Transcript from the December 16, 2021 Soil Capacity Listening Session

MassDEP Bureau of Waste Site Cleanup and Bureau of Air & Waste

https://www.mass.gov/service-details/soil-managementcapacity-discussions

Contents

Elizabeth Callahan - Acting Assistant Commissioner, MassDEP Bureau of Waste Site Cleanup

Hello everyone and welcome my name is Liz Callahan. I am currently the Acting Assistant Commissioner for the Bureau of Waste Site Cleanup and I want to thank-you all for joining us today. We want to get started promptly today because we do have 12 people who indicated they wanted to provide comments and we also want to leave some time at the end of the session to open the floor. So I just want to pull up one slide just to get things started in terms of today's session.

So I just want to let you know that we are recording today's session and it will be available so you can go back and take a look at it. We will post it on our website at the link there (https://www.mass.gov/service-details/soil-managementcapacity-discussions) which Paul will also put in the chat. There's also some background information for this session including a conversation that we had at the September Waste Site Cleanup Advisory Committee meeting that was a bit of a kickoff on this issue. There's also some information and links there that the MassDEP Solid Waste Program provided us, in terms of active and inactive landfills and some information on trends. I would encourage you if you're interested to go back and review those materials - they'll be informative for this discussion.

I would also like to acknowledge and recognize the DEP listeners who are here today. As I said I'm Liz Callahan and I'm the Acting Assistant Commissioner for the Bureau of Waste Site Cleanup. With me is Greg Cooper, representing the Solid Waste Program. Greg is the Director of the Business Compliance and Recycling Division. I also saw John Fisher is here as well, so thank-you John for joining. And someone you know very well, Paul Locke, who is our Acting Deputy Commissioner for Policy and Planning. Millie Garcia-Serrano is also here, and you all know Millie as the Regional Director for the Southeast Regional Office but she's also here today in her capacity as the Vice President for ASRSWMO, the Association of State and Territorial Solid Waste Management Officials. So thank-you all the DEP staff who are here to listen today.

I'd also like to thank the Waste Site Cleanup Advisory Committee members who participated in that discussion back in September and several of whom are here today. I thank them for their continued support in terms of these discussions and looking for possible solutions. And a big thank-you to the LSP Association. The LSP Association reached out to us and volunteered to help identify and reach out to stakeholders to participate in today's discussion and that was a big help in getting this organized and making it happen. So thank-you to Wendy Rundle, David Leone and their team for assisting us today.

We're going to start with comments from people who came forward and said they would like to provide comments. We have 12 people on that list and then, time permitting, at the end we will open the floor for other people who are here today to comment. Just to note on the chat - I think this is the case - that we have closed the chat but we will open it at the end toward the open session, just because it can be a little bit distracting. [*editor's note: the chat was functioning*]

So with that I think we can start things off. I'd like to welcome the first speaker, David Leone, the President of the LSP Association. Following Dave will be John Simpson.

from the CHAT:

Questions we asked commenters to address, to the extent relevant:

- Have you experienced a reduction in contaminated soil disposal capacity/options in the past year/two?
- How have you responded to reduced capacity?
- Consequences of reduced disposal capacity/options for site cleanup work?
- Recommendations: short- and long-term options?
- Additional information to gather to inform this discussion?

Davide Leone, President – Licensed Site Professional (LSP) Association

Thanks Liz and Paul. As Liz mentioned, I'm Dave Leone. I am an LSP and Associate Principal at GZA in Norwood and current President of the LSP Association. The LSPA asked MassDEP if we could start off the meeting with a few brief remarks and hopefully kind of set a tone to move forward.

First off, the LSPA extends our thanks to MassDEP for holding this listening session. We're pleased to see a diverse group of stakeholders that are planning to speak on what is an important and complex issue. As most of you know, the LSP Association is an 800-member association of waste site cleanup professionals, more than half of whom are LSPs. Our members work with institutional, nonprofit, government and private sector clients to remediate contaminated sites so that these properties can be placed back into active and productive use. Given that the LSPA members' work often involves remediation of sites that are slated for development or redevelopment, soil characterization and management is a key component of our work.

To that end, several LSPs and other LSPA members are here to speak today regarding their experiences and their concerns with the management of contaminated soil in the commonwealth. We at the LSPA regularly hear from our members about their soil management disposal challenges. Some of these include: a lack of needed capacity and facilities within the commonwealth (all but one Massachusetts landfill is projected to close by 2030); a lack of capacity at facilities in other New England states and the threat that these facilities might also close; and, of course, the costs, schedule delays and the environmental impacts of transporting soil to more distant locations like midwestern states and Canada. The LSPA is pleased to be operating in a state with forward-looking laws and policies, such as our climate policy road map, our clean energy and climate plan, the solid waste master plan, and the environmental justice policy. In keeping with the principles and objectives that are laid out in these policies, the LSPA is also cognizant of the importance of managing, disposing of and creatively re-using our waste in-state. We support identifying and further discussing these possible opportunities. We understand that the siting and operation of landfills and other facilities is traditionally driven by the private sector. The LSPA is appreciative of MassDEP's efforts to consider possible actions that the state may take to find possible short-term and long-term approaches for addressing these hurdles and hopefully providing incentives.

In the invitation to this listening session MassDEP asked speakers to specifically address the question, "*Do you have any recommendations regarding options, short-term and long-term, for addressing the issue or additional information that you think should be gathered to inform this discussion.*" The LSPA and our members have many suggestions that we think are worth exploring and we encourage DEP to convene additional opportunities for future stakeholder input and brainstorming on these possibilities.

Thank-you again for the opportunity to speak, and I personally, and the rest of the LSPA, look forward to hearing what others have to say today.

Thank-you.

Thank-you David. Next up is John Simpson from Charter.

John Simpson, Charter Contracting

[Muffled audio]

John, can I interrupt for a second? Your audio is a bit muffled.

I don't know maybe...yeah, okay… thank-you. Just let me know…yeah. So, like I was saying, the capacity crunch keeps happening earlier and earlier, so that's majority of last year on this fall today.

So introducing myself, John Simpson, Director of Environmental Services for Charter Contracting. Charter started in 1997 when the COMM-97 policy came out. The owner brought that home and realized that and while the Big Dig was being serviced pretty well for volume and disposal, the private sector was not. There was a lot of struggling Mass excavation contractors. They were doing building foundations and developers throughout Boston and Cambridge which we kind of left in the dark on how to deal with contaminated soil.

So he started the company, we managed that, that's been going ever since. I came on board a couple of years later. He took over that part of the company, he moved on to the contracting piece for the revision side of the company and then onwards to their development side of a couple of step parts for this company.

So that was it. That's kind of the snapshot of the company there, as far as what we do. And then, like I said for myself, I've been doing this for the company about 22 years now. We basically, you know, my group - Environmental Services - within the company, does about three to four hundred projects a year and then that's for the ??? scoops, for third-party management and broker around New England and the tri-state area as well. And then on top of that, I manage all the Charter Contracting remediation scopes throughout New England and the tri-state that we do as well. The development side of the company, is the company that tends to take over landfill opportunities, like the Hopedale Landfill, Amesbury Landfill, Chelmsford Landfill and Lynn Landfill are the ones who we operate in the past and currently, and have also operated Less-Than-RCS-1 sites in the past as well. Where there were a few of them, but now that there's a saturated market in the Less-Than-RCS-1 sites, we're moving on to other opportunities and may revisit S-1 dumps or S-2 dumps later on.

