump and horizontal flow to a stream. Because the sumps will be directly underlain by the stiff upper clay, these pathways evaluate a release from the sump that would theoretically migrate horizontally through the stiff clay to the stream. Maine DEP hypothesized alternative pathways for pathways one and two and theorized vertical flow through the clay beneath the sumps, then horizontal flow through the till, and then upward vertical flow through the clay to a downgradient stream. Pathway three evaluates a release from the cell 14A sump to Waste Management's water supply well located a little over 1,500 feet from Phase 14. This pathway assumes that the theoretical release migrates vertically downward through the stiff upper and soft lower clays

through the underlying glacial till. And while the Waste Management supply well is a bedrock well, the evaluation conservatively assumes that the horizontal flow pathway is through the glacial till, which has a higher average hydraulic conductivity than the bedrock.

The time of travel calculations for each of the flow paths I just described were made by calculating a seepage velocity for each component of the flow pathway then multiplying the seepage velocity by the length of the pathway. We first calculated a time of travel for each pathway based on average input parameters and then calculated time of travel using what we termed high end input parameters, which allows for an evaluation of the sensitivity of the calculations to the potential range of input parameters. This table summarizes the calculated travel times for each pathway based on average input parameters. Golder considers these results to best represent the expected travel times and is shown they all greatly exceed the minimum six year travel time requirement.

This table summarizes the calculated travel times using the high end input parameters. Golder considers these results to be less representative

because of the approach unrealistically combines certain input parameters resulting in unrealistically short time frames. Regardless, all of the calculated travel times even using these high input parameters exceed and in most cases greatly exceed the six year minimum travel time requirement.

So lastly, I want to present the proposed water quality monitoring program. Water quality monitoring will begin prior to waste placement to characterize the existing groundwater and surface water quality. And then after waste placement detection monitoring will begin, which is designed to monitor water quality throughout the active life of the facility. The water quality monitoring program is designed based on the groundwater flow directions that we -- that I discussed earlier. This slide illustrates the generalized groundwater flow direction based on the potentiometric surfaces we looked at. And as I mentioned previously, the north side of the landfill is identified as the upgradient side and the south side is identified as the downgradient side. The groundwater monitoring program includes four upgradient monitoring locations as depicted here and includes both overburden and bedrock. On the downgradient side of the landfill or

the south side groundwater will be monitored at 10 overburden monitoring wells and two bedrock monitoring wells. And last but not least, we'll also monitor surface water at the four locations here illustrated by the blue symbols.

This slide summarizes the expected timing of water quality monitoring. Site characterization monitoring is expected to begin in the summer of 2021. The rules require a minimum of four site characterization monitoring events. Given the current schedule, we'll likely complete eight characterization monitoring events prior to waste placement. And then detection monitoring is anticipated to begin in 2024 and will be conducted tri-annually or three times a year thereafter.

So in summary, the investigations we've conducted demonstrate favorable hydrogeologic conditions in the Phase 14 area. The presence of the clays provide a nice natural barrier to flow to the underlying units. The prevailing natural groundwater flow directions are not towards the sand and gravel aquifer or the town water supply. And the combination of the natural site conditions and the engineered systems along with long-term water quality monitoring will ensure that Phase 14 as sited and

designed won't pose a risk to sensitive receptors or natural resources. And that concludes my presentation.

MS. MILLER: Thank you, Mr. Macdonald. Does the Town, Mr. LaBelle or Mr. Grillo, have any questions for Mr. Macdonald on cross-examination? Okay. I will go through the list of Department staff in that case. Ms. Butler.

MS. BUTLER: This is Ms. Butler. A question for Mr. Macdonald. Can you explain why it was not necessary or is not necessary to explore downgradient locations beyond the office well of Waste Management for the purpose of defining sensitive receptors?

SHERWOOD MCKENNY: Well, any travel times beyond that -- beyond the Waste Management well will actually have longer travel times, so the greater the distance, the longer those travel times would be. Does that answer your question?

MS. BUTLER: Well, excuse me, in follow-up, I would ask you to further explain what the proposed monitoring network would do relative to any sensitive receptor regardless of travel time in the direction of groundwater flow.

ALISTAIR MACDONALD: Yeah, so certainly we've -- we've set up a network of monitoring wells

on the downgradient side of the landfill, which get monitored three times a year and, you know, as required by the Maine Rules, so we collect samples from those wells, we evaluate the chemistry of those samples. They are statistically evaluated to determine whether or not there is any changes in that water quality because if there were a release from the landfill then that would be indicated by a change in water quality with time and so those locations are close to the landfill. And so if a -- if anything was detected in that monitoring well network then, again, as required by the rules you would immediately go into assessment to identify what is the cause of those changes in water quality so that that can be rectified very quickly. And -- and that's why the six year travel time is so important is because it does give you that length of time to those closest sensitive receptors to identify a problem and correct it before it ever reaches those sensitive receptors.

MS. BUTLER: That answers my question. Thank you.

MS. MILLER: Thank you. Okay. Ms. King.

MS. KING: I do not have any questions at this time. Thank you.

MS. MILLER: Ms. Lipfert.

MS. LIPFERT: Yes, I have some questions. Mr. Macdonald, I had a question about the phreatic surface. I don't know if it's possible for you to put the image back up. It might be easier to -- if we all looked at it.

ALISTAIR MACDONALD: Yeah, just give me a minute.

MS. LIPFERT: Sure.

ALISTAIR MACDONALD: I have to find the right button now. Are you seeing my screen now?

MS. LIPFERT: Not yet.

ALISTAIR MACDONALD: How about now?

MS. LIPFERT: Yes. To the phreatic groundwater surface slide.

ALISTAIR MACDONALD: This slide.

MS. LIPFERT: Yes. Yes. I was noticing it appears that water going from the northern part of the landfill towards the southwest appears like it discharges to that stream and yet I know in your report you indicated that there are -- the stream piezometer at that location indicated the water flows the other way. There wasn't discharge of groundwater to the stream but rather the stream is going down into the groundwater. And I'm curious what explanation you have for this and how do you think

the water is actually traveling through that area?

ALISTAIR MACDONALD: Yeah, so we did install these paired staff cages and piezometers in the streams and so that gives us a water level in the stream and then a water level in the groundwater -- potentiometric level of groundwater at the same location and at these locations we always observed downward hydraulic gradients from the streams into the material right below that. You know, so -- so these gradients are depict -- developed -- I'm sorry, the surface is developed based on those measurements. The -- so it does show general groundwater flow from the footprint of Phase 14 to the southwest, but, you know, if you follow those back, you know, groundwater flows perpendicular to those potentiometric surface lines. They actually don't end up in the streams, but I think what you do have is shallow groundwater flowing basically beneath the stream parallel to the direction of the stream. You know, we do evaluate those in our time of travel calculations as if the groundwater does discharge to those locations and it's possible there is some discharge perhaps during drier time of the year, although a lot of times those streams will dry up particularly this time of year. So, yeah, I think what you're really seeing is

groundwater flow beneath the streams but parallel to those streams.

MS. LIPFERT: Okay. Could it just be that the groundwater is below the level of the stream there?

ALISTAIR MACDONALD: Correct.

MS. LIPFERT: Okay. I have another question about the character of the bedrock. Could you please describe the fracturing patterns and orientations and style of the bedrock and how it might be controlling the flow of groundwater?

ALISTAIR MACDONALD: Yeah, so the upper part of the bedrock is -- is relatively fractured. Those fractures are oriented as two kind of main orientations from north northeast to south southwest and then a conjugate set from northwest to southeast. Where the -- where the fracture density -- and, I'm sorry, most of those are vertical or near vertical. So where the fracture density is high, particularly in the shallower bedrock, the bedrock responds more like a porous media and you don't see a lot of influence from that fracture network or the orientation of those fractures. In pump tests that have been completed at the site, particularly those where groundwater was pumped from -- from deeper

horizons you do see some anisotropy in terms of groundwater or the -- the influence from pumping is anisotrophic so you'll see greater draw down along those two orientations that I just spoke of, so northeast southwest and northwest to southeast, but overall they don't appear to have a real strong influence on non-pumped groundwater flow direction. There, the topography really controls the direction of groundwater flow.

MS. LIPFERT: Thank you. I don't have any more questions.

MS. MILLER: Thank you. Ms. Tarbuck.

MS. TARBUCK: Yes, I do have one question.

ALISTAIR MACDONALD: Mmm Hmm.

MS. TARBUCK: And so my question is since a single liner system is proposed, could you further expand on the existing base material and the base material proposed to be imported, which is required for the foundation and other requirements of our rules? Specifically, can you expand upon the range of the depth of clay and the depth to bedrock of undisturbed soil across the footprint?

ALISTAIR MACDONALD: So I want to make sure I understand exactly what you're asking. So when you say the range of depth to clay --

MS. TARBUCK: Of clay. Maybe I said to clay. But you are -- you've stated clay is a good -- has a good hydraulic conductivity and is good base soil and what is that range of depth throughout the whole...

ALISTAIR MACDONALD: Okay. So do you want to know the depth or the thickness?

MS. TARBUCK: Thickness, I'm sorry.

ALISTAIR MACDONALD: Okay.

MR. TARBUCK: My apologies. Then depth to bedrock. Sorry, I was confusing the two.

ALISTAIR MACDONALD: Sure. Yup. No problem. So the thickness of clay ranges from a little over 2 feet in the northeast corner of Phase 14 to, and I may misspeak here, but I know it's up close to 20 feet, possibly more, on the south side of the landfill. And then your next question was the thickness of undisturbed soil from the base of the liner to the top of bedrock?

MS. TARBUCK: That's correct.

ALISTAIR MACDONALD: Yes, so I haven't calculated that directly although I -- I know that Mr. Luettich was looking at that the other day, but I believe the minimum thickness of undisturbed soils will be about 7 feet. Did I say that correctly,

Mr. Luettich?

SCOTT Luettich: Yes. The thickness of undisturbed soil below the bottom of the deepest part of excavation where we over excavate the sand, that thickness between the bottom of that excavation and the top of bedrock is 7 feet or greater throughout the whole footprint of Phase 14.

MS. TARBUCK: Okay. Thank you. I appreciate that clarification.

MS. MILLER: Anything else, Ms. Tarbuck?

MS. TARBUCK: No, thanks.

MS. MILLER: Thank you. Ms. Eleftheriou.

MS. ELEFTHERIOU: No questions from me. Thank you.

MS. MILLER: Thank you. Mr. Burns.

MR. BURNS: Just one area of questioning. I just want to make sure that I'm clear on your testimony. Now, Mr. Macdonald, are you familiar with the historic use of the property to the northwest of the property boundary adjacent to Phase 14?

ALISTAIR MACDONALD: To the northwest, I can't say -- no, I'm not familiar with the use of that property.

MR. BURNS: Okay. Given that, let's accept what I'm about to say as a hypothesis and I just want

to verify something. So if -- if you were to be aware that that property at one point was an auto salvage yard and an auto salvage yard has the potential to release contaminants based on the groundwater flow, is there any potential for groundwater flow from that auto salvage yard area to cause difficulties in monitoring the Phase 14 footprint if there was to be a release?

ALISTAIR MACDONALD: A release from the landfill?

MR. BURNS: Yes. Could you distinguish the two is the real question.

ALISTAIR MACDONALD: I think you absolutely could. You know, releases from facilities like -- like you described are typically petroleum type releases, which are readily identifiable and I'd characterize as being easy to fingerprint through the appropriate analytical methods. You know, landfills have a very distinct fingerprint as well, you know, and that would be dominated by, you know, your common cations and anions, things like chloride and sodium and things like ammonia which you would not see -- you wouldn't see those in a release from an auto salvage facility.

MR. BURNS: Based on your work at the site

from what you've said would the concern potentially only relate to bedrock flow? I think you had indicated there was a component of fracturing that was northwest to southeast.

ALISTAIR MACDONALD: You know, I would just -- again, are you talking about the auto salvage yard?

MR. BURNS: Correct.

ALISTAIR MACDONALD: Yeah, I think anything like that whether it be from the auto salvage yard or from the landfill would most readily be identified in the -- in the till. You know, and also I mentioned earlier groundwater flow direction from the till into bedrock are primarily horizontal and we don't see strong gradients going from the till down into the bedrock, so I would expect to see any groundwater changes first in the till long before we'd see anything in the bedrock.

MR. BURNS: Okay. Thank you. I have no more questions.

MS. MILLER: Thank you. Ms. Tierney.

MS. TIERNEY: I don't have any questions. Thank you.

MS. MILLER: Ms. Bensinger.

MS. BENSINGER: Yes, I do have a question.

Thank you. I -- my question is in your calculations -- in your assessment, do you consider the possibility of prolonged severe drought or serious -- seriously heavy rainfall over an extended period and would that change your calculations with regard to the interaction between groundwater and the landfill?

ALISTAIR MACDONALD: Yeah, so what droughts and increased precipitation tend to do is change one of the values in our calculations, which is the hydraulic gradient. The -- which probably the parameter which our calculations are least sensitive to, but I will say, you know, that we've monitored -- I think I mentioned this earlier in my presentation, we've monitored water levels at the site for over 30 months now. So and we don't see huge swings in those gradients because typically what happens is the potentiometric surface will rise and fall as a surface, which doesn't increase or decrease those gradients that significantly. So I would not expect that to have a -- a very large influence in our time of travel calculations. And, again, remember, you know, the results of those calculations really exceed pretty significantly the required six year time frame.

MS. BENSINGER: Thank you.

MS. MILLER: Any other questions, Ms. Bensinger?

MS. BENSINGER: No, thanks.

MS. MILLER: Okay. I don't have any questions on this presentation, so thank you, Mr. Macdonald.

ALISTAIR MACDONALD: Thank you.

MS. MILLER: So I'm looking at our agenda. We're a little bit ahead of schedule by about 10 minutes, which is nice. And the next thing we have scheduled is a break and I would like to take a break right now. So Ruth Ann, do you normally shout this whole thing down and have everyone join back in when there is a break or? No. Okay. So we'll go ahead and break for 15 minutes as originally planned and we'll start up -- instead of 3:20, we'll start up at 3:10 and we will start with Mr. Bodwell from Bodwell EnviroAcousics to talk about sound, so we will see you then. Thank you.

(Break.)

MS. MILLER: Okay. It's 3:10. Hopefully everybody is back. As a reminder, if you are not actively speaking right now, just make sure to mute your -- you're put on mute button and I see that Mr.

-- is it Bodwell? Am I pronouncing your name correctly, Mr. Bodwell?

SCOTT BODWELL: Yes.

MS. MILLER: Yes, okay. Mr. Bodwell is ready to go with his presentation and so we'll go ahead and get started with that and I will turn it over to you then. Thank you, Mr. Bodwell.

JULIET BROWNE: This is Juliet. Do you want to swear him in?

MS. MILLER: Again, I forgot. Thank you very much. Yes, I do. Mr. Bodwell, can you raise your right-hand, please? Do you swear or affirm that the testimony you are about to give is the whole truth and nothing but the truth?

SCOTT BODWELL: I do.

MS. MILLER: Thank you very much.

SCOTT BODWELL: So are we ready to go? Everybody is back that needs to be?

MS. MILLER: I am going to assume so.

SCOTT BODWELL: Okay.

MS. MILLER: Yeah, let's go ahead.

SCOTT BODWELL: Okay. Yeah, good afternoon. My name is Scott Bodwell. I'm with Bodwell EnvoroAcoustics and I conducted a sound level assessment of the Phase 14 landfill and my report was

submitted as part of the solid waste permit application.

Next slide, please. Just a little background about me. I have been doing acoustical consulting in Maine for well over 30 years, over 300 acoustic studies -- sound studies in Maine alone, participated in most of the major rulemaking about noise rules in Maine in mostly major industrial and energy projects as well as sound analysis work for Crossroads Landfill since 2001.

The noise standards and sound level limits that applied to Phase 14 are established in the Solid Waste Management Rules in Chapter 400, the existing uses in scenic character. The sound level limits are in terms of hourly equivalent sound levels, which is similar to an hourly average, just a little different math, and designed to protect noise sensitive land uses and other private off-site properties. These limits are as follows: 75 dBA for all hours at the facility property line. The dBA unit is a measure of audible sound that's common for environmental noise standards as to simulate human hearing. For areas that -- for protected locations in areas that are not predominantly commercial or industrial the limits are 60 dBA daytime and 50 dBA nighttime. And for

protected locations areas that are predominantly commercial/industrial, 70 daytime, 60 dBA nighttime. Daytime being 7 a.m. to 7 p.m. and nighttime being 7 p.m. to 7 a.m. The protected locations are the sensitive -- noise sensitive land uses and in this case are all residential. Properties and the limits apply to the entire parcel upon which the residence sits. There is mix of uses in the area of the project, but we apply the quieter limits to the Phase 14. To give some -- put some of these sound levels into context, 70 dBA is approximately an automobile at 45 miles an hour about 50 feet away. 60 dBA would be strong wind in the trees or a small plane flying over low. And 50 dBA would be moderate wind in the trees and perhaps small to mid-size waves on a shoreline.

Next slide, please. This is an aerial map that we've shown a lot today. You can see the Waste Management project area is in red, the big bold red, those are Waste Management project area lines. Other Waste Management properties are shown in the hatching orange, yellow-orangish hatching. You can see some of the other landfill phases within that red boundary. Phase 14 in this case is shown as yellow boundary. The Central Maine Regional Airport is

located to the northwest of the project site and the nearest -- most of the nearest dwellings or the -- all the nearest dwellings are located on Airport Road to the northeast of Phase 14. One thing you can see from this is there is an extensive forested buffer around Phase 14 to the nearest dwellings.

Next slide, please. How does this equate to sound level limits that we just went through? Again, the Waste Management property is in red, bold red, landfilled phases are shown, surrounding properties are shown from the tax maps and the dwellings are shown on this map as small orangish-pinkish dots. So whenever there is a property not owned by Waste Management that has a dwelling on it that property is a protected location and the sound level limits are 60/50 as shown on this map and they -- those sound level limits apply for the entire property upon which that dwelling sits or if there is multiple dwellings it's -- it's the whole property.

Next slide, please. So from this land use and sound limits, the first part of the sound assessment we identified the protected locations and property boundaries with the highest potential and most restricted -- highest potential for sound exceedance of limits or most restrictive for

compliance. These are shown as the symbols -- target symbols P1 through P4. P1 is the closest to Phase 14. It is a protected location and would have a 60/50 sound limit there. You note that the house on that property is quite -- is on the opposite side of the property, but the limit does apply to the entire property. The other location is P4, which is the closest non-residential property to Phase 14.