So then my experience with the reduction and the issues with the soil capacity over the number of years has kind of led to a lot of… when we're looking at projects we tend to look at how can we reduce the volume of the material that's going to go off the site obviously, because of the last six years capacity crunch. Some of the things that we really focus on us… really…

- Why do we have to get rid of the material?
- What else can we use it around the job site for?
- or if there's a benefit off site.

But the on-site activities recently and over the years, we move towards the ISS option [In-Situ Stabilization], so MGP wastes that will come across large projects that have an MGP component we'll try and put in to play an ISS component so we can ISS the materials in-situ... soil stabilize the material and then leave it in place as a permanent solution. We've done that on boat slips where the material, if we pull it out, (a) it probably had to go to incineration and that's costly, and second is that the sheet piling would have collapsed and things of that nature. So to come up with these

solutions not only to save the client money but also you know to help move the project along and and pass over a parcel land that's useful for the client. Recently we did 20 or 30 tousand yards worth of MGP in the Lynn area. ISS'd it in place so that the client did not have to export that material. We'll continue to look for those type of opportunities.

Others are if there's low permeability soil on the job site such as clay, we'll try and find homes for that, re-uses for that, whether it's caps and liners, things of that nature. In the past we had a project with five hundred thousand yards worth of Boston Blue Clay which we worked with the owner for that solution and were able to get rid of that clay to be reused at just the trucking cost. So that moved the project on really. Well thermally treated options, you know that's that tends to be what we'll focus on trying to reduce, but if we can't reduce it and that the background concentrations and the material going to be that of background or once it's burned going to be suitable for reuse then we will recommend a bring-back program. So we'll bring it thermally treat it and we'll bring it back to the job site if it if it's just remediation projects so that they can save on the cost and then the disposal option later on does take up capacity. Others are screening the material you know if you've got blocks granite blocks and really anything else we'll recommend screening some of the material… cobbles… anything that can be reused or pulled out to save on weight instead of going on the landfills we'll try and tackle that as well. Concrete as well.

And then if there's any geotechnically suitable material as well, like gravels and sandstone, if there's an import option adjacent or somewhere in the area that might need it that's the other thing that we'll go tackle.

So let's see… your schedules… Impacts that we've seen in the past, you know, what we've seen I'd say in the last three or four years, we've seen a lot of developers and clients hold off on pulling the trigger on projects because of the capacity, [schedules have] been moving. We've seen project slide. You know, they'll try and push a project over to the next year until capacity opens up in the new year, obviously that happens. Some contractors and developers will limit the depth of the excavation they go to so that they don't produce as much material. And then, as well, as you know, if they do run out of capacity and the market's pinched then they'll just stop excavation and they'll stop and they'll just pack up and we'll wait until, you know, you tell them capacity's open.

So those are, kind of, I guess, experiences. I apologize, you know, having to yell like this. It is pretty much distracting me, but I'm moving on I'll try and keep my train of thought.

Addressing the issues in the future, I'd say, you know, one thing that would probably, Paul, you've alluded to this in the past, is, "*When does >RCS-1 material become Remediation Waste? - and they can't go to the RCS-2 facility because of that it?*" It sounds like that might be on the block for to be revisited which should be very helpful. And it would probably be also a recommendation, if we're going to be revisiting that or opening up discussion on Comm-15, which is a fantastic policy that really opened up the market. So but it would be nice to revisit that so we can do to get that Remediation Waste item addressed so that there's more flexibility for material to go to RCS-2 locations. But also, if we're going to be doing that, I'd highly recommend that we open up a dialogue on COMM-97. I think that, if we're going to do that for COMM-15 we might as well do that for COMM-97. And let's see if we can't take a look at adjusting the acceptance criteria for some of these facilities to take higher concentrations of contaminant levels which would then take the pressure off of the Subtitle D and other facilities out of state that also have those capacity issues. So give people flexibility. The other one is also the treated soils. Treated soils usually come down to go to lined landfills in Massachusetts – that's probably a good one to revisit. If we can't bring those into the unlined facility. It's kind of an interesting scenario in which the RCS-2 dumps in some cases,

mass-wise can take higher concentrations than unlined landfills. You know some of the details. So it'd be nice to throw them all on the table and be able to discuss those and adjust those permits and acceptance criterias at the same time if possible.

Those are kind of my thoughts again apologize for speaking being a problem. But any other questions I'll kind of leave it at that and look forward to any questions afterwards. Thank-you very much.

Thank-you, John. Next up is Susan Ruch from DCAM, and on deck is Jason Barroso.

Susan Ruch, DCAMM

Liz and Paul, if I could ask one of you to also un-mute James Matt. He's going to be making part of DCAMM's comments to the group. I'm just going to give a very brief set of comments and then turn it over to James for the more technical comments. We do want to thank and applaud MassDEP for hosting this session and engaging in this very important topic that affects projects large and small by municipalities by state agencies, state authorities, as well as the private market. The importance of trying to examine the marketplace and obstacles to success for projects is critical, I think, across the commonwealth. So we're very pleased to be sitting in on this and listening to the ideas from others that are in different positions within the marketplace. With that, I'm going to hand it over to James Matt, who is with DCAMM and an LSP.

James Matt (LSP), DCAMM

Thank-you, Susan. Let me put on my video so we can see my face… there we are.

Good morning, everyone. So a couple of things that we want to provide input on based on our experience with our current projects, both from soil management and also, just as importantly for us, demolition debris.

With regards to soil, we work on projects, sediment dredging or ecological restoration projects, that there appears to be very few facilities that are available across New England to accept sediment dredging spoils. Primarily we've only been able to rely on one facility and that's the one in Vermont. So I believe that, you know, previously the landfill in Worcester accepted sediment dredge spoils - we all know that that's long since been closed to that opportunity. So again, I think as John has certainly alluded to and David did at the beginning, is really what I think that we're hoping for either in the consulting or the developer or the project owner aspect, is greater flexibility. It becomes quite a challenge to manage the schedule and the budget of our projects because, frankly, the waste management aspect seems to be very schedule limited. So there are a number of projects right now that DCAMM is involved in for demolition and renovation - a number of raise-and-rebuild projects we're working. Now it's of course easy enough to say that we can strip away the ABC materials and the steel and the glass and send those off to the appropriate recycling facilities. DCAMM takes great pride in maximizing our recycling opportunities. However, there is still a significant piece of demolition debris, and what we're finding is that there's the waste management facility which is closed for the season and we're shipping our demo debris out of state for additional cost, time and additional costs to the taxpayer. It doesn't really seem to make a lot of sense to us. And of course, with the demolition debris also comes the ACM [*NOTE: asbestos-containing materials*] waste. And again, we have one facility in New England that can take that most of the time. So I know that that would be a controversial topic in all the states, about finding another opportunity for a facility, but from our aspect we are looking at not just the Remediation Waste. What we're seeing significant impact on is sediment dredge spoils, and really for us the greater

opportunity or flexibility for facilities that can accept our demo debris. Thank-you Susan - anything to add?

No thank-you James. Thank-you, Liz.

Thank-you Susan and James.

Okay, thank-you and thank-you for waiting 30 minutes before we mentioned ACM material.

Next is Jason Barrosso. If you can un-mute, you're up. After Jason will be Kerry Tull.

Jason Barroso, Waste Management

Hey, good morning everybody. My name is Jason Barroso. I'm with Waste Management. I wanted to thank the LSPA and DEP for putting this listening session together and thank-you all for allowing us to speak. I want to provide a perspective - there's varied stakeholders on the speaking list, some of which have a much broader view of the industry than I do. I do have a consulting background for about 15 years on the LSP track. Right now what I what I do is, I'm the senior industrial account manager for waste management and I handle material coming out of Massachusetts heading to various waste management facilities. Anything generated in Massachusetts that is not solid waste which I refer to as MSW, or clean C&D materials, would end up going through my group.