Next slide, please. Sound sources associated with the landfill, same as the previous phases, waste compactors and bulldozers to spread and compact the waste, these are the most significant sound sources for landfill operation. Routine operation of the landfill is three units of -- of this equipment, either two of one -- two bulldozers, one compactor or two compactors, one bulldozer used to place and compact the waste material during daytime hours.

Sound performance, we've obtained equipment specifications from Caterpillar that provide overall and octave band sound levels, sound power levels for the equipment. This plot here shows for each type of equipment the sound levels by frequency. These are sound power levels so the levels might seem high, but these are right at the source so they are much lower

as you move away. The sound level by frequency is important because it improves the accuracy of our sound calculations over distance and terrain.

Next slide, please. So the land mapping and the sound sources and so forth get compiled into a predictive sound model and this is computer-based terrain-based sound model and also incorporates the International Sound Propagation Standards shown here ISO 9613-2 Attenuation of Sound During Propagation Outdoors. We took a conservative approach to ensure compliance. We used the full rated equipment sound levels that I just showed you. The source heights, we used the top of the exhaust of the equipment versus the engine height. Simultaneous operation of the operating units in areas of the landfill nearest to the receptor points that I showed on the sound limit map. We took no attenuation from foliage, which would reduce sound, and we used the mix of hard and sound ground to represent winter conditions. This model approach has been proven based on extensive sound testing at many other projects in Maine.

Next, please. So this is the -- some of the figures, the scenarios, the sound model scenarios from the report. This what you see here in addition

to the land use, the receptor points are a different symbol, but those are the survey markers P1, 2, and 3 are evaluated here. The equipment sound sources are the blue plus signs. And in this case you can see that they're all -- all grouped in one corner of Phase 14 and this height of the landfill is an interim height once you get above the perimeter MSE berms. And so when we did this the initial modeling indicated a potential for sound limit exceedance at point P1 when operating in this eastern most portion of the Phase 14 landfill. So we developed a sound abatement berm design and modeled that that would be maintained at 10 feet above the landfill operating surface around the perimeter of the operating area. So with this in place this is what you see in this model scenario is with that sound abatement berm in place and the resulting sound levels the highest is at the nearest receptor P1 at 58.9 and that the other receptors is less than that. And that would be -- the sound levels would be lower at the dwellings, particularly P1, which is much closer to the landfill than the dwelling is -- P1 is much closer to the landfill than the dwelling.

Next slide, please. So just a schematic profile view of the sound abatement berm is shown

here. This is only needed for compliance at receptor P1 and only in a small area of the Phase 14 landfill, the eastern most portion. And what this shows is the landfill equipment pushing waste in the direction of the receptor point, which would be to the right on the screen. And as you get above on the MSE perimeter berm shown there and once you get near the top of that at that point the 10 foot perimeter berm will be maintained, so it will block the sound between the operating equipment and the receptor point.

Next slide, please. So the next scenario that we looked at is what is the distance required for you to be set back from that nearest receptor point so that no -- so you no longer need to have this sound abatement berm and that distance was determined to be 750 feet and so if you group all of the three pieces of equipment at 750 feet from P1 then you do meet the daytime limit that applies at P1. So this is the -- one of the model scenarios that we looked at and the results are shown here. The sound levels are lower at the other receptor points P2 and P3.

Next slide, please. So the final scenario that we looked at is presented in the report moves

the equipment to the opposite side of Phase 14. You can see it grouped here with the nearest operating area to this abutting property. This is not a protected location under the Solid Waste Rules so that the limits are 75 here, so with this equipment operating here and the loudest bulldozer we are in compliance at 68.6 compared to a sound limit of 75.

And the last slide, please. So this is a summary of the model results of the compliance evaluation. And to the left is the applicable receptor, point P1 through P4, a description of what they are and the cases, their protected locations and for P4 it's an abutting property with no dwelling, so the distances of these receptor points from the Phase 14 operating boundary. And these are the three scenarios relative to the sound limit criterion for daytime. And you'll see that for the interim with the SA berm the highest would be 58.9 versus a limit of 60, interim at 750 feet with no SA berm 59.3 versus a criteria of 60. In the final case, Phase 14, there is two P4, it is 68.6 versus 75. So the -- there are quite a few additional details that are provided in the sound report and so that -- that's available and this concludes my presentation on -- on sound.

MS. MILLER: Thank you, Mr. Bodwell. Are there any questions for cross-examination from Mr. LaBelle or Mr. Grillo?

ROBERT GRILLO: I have one question. Of what material is the sound abatement berm made of? Is it a berm made of certain waste and the refuse or is it some other material brought in?

SCOTT BODWELL: It is as described in the report, I didn't know if somebody else was chiming in on the signals here, but it's made from -- it is made from waste materials, but it's made from select materials that will meet the criteria for the stability that's needed for -- for the berm and more information can be provided from Sherwood if needed.

ROBERT GRILLO: That's fine. Thanks.

SCOTT BODWELL: Ah, Mr. McKenny, excuse me.

MS. MILLER: Mr. Grillo, did you have any follow-up that or?

ROBERT GRILLO: No, I'm fine. Thank you.

MS. MILLER: Okay. Thank you. Okay. Any -- let's just start with the list of staff at the Department. Ms. Butler, any questions?

MS. BUTLER: Yes. I would like to follow-up with Mr. McKenny regarding the type of waste proposed for that berm that would meet the criteria that

Mr. Bodwell suggests will be adequate.

SHERWOOD MCKENNY: Yes, we would largely construct that berm out of daily cover material that comes to the facility.

MS. BUTLER: Being largely what?

SHERWOOD MCKENNY: We have a wood chip product that we use largely. There are other materials, auto shredder residue that can be used, some ash streams that are approved through the Department that could be used.

MS. BUTLER: And have you discussed those proposed options with Mr. Bodwell and gotten his concurrence on that?

SHERWOOD MCKENNY: Yes, we discussed the type of waste that would be used. And I'll speak of those materials, and those are largely used on the exterior. I believe these berms are 10 feet high, so we may need to use some common waste in the landfill just because of the size of these berms.

MS. BUTLER: Common waste being specifically what?

SHERWOOD MCKENNY: Common waste being municipal solid waste. Largely municipal solid waste.

MS. BUTLER: And how would you control

litter during construction if you used municipal solid waste?

SHERWOOD MCKENNY: I'm not sure I understand your question. I'm sorry.

MS. BUTLER: Knowing that municipal solid waste contains, you know, light materials that are subject to being wind blown, how would you control, you know, the wind blowing of that material during the construction of the berms?

SHERWOOD MCKENNY: Okay. Yes. So if we use municipal solid waste on the interior of the core, we will have a perimeter litter fence in place in that corner to collect any potential wind blown material.

MS. BUTLER: And that litter fence can be adjusted in height to meet the, you know, elevation at which you're going to be working?

SHERWOOD MCKENNY: Yes, that's -- that's a good question. These litter fences are relatively high during initial installation. I believe they're as high as approximately 40 feet that -- and lined up around the entire perimeter of the landfill cell.

MS. BUTLER: And is the -- are the berms required above that elevation? I recall that they are.

SHERWOOD MCKENNY: Yeah, they may be

required above that elevation, but they'll also -- as these -- as we continue to construct the berms, we'll continue to move further away from these litter fence locations. These berms will become more internal to the landfill.

MS. BUTLER: Okay. Thank you. Something to consider. Also a question for Mr. Bodwell. How does -- in your comparison of 50 dBA to waves or wind, how does the frequency of the noise that will be given off by the landfill equipment compare to the frequency of the waves or the wind with respect to, you know, sensitivity of human hearing?

SCOTT BODWELL: Well, the purpose of providing those examples was really to have an idea of the various decibel levels. Wind has a mix of frequencies much -- I'm not going to say it sounds like a diesel engine, but it has a lot of frequencies and when leaves and vegetation move they have high frequencies. Similar to waves, if waves when they crash they have a variety of frequencies, not that they're going to sound the same, but the distributed frequencies between landfill equipment and these other sources is -- is probably comparable even though they will, you know, obviously sound -- sound different.

MS. BUTLER: Hmm. Okay. Appreciate that. Thank you. No more questions.

MS. MILLER: Thank you, Ms. Butler. Ms. King.

MS. KING: I do not have any questions. Thank you.

MS. MILLER: Ms. Lipfert.

MS. LIPFERT: Yes. Remind me, will there be field testing of sounds to verify the model?

SCOTT BODWELL: At this point, am I -- oh, okay. At this point, we're not planning to do it. Part of the reason is that the areas that we looked at are very specific configurations that will be in place modeling scenarios, so if you were going to try to do sound testing you would need to recreate those worst case scenarios. I suppose you could do other intermediate scenarios, but they wouldn't necessarily guarantee you compliance for the scenarios that we looked at or you could use scenarios to measure closer in and then estimate, well, that's kind of what we've already done. So with -- with the spec data, my understanding of the operations there and the sound models that we used, to me the most important thing to assure compliance is to make sure that this -- the controls that are outlined are put

in place, you know, like with the perimeter berm is -- is used when it's needed and operating restrictions are applied when needed and so forth. So that -- that's my view of need for sound testing versus management.

MS. LIPFERT: Thank you. I don't have any more questions.

MS. MILLER: Ms. Tarbuck.

MS. TARBUCK: No additional questions. Thanks.

MS. MILLER: Ms. Eleftheriou.

MS. ELEFTHERIOU: Yes, a few questions from me. Mr. Bodwell, what other measures were considered besides a soil berm for sound abatement? And what I'm thinking is was any noise dampening construction equipment modifications considered?

SCOTT BODWELL: Yes, they were. They weren't quite adequate. The sound suppression packages for the equipment that's being used wouldn't quite achieve the sound reduction that we needed, so the perimeter berm seemed like the best option particularly given that it's being such a small area of the landfill once you're out of that area that's -- you'll comply with without that restriction. Plus another thing to keep in mind is

the distance between where that receptor point is and where the -- where the impacts will be, so the sound levels at the dwellings will be considerably lower than they will be at the receptor points, so that's -- that's a real bonus for -- for impact in this case.

MS. ELEFTHERIOU: Okay. Thank you. One other question. Mr. McKenny gave several options for the type of berm material and I'm wondering how does the type of berm material and its ability to be compacted well affect sound dampening and, you know, did you model different types of material in the berm?

SCOTT BODWELL: Well, the -- the modeling was done based on the assumption that there would be a mix of some heavier material or some lighter material and that the overall mass of -- of the berm would be adequate for the sound barrier -- the sound abatement berm to achieve the performance that we anticipated from the modeling. And this type of -- of berm or fence could be accomplished with much thinner wooden material. We know that if we have a, you know, they've got back slopes and so forth, so it would be a substantial mass associated with these berms so it doesn't appear to be any issue with the

berms performing the way we expect them in the model.

MS. ELEFTHERIOU: Okay. Thank you. That's it from me.

MS. MILLER: Thank you. Mr. Burns.

MR. BURNS: Just one question for you, Mr. Bodwell. During construction of the berms or, yeah, construction of the berms is the best way to say it, are there any restrictions that you have recommended on the amount of equipment that will actually be working on the berms at any given time considering that that's the opportunity for maximum impact?

SCOTT BODWELL: Yeah, the construction of the berm, this is laid out in the report, will be done with one -- one bulldozer in that area at a time. There won't be any other equipment during construction of the berms. And we modeled that single quietest bulldozer and during construction of the berm they -- they will comply with the hourly daytime limits and we -- we -- but we came up with a condition that, and I don't have it right off the top of my head, but I think it's about -- operating about 75 percent of the time during an hour. So to meet the hourly sound levels constructing a berm there is an operational restriction that is specified in the

report. And I've talked to the Waste Management people about that and that's -- that definitely they can control that and make that work.

MR. BURNS: Okay. Thank you. No further questions.

MS. MILLER: Ms. Tierney.

MS. TIERNEY: I do have one question. Can you just correct me if I'm wrong, but did the model assume three pieces of equipment operating at the same time? Did I have that right?

SCOTT BODWELL: That's -- that's correct. Yes.

MS. TIERNEY: And so I guess I'm just wondering both during construction, not of the berms, but construction of the Phase 14, will there ever be more than three pieces of operation -- equipment operating at the same time? Is that to be expected?

SCOTT BODWELL: We didn't look at that because the construction activity is essentially during daylight or daytime hours is not regulated and I -- I understood that no nighttime construction was planned, so I -- we didn't get into how much equipment would be involved in the construction of the landfill essentially because there aren't the sound limits that applied to that activity.

MS. TIERNEY: Okay.

SCOTT BODWELL: Other than, you know, the OSHA and machine and so forth.

MS. TIERNEY: And I guess my other follow-up question is what about during operations, once it's constructed and operating, is it ever possible that more than three pieces of equipment could be operating at the same time?

SCOTT BODWELL: There may be some ancillary equipment in the area from time to time like a water spray truck, but those -- those other sources aren't -- aren't really significant in terms of these hourly operations and what kind of sound is emitted off-site, so I would expect those types of, you know, and maybe a truck comes out and some of the employees come out, those types of things are -- are really not going to be significant sources relative to the landfill equipment, so I wouldn't expect that those would impact the hourly sound levels that we've -- that we've modeled.

MS. TIERNEY: Okay. Thank you.

MS. MILLER: Thank you. Ms. Bensinger.

MS. BENSINGER: Yes, good afternoon, Mr. Bodwell. I have a few questions. Ms. Tierney's question raises an issue in my mind about the

definition of construction. I know under the noise rules in Chapter 375 of the Department's regulations construction of a development is exempt, but the word construction is defined to be activity and operations associated with the development or expansion of a project or its site. So my question, and maybe you're not the best one to answer it, but my question is when does construction end and operation begin for the expansion of a landfill?

SCOTT BODWELL: What I -- what I looked at was not -- did not include preparing the site for the landfill and I would consider that would be construction even though landfilling operations and cover and so forth is very similar to a construction type of activity. We considered all of the land -- all of the waste handling activities to be considered routine operation of a landfill. And the construction work to get the landfill ready, we did not consider that part of routine operation of the landfill. We did include use of construction of the berms because it would be constructed of waste material and essentially become part of the landfill, but we did consider that would be a landfill operation and that's why the restriction on -- on the -- on the equipment during construction of the

sound abatement berm.

MS. BENSINGER: So will there be times when part of the landfill is being operated as you consider operation placing waste there and parts of this area being still constructed?

SCOTT BODWELL: You'd probably want to talk to Sherwood or Scott Luettich about what types of construction activity occur in around operation of a landfill and I'm not really -- I don't really have the answers for that.

MS. BENSINGER: Okay. Maybe before the day is out the Applicant could answer that question. But before we move on I have a couple of other questions for you. Could you please bring up the slide that shows the inputs to the modeling? The one that mentions that you didn't consider leaf attenuation and the list of the inputs to the model.

SCOTT BODWELL: Yup. That will be Matt was controlling the slides there. Matt, are you there?

MATHEW TODARO: I am. Pulling up in one moment.

SCOTT BODWELL: Thanks.

MS. MILLER: That was Mr. Todaro for the record.

SCOTT BODWELL: Oh, Mr. Todaro, I'm sorry.

I think it's the one -- yup, two before that. Oh, one before that. Yup. Is that the one, Ms. Bensinger?

MS. BENSINGER: Yes. So I don't see anything listed here about wind levels that were assumed -- wind level or wind direction that was assumed in the modeling. Can you address that?

SCOTT BODWELL: Yeah, the convention of this standard and the use of this model is based on the assumption that all receptor points are all downwind of all of the equipment even though that's not physically possible, but that's -- that's the protocol of the model, so there is -- there is no -- like if you're upwind there is no reduction of the sound levels and if you're downwind those are the sound levels that you would get both downwind and calm conditions. So it's essentially -- plus a mild temperature inversion or moderate temperature inversion, so it's intended to provide attenuation as if all of the receptors are located downwind from the equipment under stable atmospheric conditions.

MS. BENSINGER: And does the miles per hour of wind in actuality impact the amount the sound will travel and what -- what were your assumptions on that?

SCOTT BODWELL: Well, it won't at these distances. What the wind effect really does if you're upwind it will decrease, but if you're downwind it doesn't decrease. There are situations over long distances where the wind can sort of lift the sound and positive back down, but those are over several miles and that's what you sometimes hear when you hear a distant train or highway. But for the distances involved at these protected locations, I don't expect to have any -- any kind of increased sound levels over -- relative to the distance from the wind.

MS. BENSINGER: Relative to the miles per hour of the wind?

SCOTT BODWELL: Correct.

MS. BENSINGER: Okay.

SCOTT BODWELL: And if that's -- I mean, if it's that type of wind in this area being vegetated it's likely that that wind will begin to mask the equipment sounds as well.

MS. BENSINGER: Right. Right. One last question. On another slide where you had the 750 feet, I forget what that slide was called with the sound levels and the model predictions.

SCOTT BODWELL: Yeah, it was Figure 53,

slide like three or four ahead of that. The other -- other way. Almost towards the end. That one. Is that the one?

MS. BENSINGER: No, you were -- it was a chart where you were staying 750 feet without a berm what the sound level sound level -- sound levels will be.

SCOTT BODWELL: Yeah, this is -- there is a table in this --

MS. BENSINGER: Yup.

SCOTT BODWELL: -- and that table is from the results that are shown on this figure here and you can see that. The equipment is located 750 feet away from that receptor -- the nearest receptor P1 and I can go to the table as well, but this is probably the better way to see it.

MS. BENSINGER: So can you show the table for a minute, please? So the predicted hourly sound level, when you say interim 750 feet with no berm, okay, so that will be at 750 feet -- when the work is being done 750 feet from the protected location then you will no longer have the berm?

SCOTT BODWELL: That's correct.

MS. BENSINGER: Okay. Thank you.

SCOTT BODWELL: We'd no longer need the

berm. There may still be parts of it in place or however they operate and construct the landfill, but at that point it's not a requirement for sound compliance.

MS. BENSINGER: Okay. Thank you.

MS. MILLER: Thank you. I guess I have a question. I guess maybe it's more of a clarification. Is the hourly sound level based on an -- is it an average or is it based on the loudest sounds? Can you explain that a little bit?

SCOTT BODWELL: Yeah, the -- the hourly sound level that's used in the regulation, that's the same one that's used in site law as well as solid waste is what's called an equivalent sound level and that's an energy average, so -- because decibels are not arithmetic as far as like 50 plus 50 does not equal 100. 50 plus 50 decibels equals 53. That's because it's log rhythmic based. So if a 60 decibel sound is approximately 10 times a 50 decibel sound and it will get weighted accordingly in that equivalent sound level and that's -- that's the commonly used parameter that gives more weight to slightly higher sound levels than if it was a straight average, but it's the hourly equivalent sound level. So if you have, you know, some high

sound levels in there they'll tend to bring that average up quite a bit relative to a straight arithmetic average, so that's why that parameter is most widely used.