Waste Management operates landfills, transfer stations and most people are familiar with, you know, the big green dumpsters and the big green trucks. But the largest portion of our business is actually end-use facilities, like landfills.

Operating in Massachusetts, in the soil disposal world, there're a number of different facilities. I'm not sure everyone has a good understanding of what a Subtitle D landfill, with the challenges the Subtitle D landfill deals with, versus a landfill capping project at an unlined landfill facility or a quarry fill for Less-than-RCS-1 or Less-than-RCS-2 soil. I'm going to try and elaborate on the challenges that we're dealing with. Just to go over our facilities…

- We have Turnkey Recycling Environmental Enterprises, which folks refer to as “Turnkey Landfill”, up in Rochester, New Hampshire. it's a RCRA Subtitle D facility and it accepts – it’s permitted to accept - one million cubic yards of material annually. It's generally been a 50/50 split of municipal solid waste and C&D versus non-haz waste. Approximately 325,000 tons of non-haz waste per year comes out of Massachusetts into that one facility. This would include soil, asbestos debris, asbestos soil, sludge materials, pcb bulk product wastes, [and] a whirlwind of industrial byproducts. But another thing that folks probably don't realize is about 15 percent of that capacity, by weight, is recycling residuals that go for beneficial reuse. So that's going to be metal shredder residues, C&D residuals - the waste that comes after we recycle accounts for 15% of that that million cubic yards. It's a big number. The more we recycle the more that number goes up. It's inevitable. You can't recycle 100% of everything, and it needs somewhere to go.

- Our next closest facility that we used to go to out of state was Crossroads Landfill in Norwalk, Maine. They historically would accept 300,000 cubic yards - or could accept 300,000 cubic yards - of material annually. [In] previous years, with the exception of 2020 and 2021, Crossroads would accept a hundred thousand tons of non-haz waste from Massachusetts. So we're up to 425,000 tons of non-haz waste from Massachusetts that's going outside of Massachusetts for direct landfill - not including beneficial use. Materials

there, same thing: soil, asbestos debris, sludge and a wide range of industrial byproducts. But primarily Crossroads would be soil, sludge and asbestos. In 2020 and 2021, Fiber Right [?] was a facility up in Maine which, I think they call it a “dirty mrf” where they're going to have active sorting of solid waste to pull the recyclables out. Well that facility closed - it failed and closed in 2020. So our volume went from 100,000 tons at Crossroads to 30,000 tons is all we could accept. This year Crossroads stopped accepting material from out of state in August because we were going to exceed our permitted volume. For 2020, Massachusetts didn't notice because we had COVID shutdowns and our construction schedules got interrupted for you know a couple months which allowed Turnkey to continue operating through - almost making it through - the entire year. We didn't have that same scenario this year so Turnkey ended up shutting down to out-of-state waste in September this year.

- We currently operate the Fitchburg-Westminster Landfill in Massachusetts, which is also a RCRA Subtitle D facility. It's permitted to accept MSW and non-haz wastes. I believe it's permitted for 500,000 tons annually. While we're permitted to accept non-hazardous wastes, we generally don't have capacity to do so because of the amount of volume of MSW from within the state that gets pushed there. As far as daily cover or beneficial reuse, we would historically be accepting 80 to 100,000 tons of material there. That would be a roughly 50/50 mix of COMM-97 soils and recycling residuals – again, metal shredder residue, C&D residuals, glass, ash, foundry sands and sometimes water treatment residuals. Folks would get a Beneficial Use Determination for a number of different waste streams. In the past, in 2021, we had to limit COMM-97 soils down to about 30,000 tons versus previous years of about 50,000 tons. This is primarily due to limiting volume into the facility to preserve life [capacity]. The facility is permitted through 2024 and we've been having a reduced volume intake there so that it will last until 2024. We're currently trying to get an expansion permitted there. We may or may not get that expansion approved. If that expansion doesn't get approved, Fitchburg will be closing in 2024.

As far as capacity reduction, over the past couple years we had the Taunton and Chicopee landfills both close. Taunton closed in 2020. Historically it would accept 80,000 tons of beneficial reuse material, so roughly 40,000 tons of soil and 40,000 tons of recycling residuals. Chicopee closed in 2019. Same thing - roughly 80,000 tons of beneficial reuse that's been taken out of the market, roughly 40,000 tons of soil annually and 40,000 tons recycling residuals. These materials are still being produced, we just don't have anywhere to bring them locally.

There's been other capacity reductions in the marketplace which I'm sure other folks will speak to as well. You know Casella Southbridge Landfill, I'm sure Scott Sampson will speak to that later on in the in the listening session. And then there’s the ARC [Aggregate Recycling Corporation in Eliot, Maine] and CPRC issue up in Maine. The Maine DEP implemented new regulations that required additional… substantially… well, how do I say this… required additional information when permitting. One of the major changes with the ME DEP regulations for the soil recycling facilities was that they account for the end use of their recycled soil and both facilities did not renew their permit once the new regulations came into effect. I’ll let some of the other folk comment on capacity that those facilities would accept.

We're seeing a regulatory climate that presents a lot of headwinds on the Subtitle D front. We're accepting solid waste, we're accepting C&D residuals, soil - it's a mix of everything. As C&D residuals continue increasing, and so does soil, we can only fit so much in that 10 pound bag. We're seeing trends across the region, states evaluating a public benefit before they allow for permanent

expansions. So what does that mean? It basically means that states are starting to evaluate when we're asking for an expansion they're starting to evaluate, "*Well, if we issue this expansion what's the benefit to the host community? What's the benefits to the host county? What's the benefit to the host state?*" it's concerning because that kind of focus could lead to some scary places, such as volume control. We have a landfill in New York that never comes into play. Most people on this call probably haven't heard of it because part of their permit requires that 50 percent of material that goes into that landfill come from the host county or the contiguous counties. So you're only going to get so much [capacity]. It's in Saratoga County. You can only take in… 50% of the material has to come from Saratoga County or another county that touches Saratoga County. It severely limits what you can bring from out-of-state into that facility. Therefore that facility is not really a player in the soil market for Massachusetts, especially for disposal or asbestos, because you've got a lot of locations closer to that to fill in the available capacity based on the host county. We are certainly at a critical time as far as landfill capacity goes. Another thing to point out is there have been some recent regulatory responses to these issues. New Hampshire DES has told us that they will be giving us quarterly restrictions at Turnkey. We're no longer going to be given a million cubic yards per year and fill it up as you see fit. They're now going to tell us how much we can bring in per quarter. That's as far as they've gone so far. Maine DEP already has a five dollar per ton fee - they call it a special waste fee, but it's different than what Massachusetts refers to as "special waste" in the regulations. Basically it's for non-hazardous waste. There's a five dollar per ton fee on any out-of-state non-hazardous waste that goes in there. As of January 1st they're implementing a $10 per ton biosolids fee, which hasn't been finalized but will be retroactive to January 1st. While I can't tell you who's going to pay it and how it gets collected, they are going to be collecting $10 per ton for any biosolids that go to Maine.