MS. MILLER: Okay. Thank you. Okay.

SHERWOOD MCKENNY: Mr. Bodwell --

MS. MILLER: Yes, Mr. McKenny. Mr. Bodwell, would you please go back to the sound abatement berm figure and I'll attempt to answer Ms. Bensinger's answer -- ah, question, I'm sorry. Back one more. It shows -- there we go. Actually, show the one that has the 750 foot restriction, please. There you go. So essentially Phase 14A, which is the cell within the 750 foot zone would be constructed initially. Upon completion, entire completion of that construction, operationally we would move into that cell. At some time a year or two there, after we would concurrently be operating that cell while performing construction of Phase 14B, so we would have an operational activity going on with construction. But with that said, we would be beyond the 750 foot distance and we would largely be working behind the waste that's been placed within the Phase 14A landfill. Does that help?

MS. BENSINGER: But Mr. Bodwell seemed to be

saying that construction noise was not considered in his model. So you're saying that construction would be occurring at the same time as operation of a cell construction of other cells would be occurring.

SHERWOOD MCKENNY: Correct. After the initial construction of Phase 14A.

MS. BENSINGER: So, I mean, it may be may be that, and I think it is, that that construction noise is exempt, but in reality the construction noise would be occurring at the same time as the operation noise.

SHERWOOD MCKENNY: That would be the case for Phase 14B, C, D, and E. Please keep in mind, we would be working behind the existing waste that's already been landfilled and largely working below grade there for the most part in construction -- in constructing the landfill itself.

MS. BENSINGER: Would it make sense to maintain the berm then out of an abundance of caution or not?

SHERWOOD MCKENNY: I would defer to Mr. Bodwell.

SCOTT BODWELL: Well, I -- the berm once you complete the landfill operation in Phase 14A, if I'm understanding what Sherwood is saying correctly, is

that Phase 14A by itself will be well above what's going on to construct 14B. So because that starts below the level of the MSE perimeter berms, so it -- it looks as if it would -- you would have the effectiveness, maybe even a higher berm or barrier in place while you're constructing the base of 14B from the operations you finished at the top of 14A.

MS. BENSINGER: How much equipment is used during construction of these cells at any one time?

SHERWOOD MCKENNY: It varies. It's really tough to say.

MS. BENSINGER: Can you give me an estimate?

SHERWOOD MCKENNY: Well, it depends on a number of things. It depends on the construction schedule because that drives the number of equipment that needs to come to the facility to ensure the construction schedule is met. Oftentimes that's driven by time of year. But two, three, four pieces of equipment possibly, but it's -- it's just an estimate.

MS. BENSINGER: So it might be hard to determine compliance if that's happening at the same time as the operation in 14A, right? It would be hard to measure noise at the protected location and determine what -- what portion of the noise is coming

from the operation and what portion is coming from the construction; is that correct?

SCOTT BODWELL: That seems reasonable, yeah.

MS. BENSINGER: Okay. I don't have any other further questions on that.

MS. MILLER: Thank you, Mr. Bodwell and Mr. McKenny for answering all of the questions. So I think that's going to conclude our section on sound and noise. And we'll go ahead -- forward with the schedule on to the next portion. For our next witnesses we have Mr. McGown, Mr. Iannuzzi, and Ms. Wilkinson. Are all three of you planning to testify?

JEFFREY MCGOWN: It will primarily be myself and Lisa and Joe if necessary.

MS. MILLER: Okay. I should probably swear you all in then. So I can't see Joe.

JEFFREY MCGOWN: I've been sworn.

MS. MILLER: I'm sorry?

JEFFREY MCGOWN: You've already sworn me in.

MS. MILLER: I've sworn you in, yup. So Mr. Iannuzzi and Ms. Wilkinson, both raise your right hands. Do you swear or affirm that the testimony you are about to give is the whole truth and nothing but the truth?

LISA WILKINSON: Yes.

JOE IANNUZZI: I do.

MS. MILLER: Okay. So let's go ahead and get started with the air quality presentation. Thank you.

JEFFREY MCGOWN: Thank you. Hello, again. My name is Jeff McGown. I'm the Senior District Manager at Crossroads Landfill. In my role, I manage Crossroads programs related to minimizing odor and dust. This presentation will first discuss measures designed to control odor and air quality at the facility. Assisting me with the discussion specifically related to Crossroads landfill gas collection system is Lisa Wilkinson of SCS Engineers. Lisa.

LISA WILKINSON: Hi. I'm Lisa Wilkinson with SCS Engineers. I am a Vice President and a Senior Project Manager. I have been with SCS over 24 years and have experience in landfill engineering and landfill gas management design and I've been involved with the landfill gas systems design at Crossroads Landfill since the year 2001.

JEFFREY MCGOWN: Next slide. We're going to focus on dust management, odor management as it pertains to disposal operations and the landfill gas management system.

Next slide. Crossroads has a number of programs that control dust. Before I talk about those it is important to mention that the natural buffer surrounding the facility like trees and shrubs creates a wind break serving as a natural dust control measure. Equipment and material used to construct and operate the landfill can create dust. To control dust during construction and operations Crossroads uses a number of measures including the following: Watering dry loads of waste or material, pushing small amounts of waste at slower paces, making bowls or barriers from waste to act as a wind buffer, covering waste with alternate daily cover materials that do not create dust during use, mulching or seeding borrow sources, installing temporary tarps over parts of the landfill that have reached interim or final waste grades. Nearly all access roads are paved and an industrial sweeper is used to keep the facility clean when necessary. And I would add that the Phase 14 access roads would be paved as well. Finally, as much as possible transporters are required to use a truck wash station to clean wheels and undercarriages before exiting the active landfill.

Next slide. Crossroads has identified two

primary sources of odor at the facility, disposal operations and landfill gas. To clarify, odors from both sources are very different. Odors from disposal operations are from waste as being disposed of at the active face of the landfill. Odors from the landfill gas are from odorous compounds from the gas generated by decomposing waste. Waste Management has standard operating procedures to address both sources. This portion of the presentation will summarize the methods used to control and minimize odor for each identified source.

Next slide. One of the most effective tools the Crossroads facility has for minimizing and controlling odors is its personnel. I would take a step back here and let folks know that earlier I said I've been with the company 28 years. Of those 28 years I spent eight-and-a-half living essentially on-site. I lived in what everyone refers to as the Baker farm, so I was personally involved with odor and gas when it came about. Each morning Crossroads personnel travel local roads to the facility serving as eyes, ears, and noses within the community. Once personnel arrive, each day begins with a team meeting and safety huddle. Odor is a standing discussion item and personnel are always encouraged to raise

even the slightest odor related concern. Any odor concerns raised by personnel are then investigated and mitigating actions taken as quickly as possible.

Other items discussed during these huddles -- excuse me? Other items discussed during these huddles are litter and traffic. Each evening facility personnel travel again through the adjacent community, just as during the morning commute, personnel are encouraged to immediately report any detection or odor concerns they may have. I might also add that since leaving the Baker farm I do live about two miles away in the neighborhood. Empowering Crossroads personnel to report odor or other concerns they observe both on and off the facility has built an important network of realtime community monitors. This approach has fostered a culture of genuine stewardship within the community. Waste Management has not previously accepted significant amounts of odorous waste. When odorous waste arrives, communication takes over from the scale house to the landfill operators. Once the load arrives in the landfill operators mix, blend, bury, and cover minimizing odor.

Next slide. One of the most effective procedures Crossroads uses to control odors is its

use of cover materials. Crossroads uses approved special waste streams known as alternate daily cover or ADC. ADC is spread on the working landfill surface to minimize odors and litter. Some of the approved ADC materials include wood waste fines, ground utility poles, and urban fill soils. These materials do not have significant potential to create airborne odors. Prior to utilizing ADC materials not listed above in the case where we would get a new product, Crossroads will characterize materials for odor potential and coordinate for use with the Maine DEP.

Within the host community benefit agreement, we have transporter rules and regulations. The program requires transporters to comply with all local, state, and federal laws and additional requirements put in place specifically for Crossroads facility. The program requires waste hauling truck beds to be covered and secured both entering and existing the facility. Each of these measures minimizes and prevents any impacts to the local community. The program is enforced on a daily basis and consequences are levied to violators. Responsiveness to any issues raised by the Norridgewock community is the highest priority to me

personally and for Waste Management as a company. In the past, Waste Management has responded immediately when concerns have been arised. Most recently within the last couple of months, I received a call from the town manager regarding an odor some four to five miles north of the facility. Upon investigation it was determined to be a farming operation unrelated to our landfill activities. From that complaint after resolved, I have another complaint most recent where an employee, excuse me, a resident was traveling to work exiting their road onto Route 2 and had some odors, which is about two miles from our facility. After investigation, we determined that that odor was specific to a truck traveling to the facility carrying an odorous load. And, again, as we stated earlier, we get them in as quickly as we can, process, bury, and cover.

Next will be Lisa Wllkinson to go over landfill gas management system.

LISA WILKINSON: Thank you, Mr. McGown. In addition to the odor control procedures implemented during the disposal operations as discussed by Mr. McGown, installation and operation of a landfill gas management system in the Phase 14 landfill is another method to manage odors and reduce migration

from the waste once it is in place. Currently, there are landfill gas management systems installed in the Phase 8, 9, 10, 11, and 12 and landfill areas at the Crossroads landfill that are effective in controlling odors and migration. Phase 14 will require submittal of an application of a new source review license and will also be required to comply with the state and federal requirements related to landfills.

First, let's discuss how landfill gas is generated, collected, and controlled using this schematic. As waste is placed in the landfill bacteria decompose the waste and create waste gases called landfill gas. Primarily the gas consists of carbon monoxide and methane, which are odorless, but there are some compounds in the landfill gas that do contain odors. The gases are contained within the limits of the landfill by the liner system on the bottom and on the sides of the landfill as previously discussed by Mr. Luettich. The layers -- as the layers of waste are placed, devices such as vertical extraction wells or horizontal collectors are installed incrementally to collect the generated gases from the decomposing waste. Extraction equipment such as blowers or compressors apply a vacuum to the waste mass and pull the gas through a

closed system for combustion in either a flare or a renewable energy facility such as the gas to energy facility that has been identified by others in these proceedings. The combustion of the gas then converts the energy from the methane in the gas to electricity that is then transferred to the power grid and provide electricity to the homes in the nearby community.

The Phase 14 landfill gas management system design is based on the estimated quantities of gas that will be generated from the types of waste that are placed in the landfill. Gas generating capacities vary for different types of waste and this is accounted for in the modeling that is done. Match recovery from the Phase 14 landfill is expected to be just over 2,200 standard cubic feet per minute of gas in the year 2042. The peak from all landfill areas combined is estimated at about 2,400 SCFM in the year 2042, which coincides with the projected end of the Phase 14 landfill. The capacity of the existing control system is located at the landfill complex are then compared to the estimated gas quantities to ensure there is sufficient control.

Vertical extraction wells and horizontal collectors are some of the devices that are installed

in the waste mass to extract the gas as it is generated and then directs the gas into headers and lateral piping that carries the gas to the combustion equipment. The main headers are sized to accommodate the peak design gas quantities described from the previous slide. The headers and laterals or the piping systems are constructed so the system is completely expandable. As new waste is placed, valves are installed on the piping to isolate portions of the system during connection of the new collectors so that the existing system can remain operational and continue to collect gas. This allows for continuous operation of the collection system and maximizes the ability to control odors.

Odors and migration are controlled then most importantly through the operation and monitoring of the landfill gas management system. As Mr. Luettich mentioned previously, a well head is installed on each collector and controls the vacuum applied across the system. The vacuum exerts a negative pressure on the waste mass and pulls the gas into the piping system towards the control device where it is then combusted. The vacuum applied to each collection device is monitored and adjusted on a very frequent basis to optimize extraction of the gas from the

waste mass and also optimize the gas quality combusted at the renewable energy facility.

Gas is typically generated about one year after the waste has been placed. The Phase 14 landfill gas system will be installed incrementally as waste is filled in each new cell. This drawing shows the portion of the system that will be installed in the first cell during the first period of waste placement. The interim system will allow for collection of gas as soon as it is generated in the landfill. The system is expanded annually at a minimum to provide collection in all areas in which new waste was placed in the past year.

This drawing shows the coverage of the final gas collection system once the entire landfill is filled to final grades and consists of approximately 68 vertical extraction wells in the Phase 14 landfill area. The circles around each well show the radius of influence a vertical extraction well will cover. What is not shown in the schematic are the other types of collection devices such as horizontal collectors and toll collectors that are part as part of the incremental system. The horizontal and toll collectors provide additional influence of the vacuum in the waste mass. Additionally, the use of

temporary synthetic tarps and the installation of the final cover system may allow additional application of a greater vacuum and the ability to control more odors from the landfill.

Lastly, all of the gas collected from the Phase 14 landfill will be destroyed by the existing control systems located at the landfill complex. Since 2009, waste Management has been beneficially using the gas generated by decompensation of waste to create electricity. The renewable energy facility consists of two Caterpillar engines with two additional flares as supplemental capacity. In 2019, over 490 million standard cubic feet of gas were collected generating over 24 million kilowatt hours of electricity which is equivalent to the power -- equivalent to power almost 2,000 homes for one year.

So in conclusion, the dust and odor management procedures discussed by Mr. McGown combined with the installation and operation of a comprehensive and gas management system demonstrates that the Phase 14 landfill will not unreasonably adversely affect air quality. This concludes our presentation on dust and odor control.

MS. MILLER: Thank you. Okay. Any cross-examination questions from Mr. LaBelle or

Mr. Grillo?

ROBERT GRILLO: Yes. Mr. Grillo. I have a few questions for Mr. McGown. So looking at your operating plan and hearing your discussion, it sounds like that you accept municipal solid waste and some other odorous materials at this site?

JEFFREY MCGOWN: Correct.

ROBERT GRILLO: Municipal -- I'm sorry, municipal waste water treatment plant sludges.

JEFFREY MCGOWN: We do.

ROBERT GRILLO: And you described how you promptly -- you're prepared for these materials to come to this site and they're promptly mixed and buried to mitigate odors associated with the disposal?

JEFFREY MCGOWN: That is correct.

ROBERT GRILLO: Okay. With these kind of materials often the trucks themselves are a source of odor as they're traveling to and from the site. Do you -- do you require your trucks and customers to take steps to neutralize these odors at the source in some manner?

JEFFREY MCGOWN: Occasionally. There have been instances where we have had certain facilities due to odor add aggregate to assist with this.

ROBERT GRILLO: Okay. Things like adding lime or other ways to --

JEFFREY MCGOWN: That's been -- that's what we've done.

ROBERT GRILLO: Okay. And as the trucks leave the site, have you considered any procedures or methods in deodorizing those trucks, like a deodorizing pad?

JEFFREY MCGOWN: To date, we have not. We have a tire and truck wash area where drivers are encouraged and asked to make sure their tires are free of any material. They wash their back gates off, but as far as deodorizing, we have not looked into that.

ROBERT GRILLO: Okay. Thank you.

JEFFREY MCGOWN: You're welcome.

MS. MILLER: Okay. Any other questions, Mr. Grillo?

ROBERT GRILLO: No, thank you.

MS. MILLER: Okay. Thanks. Okay. Department staff. Just before we get started with Department staff, we are running -- we've lost our 10 minute in advance and now we're aye running a little behind, so just keep that in mind. So I'm going to start with Ms. Butler.

MS. BUTLER: Yes. Mr. McGown, do you have knowledge of a number or even an estimate of complaints received that you considered legitimate and did you consider any changes to your protocol call as a result?

JEFFREY MCGOWN: We always -- well, we look at any complaint as if it definitely is legitimate. In 2020, so far we have received five complaints. Two of them I spoke to earlier. Again, one was a -- was an agricultural source. The one before that was -- was definitely in my opinion after looking at the transportation logs at the site, evaluating traffic flow, it was a sludge load coming to the landfill definitely. Before that, there were three other complaints, all from the same caller related to landfill gas. When we get those complaints what we do immediately -- if the complaint comes in in the middle of the night it's a struggle for me, but if the complaint comes in in the early morning hours, we will deploy our landfill gas technician and our site operations manager or myself to the area that we received the complaint from. Oftentimes, Ms. Butler, we don't have the same result that they had, but we respect that their complaint is legitimate and then we come back and look at our gas control system and

see if we could pull harder on the system or there are any failures on-site and adjust from there.

MS. BUTLER: That answers my question. Thank you.

JEFFREY MCGOWN: You're welcome.

MS. MILLER: Thank you. Ms. King.

MS. KING: I do not have any questions. Thank you.

MS. MILLER: Ms. Lipfert.

MS. LIPFERT: Yeah, I have a question for Ms. Wilkinson. Is all the gas that's generated by landfills useful as a fuel, useful to be converted to energy?

LISA WILKINSON: Yes. Any gas that you can collect you can combust in those engines and create electricity.

MS. LIPFERT: Okay. And how much of it is actually -- or how much do you think is going to be converted to energy and how much is going to be flared?

LISA WILKINSON: Well, right now, the capacity of the existing energy facility is 1,200 CFM, so there will be the remainder of the gas or the balances up to the max that will be flared.

MS. LIPFERT: And what percentage is that?

LISA WILKINSON: So it will be, you know, just about 50 percent will be used for energy recovery at the peak of the Phase 14 landfill generating a recoverable gas quantities versus flared.

MS. LIPFERT: Are there any plans to increase the ability to convert gas to energy?

LISA WILKINSON: Waste Management might be better to answer that question. It's -- it's like a decision based on the capacity of the facility, emissions from the engine, financial payback, so there is a -- there is a whole bunch of factors that go into that decision.

MS. LIPFERT: Thank you. I don't have any more questions.

MS. MILLER: Okay. Thank you. Ms. Tarbuck.

MS. TARBUCK: Yes. Thanks. I do have one question, Mr. McGown. You talked about bit about the community feedback measures and the responsiveness. Is there a specific procedure that people need to go through, do they -- is there a specific hotline or an email or could you just go into a little bit of detail about that?

JEFFREY MCGOWN: Excuse me. They call the site directly. They have the ability to call the

town office. I have my personal phone number that I've made available to the person that has made most of the phone calls over the last year. But as far as a hotline, no. That's something to consider and we can discuss, but we have a posted number for the landfill. It's on our sign. It's on our website. The town passes it out regularly at the town office if anyone wants it. And that is it at this point, but you bring up a good point and something we can definitely look at.