So [for] 2022 and beyond, what's on the horizon? Regional capacity in New England and New York is certainly coming up short. We have about 70% of the capacity to meet the demand, basically. Demand far outweighs our capacity to accept the material. This isn't just New England. This is extending to Pennsylvania. Central New York landfills are also overfilled. We expect western New York… we have a High Acres facility that some of the folks on this call have been shipping material to in the last quarter here for jobs to just keep working… we're expecting western New York to start having capacity issues in 2020 [2022?] and start bouncing off of their annual capacity limits. I mentioned earlier, Maine's had some struggles in-state with material, so they're no longer going to be the backup to Turnkey. It's no longer going to be go to New Hampshire or go to Maine. It's going to be go to New Hampshire, and if New Hampshire fills up for the quarter and can't take it, you're going to have to ship that material out to Fairport, New York if you want it to stay in the Waste Management network.

Our backlog continues to grow. We stopped receiving material in September, but it's not like folks stopped asking for prices or stopped planning projects. But now we can't play catch-up at the beginning of the year and bring these projects up to speed. We're going to have quarterly capacity limits, so we're no longer going to be able to open the floodgates and let projects come in and catch up and start getting up to speed. It's going to present a lot of challenges for me, obviously, coming into '22. It's going to present a lot of challenges in 2022 for a lot of folks.

There was a general question to the speakers, "*How is your organization responding to these issues?*" We're going to have to take on a much, much, much more active management role in what materials we accept at our facilities. In 2020 we had 325 profiles for waste to be accepted - this is Massachusetts alone. We had 325 profiles at Turnkey, and if I had taken the 75 biggest profiles we would have met our annual capacity. It's almost that there's 250 profiles that we shouldn't have

even looked at because we don't have the capacity for it. Those are generally the smaller jobs. In 2022, Waste Management has to be much more selective about what opportunities we're going to be taking at our landfills, just because we don't have the ability to meet the demand. We're going to be actively coordinating our project schedules with our customers', with monthly volume restrictions for them. We're going to have weekly… you know some of our major customers that are going in every single day with multiple projects… I'm going to be having to have weekly meetings with them, updating what they anticipate for capacity. Obviously it's going to end up [as] a lot more effort. It's going to end up with substantial price increases to (1) try and turn certain types of projects away and (2) just because it's a supply demand issue. I'm not particularly looking forward to 2022.

As far as recommendations, remember I'm looking at this industry as far as material that doesn't meet Less-Than-RCS-1, doesn't meet Less-Than-RCS-2, doesn't meet unlined landfill capping projects. In my world, I honestly think that Massachusetts needs in-state Subtitle D facilities. The only reason I'm seeing material in New Hampshire and Maine and New York is because there's nowhere for it to go in Massachusetts. A lot of times that's because it's chemically unsuitable, physically unsuitable and needs to be direct landfilled instead of beneficially reused. The other part of the equation is that you've got a volume of material that was beneficially reused in state, [but] as these landfills continue to close that volume doesn't shrink. There's just nowhere else to take it. Now as we you limit the number of landfills, we're also limiting the locations where we can send C&D residuals and COMM-97 soils,

To me, I think Massachusetts either needs new Subtitle D facilities or needs to be prepared for the impacts of trying to drive two days in a truck to take one load of material, because that's what it is. It's a two day drive out to Fairport, New York and some of the western New York facilities that still have a little bit of capacity. And then, where are we going after that?

I apologize I didn't have better news from our perspective, but it's been a drastic change in the past few years. We lost about 80,000 tons of beneficial reuse capacity in state and we lost about 70,000 tons of non-hazardous disposal capacity out of state.

That's all I had for my conversation.

Thank-you, Jason. Oy - maybe we should have had you last! Boy! Those are sobering statistics, but thank-you very much for putting all of this in in perspective.

Kerry Tull, you're up next and then after Kerry… I lost my list… Kate Dilawari

Kerry Tull (LSP), Cooperstown Environmental

Okay. Thank-you. Good morning. Thank-you Liz and Paul for this opportunity and thanks to Dave Leone and Wendy Rundle for pushing this forward.

Cooperstown has clients developing several sites in Roxbury. These brownfield sites have varying levels of contamination that require removal for both environmental reasons and simply to make room for foundations. Without the ready availability of soil disposal options, the prices for this component of the development may endanger the project. There is an Environmental Justice component to this as well [with] this growing challenge, as these much needed developments for both residential and job creating businesses may be thwarted. These neighborhoods need these brownfield sites to be returned to productive use for living and working environment.

The LSP community knows this is as much a solid waste issue as it is a DEP concern. However the LSP's appeal is that the Departments consider this challenge in a collaborative manner. My plea is short and sweet. The types of soils and the ready availability for solid waste solutions for these folks is starting to create a conversation among developers who want to come in and work on areas that we're all painfully aware of that do need full development. And that's it for me

Okay, thank-you Kerry. Kate, you're up. You can un-mute. And after Kate is Brian Dexter. Go ahead, Kate.

Kate Dilawari (LSP), Haley & Aldrich

I am Kate Dilawari, LSP and Principal Consultant at Haley & Aldrich. I appreciate MassDEP's willingness to engage in this conversation and LSPA's support in communicating with DEP on these challenges.

Haley & Aldrich provides environmental consulting services for public, private and institutional property owners who remediate and redevelop contaminated properties. My colleagues and I assist our clients with planning for disposal of hundreds of thousands of tons of soil annually. I have about 22 years of experience doing this.

I have direct experience with the reduction in soil disposal capacity in recent years.

- In practice there are really only a few lined and unlined landfills still accepting soils in Massachusetts. Those facilities have limitations on how much soil they can accept daily and in certain seasons. Within less than 10 years, these landfills are planned to be closed.

- Massachusetts landfills do not generally accept soils which have been treated to stabilize TCLP lead. This can often be a significant component of the contaminated soil at many urban sites. TCLP treated soil gets diverted to out-of-state RCRA Subtitle D landfills as a result. Those facilities are already experiencing capacity issues.

- We have no disposal options in state for asbestos-contaminated soil, which also goes to Subtitle D facilities.

- The regional Subtitle D facilities WM-Turnkey in Rochester NH and WM-Crossroads in Norridgewock,ME frequently reach their annual capacities in the second half of the year, providing no outlet within driving distance for projects in MA.

- Options for petroleum-contaminated soil recycling at asphalt batch facilities are scarce. Aggregate Industries in Stoughton closed years ago, and Aggregate Recycling Corporation (ARC) in Eliot, Maine stopped receiving soil in the past couple years. The Ondricks facility in Chicopee is one of the only remaining options nearby for petroleum contaminated soils.

Let me give some specific project examples where these factors have caused impacts:

- I have a client who is planning a large-scale redevelopment project which will be generating over a hundred thousand tons of soil requiring disposal at a RCRA facility over the next 1-2 years. In the absence of capacity issues, the soil would mostly go to Turnkey landfill in NH. There is no MA landfill that is permitted to accept this material. Because of the risk of Turnkey not being open when we need it, and the large quantity we will generate, we have been in proactive discussions with the landfills to find a home for the soil. Because of the landfill shortages and capacity limitations, Turnkey can only commit to accepting a fraction of the soil. We will be forced to transport a large component of the soil to landfills much farther away in Maine and upstate New York. The farther

away the landfill, the higher the transportation costs, the greater the carbon emissions, and the more drivers and trucks we need to make longer round trips to achieve the same soil removal rate from the construction site. This single project will likely incur a premium cost of $6 or $7 million dollars just to truck the soil farther away. It's also likely to take several months longer to excavate and remove the soil for this project due to the reduced daily rate that soil can be received at the out-of-state landfills. We can only hope that the shortages of available truck drivers do not further exacerbate the issues.