MS. TARBUCK: Thank you. No more questions.

MS. MILLER: Ms. Eleftheriou.

MS. ELEFTHERIOU: No questions from me. Thank you.

MS. MILLER: Mr. Burns.

MR. BURNS: No questions from me. Thank you.

MS. MILLER: Ms. Tierney.

MS. TIERNEY: No questions.

MS. MILLER: Ms. Bensinger.

MS. BENSINGER: No questions.

MS. MILLER: And none from me either. Well, thank you very much for you presentation, Ms. Wilkinson and Mr. McGown. Now, we'll turn it over to the waste hierarchy and recycling, again, with

Mr. McGown.

JEFFREY MCGOWN: Hello, again. I'm waiting for slides, I guess. Are you there, Matt? There we go. Hello. My name, again, is Jeff McGown. I' the Senior District Manager for Crossroads. I've stated earlier, I've been with the site for 28 years. I let you know earlier I had lived out from for eight-and-a-half of those and all total about 20 years in the community.

In my current role, I manage all of Crossroads programs related to reduction, reuse, recycling and composting of waste materials. This presentation will cover two primary topics, how Phase 14 is consistent with and supports the state's solid waste hierarchy and, two, how Phase 14 is consistent with and supports the state's recycling standards.

Next slide. The facility currently operates a number of programs that reduce or recycle waste. Phase 14 will provide an important opportunity for these programs to continue and expand. Phase 14 will also make it possible for new programs to start. The following slides will cover existing and new initiatives to show how Phase 14 is consistent with the state's solid waste management hierarchy.

The figure above shows existing programs and

new initiatives proposed within the Phase 14 project. Existing programs are on the left side of the figure, new and expanded programs are on the right side. I will discuss programs within the level of the hierarchy now. Crossroads Landfill along with its parent company Waste Management actively perform waste evaluations for its customers within the Crossroads disposal network. Evaluations take different forms depending upon customer needs and preferences. Evaluations can often lead to the development and implementation of waste reduction and recycling programs. Successful waste evaluations have been performed for a variety of customers including some of the following: Fisher Engineering, Bath Iron Works, Sigco Glass, and the Sugarloaf Mountain Corp. In addition to that, we have many of those 55 Maine communities we talked about earlier that we assist. Most recently, we were at a meeting with a local industrial provider talking about an unrelated matter and within the conversation it was brought up about their need to recycle and that they thought they were landfilling recyclable materials from their the facility. As it turned out, they had bad recyclables in a can that violate the conditions of the end users, but with some education and

training to the office personnel we've made changes in the program and see it going forward to be fully recycled.

Next slide. Existing reuse programs at the Crossroads facility include battery diversion, e-waste diversion, an affiliation with a beneficial tire reuse program BDS Waste. The new reuse related Phase 14 programs include the textile diversion program and a hazardous material collection and reduce program. The hazardous materials collection event started in August of 2019. It was held again in August of 2020. The event was offered to nine member communities collection events and the collection events will continue throughout the life of Phase 14. Crossroads is presently coordinating with Apparel Impact, the textile reuse and recycling company based out of Portsmouth, New Hampshire. Containers have been ordered and I expect them to be delivered in the next couple of months.

Next slide. The foundation of Waste Management's recycling efforts is its single sort recycling program. Following introduction of the program in 2010, Waste Management saw an increase in the volume of recyclables collected from its disposal region. From 2015 to 2017, Waste Management's single

sort program including cardboard and other recyclable products diverted 17,500 plus tons of recyclable material from disposal. Given Waste Management's large collection region this figure is even more impressive. Without Waste Management's recycling programs some of these materials would most likely not be recycled because of transportation to other facilities would be too expensive. The Phase 14 project also continues successful recycling such as cardboard, wood waste, batteries, e-waste and tires. The Phase 14 project has also proposed a substantial upgrade to its existing Airport Road transfer station.

Next slide. The Phase 14 project will include an organics diversion and composting program. The facility will be developed at Crossroads to accept and process organic material. The goal of the program will be to reduce organic materials out of waste thereby saving landfill capacity. Local residents, schools, and businesses will be encouraged to participate. Organic materials will be dropped off at an upgraded Airport Road transfer station. Compost produced from the program will be made available to local residents free of charge. In the fall of 2018, Waste Management partnered with the

Town of Farmington, University of Maine at Farmington and the state's compost specialist to develop a temporary compost facility at Crossroads. The program saved the town money on disposal fees and generated revenues from compost sales. Due to COVID concerns presently the program has been ceased, but we expect it to start back up in the near future.

Both the Maine DEP and the U.S. EPA have recognized the environmental benefits of landfills that use gas recovery systems for fuel. The Crossroads renewable landfill gas to energy plant has been capturing gas since March 2009. The system collects gas from the waste decomposition process and uses it to generate electricity. The system powers two 20 cylinder Caterpillar engines that are rated at 2,380 horse power each. The renewable landfill gas to energy plant will continue throughout Phase 14.

Crossroads provides essential and cost-effective disposal capacity for approximately 55 communities in western and central Maine as you see here in green. As I stated earlier, there is vital back-up capacity to the Maine energy recovery towns in yellow and the MRC in light green. For these communities Crossroads provides a critical cost-effective disposal option not provided by other

facilities in the state. Existing capacity provided by the Phase 8 expansion will be fully utilized in 2024. Phase 14 will allow the facility to continue to serve the needs of Maine communities and businesses for years to come. The Crossroads facility is also important for keeping costs stable and competitive in Maine. Without Phase 14 there would be a significant landfill capacity shortage. The initiatives presented above demonstrate that wastes managed by Crossroads are reduced, reused, recycled, composted and/or processed to the maximum extent practicable prior to landfilling. The Phase 14 project is consistent with the state recycling and reduction programs. Phase 14 continues and grows the single sort recycling program and other Crossroads recycling programs. Phase 14 also continues and grows other source reduction programs discussed above.

In January of 2019, the Maine DEP published the current version of the Maine Materials Management Plan. The focus of the report are the solid waste hierarchy and its food waste recovery hierarchy. As discussed above, Phase 14 programs like its single sort recycling program and its organics diversion and composting program ensure it is consistent with the

recycling provisions of the state plan as a whole. Thank you. That concludes my presentation.

MS. MILLER: Thank you. Does the Town have any cross-examination, Mr. Grillo or Mr. LaBelle?

ROBERT GRILLO: I don't have anything -- any questions at this time. Thanks.

RICHARD LABELLE: I don't either. Thank you.

MS. MILLER: Thank you. Okay. We'll go through the Department. Ms. Butler.

MS. BUTLER: No questions. Thank you.

MS. MILLER: Ms. King.

MS. KING: Nothing from me. Thank you.

MS. MILLER: Ms. Lipfert.

MS. LIPFERT: No questions. Thank you.

MS. MILLER: Ms. Tarbuck.

MS. TARBUCK: Yes, I just have one question, Mr. McGown. Do you expect any waste very different than what is currently accepted to be disposed in the -- that's currently being disposed now in the proposed expansion?

JEFFREY MCGOWN: No, not all. We -- we feel that the present waste streams would be consistent from Phase 8 to Phase 14.

MS. TARBUCK: Okay. Thank you. No other

questions.

MS. MILLER: Ms. Eleftheriou.

MS. ELEFTHERIOU: Yes. Mr. McGown, could you talk about the schedule for the proposed improvements to the Airport Road transfer station?

JEFFREY MCGOWN: Yes, I can. That can't happen soon enough actually, but once we receive a permit we have plans to confirm the design and have operating at the same time that as Phase 14 would come online. So what that would look like -- I think Sherwood McKenny has stated that Phase 14 should start accepting waste in 2023 and we would envision the Airport Road transfer station coming online at the same time.

MS. ELEFTHERIOU: Okay. Thank you. And could you expand upon how as a facility you work to ensure that any waste that you receive at the landfill has been processed to the extent practicable?

JEFFREY MCGOWN: That's a great question and a very tough question. Well, first, municipal solid waste coming to the facility comes from primarily the 55 communities discussed earlier that we showed on the map in green. Those communities come to us primarily because of geographics and that the

surrounding facilities to the south and the north are either at capacity or near capacity or now closed. Demolition debris from the general area, we -- we watch -- we work with our sales team that covers the temporary side and our customers to ensure that items like metal are recycled, wood is pulled out where necessary so that we can grind it for fuel or cover and any other practical items. Aside from that, I would say today most of the special waste -- most nearly all of the special waste streams lack the ability to go through petroleum recycling in Maine right now. There are challenges there. We don't get a lot of that material, but I would say that is recycled to the best of its ability. Hopefully that's answered your question.

MS. ELEFTHERIOU: Yes. Thank you. That's all I have. MS. MILLER: Thank you. Mr. Burns.

MR. BURNS: Just a couple of questions for you. Can you speak to the types and quantities of out-of-state waste that come to the Crossroads Landfill, the types of waste that maybe do not come to the landfill from out-of-state, and third, any voluntary commitments you've made in this regards?