- Another example is a large development project in Cambridge which involves construction of underground parking below an apartment building. The urban fill in this general neighborhood- it's not unique to this property- contains more than a trace amount of ash. While the majority of the soil at this site met COMM-97 chemical criteria for reuse as daily cover, the MA landfills could not take much of the soil due to the elevated ash content or because it needed to be TCLP treated prior to excavation. A large amount of soil which otherwise contained relatively low levels of typical urban fill contaminants, needed to be hauled out of state. That project incurred a premium cost of close to a million dollars above the cost to have managed the soil at in-state landfills. This is a multifamily redevelopment project. The original owner sold the project to a new developer after we advised them of the soil management costs, which made their margins infeasible.

- Speaking of multifamily redevelopment- we need more affordable housing in MA, particularly in urban and transit oriented neighborhoods. I recently asked a client of mine who is a multifamily developer why he was no longer pursuing urban sites- he's been pushed out to sites in suburban communities. He told me that he can't make the margins work anymore when he needs underground parking. Among other pressures, soil disposal costs are high and Brownfield Tax Credits are no longer reliable or available, especially for sites with contaminated historic fill.

So how are we responding to all of these conditions? Redevelopment projects must displace soil. There is no choice. On urban sites, it's not an option to regrade the soil onsite. Brownfield redevelopment relies on affordable options for disposal of contaminated soil. My clients constructing affordable and market rate housing are moving to suburban sites. Typically only real estate which can command much higher rents, such as life sciences buildings and luxury high rises are being built on brownfield sites.

We have had to delay project starts to the first half of the year since capacity is less at the end of the year. We have had soil excavation take much longer than planned due to disposal limitations. We are looking at rail transport of soil because we are running out of options within driving distance. Except for projects which can take advantage of a private rail siding, the closet transfer facilities are an hour plus drive away. it would be helpful to have a rail transfer facility in the Boston area, but even if there were, based on the quotes we've received, rail transport would still nearly double the cost for soil disposal. We are looking at sending soil from the Boston area to upstate NY, Ohio, Alabama, and Virginia. This can't be the most sustainable solution.

To mitigate the risk of having nowhere to bring our soil, we are also looking at projects entering into contracts with landfills to lock in space in advance. This can work for projects with big pockets, but is likely to exacerbate the situation for smaller generators, since only the biggest players have the means to reserve in advance the available landfill space.

All of these factors are exacerbating issues of affordability, equity, and sustainability. While life sciences real estate might be able to afford the steep prices in the urban core, these factors will prevent brownfield rehabilitation in other communities in Massachusetts where it's most needed.

I do have a recommendation for a solution to increase capacity, which is allowing for COMM-97 soils to be reused at other contaminated sites. This is an untapped opportunity that's currently prohibited by the Remediation Waste Management provisions of the Massachusetts Contingency Plan, except by specific MassDEP approval. I know of many large scale developments which are designing sites for a raise in grade to address sea level rise and resiliency issues. Some of these sites are former oil terminals, rail yards, etc. They are not pristine. We could beneficially reuse other urban fill soils and then cap these sites with clean soil and pavement covers with an Activity and Use Limitation. There would be No Significant Risk for future site use. It would be wonderful if MassDEP could model the success of the ACO approach for uncontaminated soils and provide a similar path for COMM-97 soils.

That's the end of my comments.

Thank-you, Kate. Brian Dexter is up next and then Jennifer Griffith

Brian Dexter, Ondrick Materials & Recycling

Yes, good morning everyone. Can you hear me well? All right, very good. So, yeah, a lot of interesting information here this morning I want to start off by saying on behalf of Ondrick Materials and Recycling, we thank MassDEP and the LSPA for organizing this listening session, as well as those who are offering comments and feedback to further address it. My name is Brian Dexter. I've been involved with soil management in one regard or another for the last 20-something years. I'm the environmental account manager for Ondrick Materials and Recycling, located in Chicopee, Massachusetts. Permitted in 1992, now Ondrick is the last operating cold-mix asphalt batching facility in the state of Massachusetts that takes a fair amount of volume or a relevant amount of volume. We recycle soils by treating chemical contaminants and enhancing physical attributes to create a post-processed material that can be reused in certain applications in Mass and other states. Our connection to this topic is we are an in-state facility. We service a wide array of generators – consultants, institutions, municipalities, redevelopment companies and remedial contractors all throughout the state. As a result of that we accept petroleum containment soils from MCP sites, AST/UST tank work, remediation and redevelopment projects. To give you an idea of scale, we take on average around 125,000+ tons annually. In 2021, we've taken more.

The reduction of soil disposal capacity over the last couple years has affected us in a variety of ways. We have seen significantly more volume over a larger geographic footprint from projects that at one time would have had multiple options to address their needs. We're seeing bottlenecks due to operational throughput as well as administrative congestion. For our facility we're experiencing that with the other facilities that we work with as well as some of folks within the industry. As other soil receiving facilities restrict their volume, shutdown for the year or close permanently, we get inundated with another surge of requests. Additionally Ondrick retains a synergistic relationship for our post-processed recycled soil in Mass and in other states. Some of these partners were at one time Mass in-state landfills which used our materials as an alternative to other sources - oftentimes virgin materials - for construction/maintenance projects within these systems. Many of the in-state landfills we work with are no longer in operation and the few facilities still in active operation have limited life span. As a result, we have fewer options for our post-process materials. They need to seek alternative options, so balancing these competing tensions impacts the volume of contaminant soils we can accept for recycling on an annual basis.

So how we responded to this capacity issue… as a facility we've responded by limiting the volume of material our customers can bring in and raising our recycling rates and having to work our clients

into very restrictive schedules at certain times of the year from operational throughput and also due to weather and other forces but generally speaking it's because of an onslaught and surge of volume. Additionally, we need to refocus critical resources to evaluate alternative means and measures for our post-process materials in order to keep operating.

Some of the consequences we've observed from the reduced soil capacity… I'm going to speak to this for us and also some of our customers because we feel that side of it as well. Generally project costs and budgets are becoming unfavorable to the extent that work is not being completed. Sites may remain in limbo, remedial activities are not completed in the time frame that's needed. Some projects are dying on the vine and are passed up all together. I feel like we are on the cusp of seeing T&D rates coming to a pivot point that will slow or possibly halt development in certain areas. This is exacerbated by the economic uncertainty due to the pandemic and other factors in our urban centers. We're seeing soils being approved but we're unable to receive them in our facility. There are higher tipping fees in general, across the board. So that's not just us, but that's going to apply to all facilities as well as the record levels of inflation exacerbating this further. We're experiencing new expenses as a result of seeking alternative options for our post-process materials. This is [audio issues].

Additionally, more increases are made for non-conforming or ill-fitting materials due to the general lack of industry disposal options. I think that any of the other facilities would agree they're getting more and more looks at stuff that isn't a great fit. Generally the generators of contaminated soil are becoming increasingly dependent upon uncertain out-of-state or out-of-New England facilities to dispose of soils and ensure MCP compliance is a lack of the options within the state. This leads to the larger carbon footprint which obviously could jeopardize some of the 2050 net zero initiatives. The dependency on other states and their infrastructure is not something that we see is sustainable.

With regard to some of the recommendations… I would like to start off by reiterating the following. Onrick Materials and Recycling is really encouraged to see this level of candor and commitment from MassDEP and appreciates the LSPA's involvement with this. We agree that the DEP and facilities should work together to develop management alternatives for containment soils that can provide safe reliable outlets for cleanup, redevelopment and remediation projects while also providing protection for public safety, health and the environment. In recent years we have evaluated opportunities for material reuse that are supported by risk-based technical assessments. But these initiatives get lost in a quagmire competing regulatory provisions. Operationally we are subject to the solid waste regulations, the Massachusetts Contingency Plan and the hazardous waste program regulations for permitting recycling facilities. This overlapping regulatory structure had several layers for us to consider to seek solutions for alternative reuses for our recycled materials which we can or could generate as a result of our permit process. There is also the industry-wide issue of lower level remediation waste and how these soils are currently managed. Again, I'm speaking to multiple facilities with regard to that. Additionally, in the recently released 2030 Solid Waste Master Plan, DEP identifies the need to assess management alternatives within the solid waste management system for non-MSW materials including ash, sludges and contaminated soils. We believe that an in-depth review and assessment as stated in this plan would result in a more pragmatic regulatory scheme that is integrated and complementary across the various regimes that have authority over the fate of the contaminant soils in the Commonwealth.

Our objective is to continue to accept soils while creating sustainable recycled products in compliance with the regulatory framework. We're also interested in exploring opportunities to expand the market for our post-process materials so our business is not tethered to a shrinking

landfill capacity in Mass, which ultimately affects our potential to service the industry. With creative approaches and regulatory collaboration, we feel we have the ability to provide more significant soil recycling capacity in addition to more recycled product options to promote a robust in-state solution to aid in the complex soil issues we are faced with in Massachusetts.

Thank-you all for your time. We're anxious to learn more and hear more about this session.

Thank-you, Brian. Next up is Jennifer Griffith NEWMOA, and following Jennifer will be Bill French.

Jennifer Griffith, NEWMOA

Great! Hi everybody, my name is Jennifer Griffith. I work at NEWMOA, which some of you know and some of you don't so I'll tell you what it is. We're the Northeast Waste Management Officials Association. We were formed by the governors back in the 1980s - the governors of the six New England states - to focus on solid waste, hazardous waste, waste site cleanup programs belong to NEWMOA, and also toxics use reduction and pollution prevention type of programs belong to NEWMOA. Subsequently to our forming, New York and New Jersey also joined. NEWMOA's members are the state regulatory programs.

We have had a focus, at the request of the states and the NEWMOA directors, on mildly contaminated soil for over 10 years now. We also we got together the solid waste program staff and the waste site cleanup program staff within each state, in the work group, to try to increase communication. Everybody's aware there might be the same soil if it's generated at a at a waste site cleanup site maybe it's subject to different regulations and standards than something that's generated at a regular construction site. The solid waste and the waste site cleanup programs have been meeting for many years. In the beginning we had a dream of trying to sort of develop a regional soil program and have a similar approach and numbers in each state. We had to give up on that as every state is different. We're continuing to meet so that everybody is sharing information and trying to be aware of the issues. This mildly contaminated soil seems to become politically highlighted in different states at different times but generally this capacity issue is really bringing it to the fore. Recently NEWMOA has developed a disposal capacity report that we published last year. I can put the link in the chat.

> *Soil Reuse: State Information Resource*: http://www.newmoa.org/cleanup/projects/soil-info.cfm and
> *Solid Waste Disposal Capacity in the Northeast Report*:
> http://www.newmoa.org/solidwaste/projects/disposalcapacity/Solid_Waste_Disposal_Capacity21.pdf

That's interesting and just highlights what people have been saying that things are closing, things are likely to close soon and we're going to have even more struggles with where waste can go. That is creating tension. The big states are having more capacity issues and smaller states tend to see the effects of that, so there's definitely discussions going on. NEWMOA and the states wanted to try to be a little more transparent and put information about contaminated soil management together. We did develop a webpage on our website that's called the State Information Resource on Soil Reuse. We tried to put relevant information from each state and I try to get the states to look at that. Changes were made not too long ago to update information. It's not guaranteed to be totally up to date but it's it is a work in progress. I will also put the link (http://www.newmoa.org/cleanup/projects/soil-info.cfm) to that information resource. I think states can learn from each other. Massachusetts' approach, believe it or not, has eased some tensions and some states are looking to that as a as a model. We'll see. I don't know if I have

anything else to say but I think if anybody has any questions later and I will share links to those documents in a minute.

Thanks very much, Jennifer. Next up is Bill French and after Bill will be Ross Hart.

Bill French, WL French Excavating Corp.

Good morning. I would also like to thank MassDEP and the LSPA for hosting this morning. Obviously it's a matter that needs discussion, so again I do appreciate it. I'm the owner of WL French Excavating. We're a union site contractor and soil management firm from Billerica, MA. In 2022 we'll be celebrating our 50th year in business. We currently operate two ACO sites in the state and one unlined landfill which is the Winchendon Landfill. I think ourselves and a couple others in the area are really known for moving the larger volumes of waste throughout the New England area.

I think that if you really look at the reduction that is problematic today - and not to say that there aren't problems coming down the line because there are and I'll mention that briefly in a moment. As Jason was describing, the out-of-state Subtitle D issue that we're currently in the midst of has been going on for several years. Quite frankly it worked out in years prior that if Turnkey slowed down for a certain amount of time, or came up short, whether it be June one year (which is horrible) or September like it was this season, there were other alternatives within our region, such as Waste USA in Vermont and/or North Country in Bethlehem, Norridgewock, Maine/ Crossroads - those were all still available. So we were able to divert some of the materials. There was a cost impact but it wasn't anything like we're seeing right now. it seems like we're in the perfect storm this season. Norridgewock shut down in August of this year, even before Turnkey. Waste USA was experiencing cell construction so that they were limited to just taking I believe what they had on the contract in their own to sell his own work. North Country in Bethlehem was at a substantially reduced volume. Here we are - we're faced with moving all this soil, my company and other companies like us, and we have no disposal options. You look at that and then you also have to take into consideration that we used to have ARC, CPRC and Aggregate for our asphalt batching options and now we're down to Ondrick, which Brian mentioned earlier. We have a very minute amount of space available to us. So the disposal market is.. our options currently are… limited space at some local facilities like Ondrick, or we're shipping to various facilities in New York and one in Ohio. The reduction is just blatantly obvious to everybody on the phone but for us it's stifling. We went from 140 trucks a day down to 70 at one point and we're kind of bouncing back and forth.

The consequences of the reduced capacity… it's the schedule impacts for the jobs that just flat out stopped. Some of the owners were able to reach in and get more funding or had more money to pay the up-charges which were significant to go to New York or Ohio. They elected to do that, but that being said, they're still going to be impacted schedule-wise with project delays. The volume that we were moving on one job was like 1500 to 2000 tons a day, and now it's down to how many trucks we can get to go to New York. One day it's eight, the next day it's 15. The impacts are across the board. Some of the other impacts that the reduced capacity is having is on some of our municipal contracts. Lined items like scum and residual from wastewater plants, catch basin sediments that are impacted with sewerage - we've had to tell a couple a couple of host communities and even the city that we're not able to fulfill contractual obligations right now because the facilities can't take the material. Those are the local facilities not in New York or Ohio. We've seen developers completely stop and again we've seen some developers and entities that were able to push forward. But regardless of what's happened, the jobs are either stopped or the schedule's getting impacted substantially. The other items that we look at, or I look at, is ok, we have this Subtitle D problem that's staring us in the face, but where are we going to be in 12 to 18

months when the four unlined landfills that are operating today are either closed or have minimum capacity as well? That would be a worse situation than we're actually in today because now what do you do with the un-lined soils? We all know the lined market is down to… it's minimized beyond what I've ever seen capacity at.. yet now there's a distinct possibility that Fitchburg won't get their permit and we will have no real lined space to speak of. Some of the lined landfills in the area are using other waste streams as cover, so as you know they might be out there but they're not necessarily using soil and if they are using soil it's at a real small capacity or frequency depending on what they need and when they need it.