JEFFREY MCGOWN: Yes. Presently as of just last month, we accepted roughly 17 percent of our

total volume from out-of-state. We accept no municipal solid waste or burnable trash from out-of-state. We accept limited amounts of demolition debris from out-of-state and that primarily comes to us in the form of waste utility poles that we grind for alternate daily cover. We receive a couple of waste streams from out-of-state that are approved alternate daily cover and miscellaneous special waste from spills and what have you. Commitments, can you -- voluntary commitments, um...

MR. BURNS: Yes, I can expand on that a little bit.

JEFFREY MCGOWN: Please.

MR. BURNS: With regards to some of the other landfill phases at the Crossroads facility, I believe that as part of that -- those processes Waste Management had made some voluntary commitments not to exceed a certain percentage of out-of-state waste, so I'm simply inquiring if there are similar commitments made to Phase 14.

JEFFREY MCGOWN: Thank you. Yes. We have a voluntary commitment in Phase 14 not to exceed 35 percent out-of-state waste. Presently in Phase 8, we are as a total running in the mid 20 percent range.

We have had some spikes above that and some spikes below that, but on average for Phase 8 it has been under 30, in the 26.8 percent range. As I stated earlier, 17 percent the last couple of months and we have volunteered the same in Phase 14.

MR. BURNS: And is that commitment based on monthly average, a yearly average, what is that based on?

JEFFREY MCGOWN: We have based it on the overall capacity of the site has been my interpretation of that. Neither weekly or monthly or even annually, but as an overall capacity of the site not to exceed.

MR. BURNS: Would you be opposed to considering a yearly annual limit?

JEFFREY MCGOWN: That is something I would have to discuss with other Waste Management folks and get back to you.

MR. BURNS: Okay. The difficulty as you might imagine is in trying to look at an overall capacity value, which would have to be tracked constantly throughout the life of that landfill and it may be more difficult than an annual, that's why I'm asking.

JEFFREY MCGOWN: Okay.

MR. BURNS: Thank you. No other questions.

MS. MILLER: Ms. Tierney.

MS. TIERNEY: I just want to hear a little bit more about the compost initiative that is planned. I know you said it would be obviously on a voluntary basis, but does Waste Management plan to do any sort of education or outreach to some of the communities to drive up that -- the volume of composting that can be done?

JEFFREY MCGOWN: Absolutely. As probably many of the people on the call understand, the state's composting specialist is very, very aggressive and really likes to get the message out with those programs. I have worked closely with him. He lives in an abutting community and comes by frequently. We had discussed doing a program this fall, but due to -- due to the challenges with distancing from people, we -- we held off on it and will -- even though the new facility won't go up and going in the -- in the next, you know, not until 2023 when the new facility opens, we intend to start additional programs sooner than that. With the University of Maine at Farmington, again, we're waiting for COVID to go away, but we have a vehicle ready and sitting in Norridgewock that we are

donating to them to help collect materials, bring them to their compost site or ours, we have containers set aside for them and we're excited about it actually. There will be a lot of education locally. The state has offered to assist through their specialists and we have found that people are extremely excited about being able to take the product away when they come to our facility.

MS. MILLER: Ms. Bensinger.

MS. BENSINGER: No questions.

MS. MILLER: Okay. Thank you. No questions for me either. Before we hear some closing statements, I just want to ask anyone from the Department now that you've heard all of the testimony and seen all of the presentations if there is anything that comes to mind that you need in terms of further information or further questions to help process the application. So I'm just going to run through the Department one more time and make sure and then we will go ahead and hear closing statements. So Ms. Butler.

MS. BUTLER: I have no additional questions. Thank you.

MS. MILLER: Ms. King.

MS. KING: None from me. Thank you.

MS. MILLER: Ms. Lipfert.
MS. LIPFERT: I'm all set. Thank.
MS. MILLER: Ms. Tarbuck.
MS. TARBUCK: No additional questions. Thank you.
MS. MILLER: Ms. Eleftheriou.
MS. ELEFTHERIOU: None for me. Thank you.
MS. MILLER: Mr. Burns.
MR. BURNS: Nothing further. Thank you.
MS. MILLER: Ms. Tierney.
MS. TIERNEY: No, thank you.
MS. MILLER: Ms. Bensinger.
MS. BENSINGER: None for me. Thank you.
MS. MILLER: Okay. I think we are all set then because I don't have anything either. So we will go ahead and it looks like we've made up our time, so thank you, all of you, for being so efficient. We will start by hearing some closing statements from Ms. Browne.
JULIET BROWNE: Thank you. Really, the -- my principle purpose in a closing statement is just to express our appreciation to everybody that has participated in this lengthy review process, as I said, the DEP staff. It has been a very comprehensive and lengthy process. We hope through

that process we have addressed a number of technical issues that have come up. We worked hard to make sure we have the right experts and the right information and obviously the hearing today really just touched on a number of issues, sort of the tip of the iceberg, so I'm not going to try to go through all of the criteria that have been met.

We want to make sure that we continue to answer questions. I think, you know, before the -- during our break, I'll go through to see if there is any outstanding information that the Department needs, so I want to sort of just come back to that this evening in terms of whether or not the record will be kept open for an additional length of time, but really just want to thank the Town and the Department and the public and we look forward to hearing more from the public tonight, so thank you.

MS. MILLER: Thank you, Ms. Browne. Mr. LaBelle or Mr. Grillo, do either of you have any statements that you'd like to make in closing?

RICHARD LABELLE: I'll jump in real quick and just, again, I'll do the same and say thanks. It's been an educational session for me here today. But and there was an opportunity that I missed on the odor and dust control, I think, in terms of being

able to recognize what they do. So it's not always glamorous having Waste Management in town, but they do do a very good job and Jeff has been over the top responsive and -- and they do take care of our street sweeping. I pick up the phone and things are addressed and I really have a great appreciation, my townspeople have a great appreciation for that level of responsiveness. So whether it's their problem or not, they have been on the ball and I thank them for that, so thanks all around to them and to the Department for hosting this today.

MS. MILLER: Thank you, Mr. LaBelle. So I have a few very brief closing statements that I'd like to move forward with right now.

So first of all, thank you all for your participation in this adjudicatory hearing. This hearing will conclude this evening after we finish receiving testimony from the general public. After we conclude this evening, the record will be closed in terms of the parties submitting evidence. The parties will have opportunities to submit closing briefs and proposed findings of fact. Also, members of the public will have an additional 12 days to submit public comments. It is my understanding that the transcript will be ready in approximately 30

days. Ms. Dostie, can you confirm?

ROBIN DOSTIE: Yes, I will do that for you.

MS. MILLER: Thank you. So it is my understanding that the transcript will be ready in approximately 30 days after the hearing closes. The closing briefs will be due after the transcript has been provided to the parties. Typically, we allow two weeks for closing briefs after the transcripts have been received, so that would be approximately November 13 time frame and would that -- would that work for the parties?

JULIET BROWNE: I think that timing works, but I guess in terms of the record closing I'd like to take the opportunity after hearing from the public tonight to potentially request that the record be kept open just for a period of time to allow us to respond to issues that come up tonight and then I think I heard you say that members of public could submit comments for an additional 12 days; is that correct?

MS. MILLER: That is correct.

JULIET BROWNE: So I guess, you know, there may not be a need, but I would like the opportunity for a short period of time to respond to comments that come in during that additional period of time.

MS. MILLER: Let's bring that up at the close of the public hearing this evening.

JULIET BROWNE: Okay.

MS. MILLER: Thank you. Okay. So and from the Town, Mr. LaBelle, I don't know if the Town is planning on submitting any closing briefs or information, but does the week of November 13 work for the Town as well?

RICHARD LABELLE: I believe so.

MS. MILLER: Okay. Okay. Now, just talk a little bit further about public -- comments from the public, written public comments from not the parties will be accepted by the Department for 12 additional days as we just mentioned following the conclusion of this evening's hearing. Comments that are not received by that date will not become part of the record. And just in case we do have any members of the public on now who won't be on later, written comments should be sent by either U.S. Postal Service or by email to Linda Butler at the Department and the contact information is available on the Departments website for Linda.

At this time, does anybody have any questions? Hearing none. I will say that let's officially close this portion of the hearing. We

will open back up at 6 o'clock and that's when we will start to take -- hear testimony from the general public and I'll have some opening comments at that point as well, so we'll run through those again before we get started. So 6 o'clock. Same email or Zoom link but we're going to shut the Zoom link down completely between now and 6 o'clock.

JULIET BROWNE: Sorry, I do have one question. We are not planning to make a presentation at the start of the evening session, so I just want to make sure you were aware of that. Is there any reason you want us to make available an aerial of the facility or anything like that or is that something that the Department already has?

MS. MILLER: I am going to -- I think it wouldn't hurt to have just one of the aerial view pictures. I think that would be helpful if we can have that as a -- as a screen share, but I don't -- I don't think it's necessary for Waste Management to provide any presentation.

JULIET BROWNE: Okay.

MS. MILLER: But, yeah, just to have a -- I think the overview would be helpful for people.

J-U-L-I-E-T BROWNE: Thank you.

MS. MILLER: Any other questions or

comments? Okay. Hearing none. I am going to close this until 6 o'clock. Thank you.

(Hearing continued at 4:45 p.m.)

C E R T I F I C A T E

I, Robin J. Dostie, a Court Reporter and Notary Public within and for the State of Maine, do hereby certify that the foregoing is a true and accurate transcript of the proceedings as taken by me by means of stenograph,

and I have signed:

_____

Court Reporter/Notary Public

My Commission Expires: February 6, 2026.

DATED: November 2, 2020