When you talk about some of the recommendations, I think John Simpson hit on one earlier that would be a large help, and I think it'd have to be obviously specific to each facility, but allowing RCS-2 sites to accept Remediation Waste as long as it meets the site-specific chemical criteria. I think that would be a big help to the market. It's not the magic bullet because if these unlined landfills all come offline at the same time, we're going to have a major problem.

Another thing that would make sense to me is perhaps looking at some of the landfill regulations - the regulations as they pertain to landfill expansion. What could be done to either relax those in site-specific situations? Obviously there's some landfills that won't work, but if we do have site-assigned landfills out there and they have more capacity, then what we've seen or what they've been given in a closure type situation… I mean now is the time to really look at those expansions if there is the space and the host communities are willing to listen. That would be a big one in my opinion.

Additionally I don't know if MassDEP could provide any tax breaks or credits for brownfields operations and looking at some of these capping projects that are completely upside down, financially.

It is really a tough position to be in right now with what's available and what our clients are trying to move and I think Kate really hit the nail on the head. What we're seeing in the pipeline for bidding - I can name two jobs that would take Jason's capacity for the year that are on the table right now. That's two projects. I think John Simpson mentioned earlier that they do up to 400 projects a year. Of course that's smaller jobs and lighter jobs. As a group I'm just hoping that we can we can continue this conversation and maybe sit down and talk about some of the other opportunities like landfill expansion and the RCS-2 criteria, perhaps accepting some remediation waste. I think that there's enough smart people on this call, a lot of people that care about how this is affecting us to make it work and we're willing as a company. We will be able to provide assistance with some of my employees and whatnot to help the situation. I'm just glad that we're here today talking about it because it's… sitting in my seat, it's warm.

Once again, I thank you guys for hosting this and hopefully we can open up after this and have some general conversation. I know a lot of what I said is similar to what other people have said. I think a lot of us are on the same page but we should talk again and hopefully after today's meeting as well.

Thank-you, Bill. Next up is Ross Hartman followed by Deborah Darby.

Ross Hartman, Strategic Environmental Services

Yeah. good morning. Can you hear me okay? Great. Good morning everybody and to reiterate, thank-you very much to the DEP and to the LSPA for putting this together. Needless to say, this really struck our interest as a company at Strategic Environmental. I didn't realize the severity of some of the things that were going to occur until I heard Jason from Waste Management speak a

little while ago. It is great that we're having this dialogue and I hope to resonate with what Bill French said - we can all keep working together try to come up with a solution to this.

My name is Ross Hartman. I'm with Strategic Environmental Services. We're a New England-based remedial contractor with offices in Massachusetts, New Hampshire and Connecticut. We focus primarily on site remediation. We handle a fair amount of our businesses associated with contaminated media, being soil and contaminated debris. As such we spend quite a bit of time working for environmental consultants and developers on the private development and redevelopment of projects all throughout New England. Additionally we spend a fair amount of time in the public sector, working for municipalities and also the DoT and MBTA, managing a fair amount of soil off of those jobs as they're going through road work or upgrading the infrastructure of the rail system, which I think is grossly important. I'd like to touch upon a couple recent examples of how this impact in the soil market has affected our company and then get into some impacts of that and then some suggestions.

We recently had a project in northern Massachusetts for a large private developer. It was a large residential project with some mixed use on site. They discovered that there was asbestos in soil. There was a large amount of that material – it was somewhere between 30 and 50,000 tons of material. We were in the middle of the project and obviously things started to shut down up north with the respective facilities and that forces us to have to take a step back look at some other options. To reiterate what other people have said on the call, I think all the contractors are going through similar circumstances where we're forced to have to look at these other disposal options that are much further away and that require transportation at a much greater distance than staying in the local market. We did that - we brought the information back to the client. They were willing to absorb some of the costs. As we started working, we realized that trying to secure that many trucks to go that far was going to be a problem. We collectively all made a decision that it may be best to just shut the job down until we move into 2022 and see what happens with the status of the market and if things open back up. As you can imagine, that has an impact on a whole litany of aspects of the project. It has an impact on the construction sequence. It has an impact on us as an organization - an impact on our revenues and our cash flow. But there's not much that you can do about it when it doesn't make financial sense. I think you need to go in a different direction.

On the other side, recently we had a project on the Green Line Extension [GLX], where we were moving soil. Same thing happened – a [disposal] facility was shut down. We were forced to have to look for alternative disposal options. We did find one - it was significantly further away. It was even further in upstate New York. Because the project demands, the owner (GLX) essentially made the decision to move forward and transport that material because they have certain timelines and deadlines that they need to hit. That also brings some complications because you bid the job a certain way and then you're forced not to take the material to the location that you bid. There's an escalation cost. I think we're all dealing with that in the market and then we move forward.

Those are just two very quick examples amongst what turns out to be dozens of projects. I don't think there's one job that we have since August that hasn't been impacted by what has happened in the market. I think we can all feel this slow build that's going on. This process, this issue, has been coming along for a good number of years. We've all identified that there are fewer landfill capacity options in Massachusetts, and it's been heading that way over the past 10 years. At one time we had almost a dozen asphalt-batch facility options that were available to us throughout New England - asphalt batching and thermal absorption. We're down to roughly three. So this has been occurring over a period of time and I think when you take these issues with capacity issues and then you mirror that with the fact that our regulations are such that we're exposing and uncovering a lot

more material in the market. The PCB bulk product issue caused issues because we were allowed to take that to local landfills. That started to fill up landfill space. We're finding an inordinate amount of asbestos-in-soil than we did 10 years ago. And now we have on the horizon the whole PFAS issue, and I don't think any of us really know how that's going to end up playing out. So we have a bit of a recipe here of not going in the opposite direction of generating material on sites that are either being redeveloped/developed or there's infrastructure capacities with them.

I think when we take all those issues, what effects does that end up having on all of us as a whole? I personally get concerned about the economic scale of the disposal issues in our market. I think when we look at this from the lens of a developer, they're going to start seeing massive escalation costs on their projects. If we mirror that with the likelihood that interest rates are going to end up raising, we are going to put ourselves in a position where we are going to end up pushing away developers from moving into the Greater Boston area in order to purchase sites and redevelop them. If the cost of taking contaminated soil off of a site is going to outweigh that of the property value it's a pretty easy formula for them. The first line item on a *pro forma* for developers or even a municipality is going to be looking at what the environmental liabilities are. We're always the first one in. We're usually the ones that go in first, clean the site up and then turn it over to a company who is going to end up building. *OR* we're working alongside of a company who's going to end up building. So if we're moving forward with the potential that people… it we disadvantage them to purchase and develop sites, that's going to have an impact on all of us. I think over the years, what I think is going on is Boston, and the Greater Boston area, has been really just thriving economically, and there's been so much development going on in this area, that the neighboring states can't keep up with the flow of material that's coming out of the Boston area. Evident by the fact that that's what happened up in ARC, this is what's going on with Turnkey. Then we look at what happened in Rhode Island Resource Recovery. Everybody's starting to push away the material that's coming out of the Greater Boston area. The concern with that is Boston is the heartbeat and it's the economic driver of just about all of New England. We all depend on Boston, from southern Maine to southern New Hampshire, to parts of Connecticut and a vast majority of Rhode Island, to employ people – and to be able to use Boston as our economic engine the same way Manhattan is for all of the boroughs and parts of New Jersey and Connecticut. If we put ourselves in a position to not making this area economically viable to redevelop because there's just such a large cost associated with getting rid of soil and debris, that's going to impact all of us. There is a massive trickle-down effect for each of us on this call and all of us in the industry as a whole, Several of us compete in the market, that have spoken today. However we all end up working with each other in one form or another. If all of these smaller type development jobs slow down and we can't figure out a way to get people enticed to purchase property because of these escalation costs, then people aren't calling other companies for trucking and people aren't looking at certain sites that have RCS-1 or RCS-2 or like soils associated with them, if there's a larger component of that job of soil that has to go out-of-state for disposal.

I think the other issue that we're running into is - and it's already happening - we realize that there is a flow capacity issue. The next best option for us is, let's try to ship it via rail. When we go via rail there's really one main outlet in Massachusetts, out of Worcester, that MHF ends up operating that location. That facility was primarily used for hazardous soil. A lot of TSCA soil left there, lead-impacted, VOC soil that was getting loaded out and shipped to points west, to landfills. We start to use that location for non-haz soil, at the size of the capacity of that location, we're going to have a massive bottleneck in that terminal and it's going to end up flowing downhill.

We try to ship direct to go to points further north up in New York, I think it's… we're already seeing it's very hard to find trucking outfits to go that far for a two-day run to get rid of one load of material. I think somebody said that earlier. For us, personally, who own trucks, it is much easier knowing that if something happens with one of your trucks and you're local to New England, you want to stay in New England because you have the resources, you know the people, and you know the companies that can help in the event there's a problem with one of your trucks.

We have a very good recipe here, I think, for identifying a problem. It's great that we're all talking about this, and I don't think there's one single point solution to this. I think when you listen to a lot of what other people have recommended, there's some great ideas around the regulatory issues.

- I do think that we should really take a hard look at certain rail sidings, and if there's a way to open up permits where we could take more material into those rails.

- I think we absolutely have to look into the landfill space. I know it's really hard in the state of Massachusetts to try to reopen a landfill or to change regulation to accept a higher degree of soil, but I think that that's a really high [priority] option that needs to be put on the table.

- Lastly one option I think to look at is, Connecticut has a general permit where they allow for the placement of non-haz soils to go onto a storage pad and then it can be loaded back out and either transloaded or moved to a facility and the material can sit on the pad for a certain period of time. I think that could be very beneficial with a lot of projects that end up going… we're going through a massive overhaul of infrastructure for our utilities, for the energy utilities, and they're upgrading a lot of their lines and they're generating a tremendous amount of soil. If we had a place where some of that could go, staged, transload it out, I think that would be of a great benefit for the economy as a whole.

That is it. To reiterate what Bill French said, I really look forward to communicating more about this down the road. I think that this is a problem that we all should be very vested in, especially in light of where things are headed from an economic standpoint. Thank-you for the time and I hope we have the chance to do this again.

Thanks very much, Ross. Next up is Deborah Darby. After Deborah is Kelly McWeeney. Kelly will be the last scheduled speaker and so we'll have time to open up to the broader audience.

Deborah Darby, MBTA

Hi. My name is Deborah Darby. I work for the MBTA. I was initially hired to oversee traditional MCP cleanups and my job morphed into working on construction projects. Mainly my job entails, now, working on construction projects. My interest in soil projects at the MBTA started maybe 14 or 15 years ago when I was tasked with revising our specifications. My “aha!” moment came at the second revision of our soil specification, where I realized there was a lot of benefit for soil reuse within the footprint of the project. So during that revision, I worked with some very smart LSPs, PMs and the like. We were able to come up with a means where we could facilitate soil reuse, It wasn't until major soil movement projects like South Coast Rail and GLX where the full effect of taking a reuse approach was realized. Some of you know or may not know, both of these projects generate or is estimated to generate at least a million tons of excavated materials. That's a lot of material. Both of these projects did have a reuse element, but what I’m going to highlight is… because there's a lot of I don't know much about, how to you know expand capacity at landfills… what I can tell you is it is a very beneficial tool to allow construction projects to utilize materials

within the footprint of the project as well as inter projects. Kate touched upon that briefly in her presentation. I'm going to tell you a little of successes - we need a little good news.

South Coast Rail was primarily designed as a reuse project. They designed the project to reuse 75% of the materials. We worked with the [MassDEP] Southeast Regional to come up with a plan to do this. [The] Southeast Regional said to us, "*you can reuse this material…*" (we're talking about soils that had high arsenic levels above imminent hazards), "*…you can reuse this within the new alignment of your tracks however you can't reuse this anyplace else*." So we took that and ran with it. As a result, we are estimating at least 300 thousand [tons] (that's the estimate I was given) of materials will be reused in the realignment of our tracks. That translates into a savings both from the export of materials to reuse and disposal facilities, as well as on the import side of bringing in virgin materials to raise the grades, etc. to about $14,750 000, which I think is a win-win all around. It's a win-win in saving landfill and recycle off-site disposal re-use facilities. It's a win-win on using new materials or importing virgin materials into track areas. It's a win-win for the taxpayers because of the large dollar amount. Now some of you might be asking, "*Well, 75% - why stop there? Why not go to a hundred percent?*" Well our hands were tied. The Southeast Region's hands were tied because the regulations require or define railroad right-of-way as the "active track bed". What the T is looking for to allow us more flexibility in how we use excavated materials is to redefine the definition of an active right-of-way to include *all* infrastructure and assets that are required for the use of operating and maintaining an active transit system. How this is realized is that now we can put excavated materials, we can consider parking lots… under parking lots, which all commuter rail stations have associated parking lots. We can put it in the foundations or beneath the foundations of stations and buildings. We could also then look at our layover facilities. And eventually we're going to have to raise those tracks to deal with climate change and that material can be put there. It can be put in maintenance track areas up to the building. We can divert a lot of this materials away from the limited resource of disposal and reuse facilities. That's one of the asks that we're looking for.

I want to piggyback on what Kate was saying about inter-project import/export. The T, at this point, we're beginning a 30% design project where there are two projects. One project has an extensive cut where they will be building an underground parking garage for employees. the other project has a significant fill aspect to it: we are purchasing property to expand a layover/maintenance facility and we need to raise the track. Wouldn't it be great if I could take that export from the cut project and transport that over to the fill project? But when I talk about this from an ideological perspective you know I get chuckles from the LSP that I'm discussing this with because the regulations don't allow us to do this. One of the main impediments of that is the liability issue. I hear that magic "L" word peppered all throughout the discussions that have happened previous to mine… liability, liability, liability. We definitely need to figure out a way to deal with that in a responsible way so that you can have inter-project sharing of cut-and-fill materials. The T is extremely interested in how this conversation goes. That's been my mantra. If I had to have a crown or a title, my crown and title will be, "R*euse soil and ballast materials. Don't necessarily consider disposal unless you have nothing else you can do with it*." In order for us to realize that, we definitely need regulatory relief or assistance in figuring out how this can work. I'm glad that private industries are also looking at these types of things so there's not like, you know, "*we need you to do this for us*." It's not just specific to the MBTA.

I'm very much interested in this topic, and I am available to continue the discussion. I am grateful for the opportunity to add my two cents to this conversation,

Thank-you, Deborah

Okay, next up is Kelly McWeeney, and that will be the end.

Kelly McWeeney (PE, LSP), Harvard University

I want to thank MassDEP and the LSPA again for hosting this. This has been really eye-opening and a wonderful format for us to be able to share our experiences. I'll try not to reiterate what everyone else has said. I'm Kelly McWeeney. I work with Harvard University Environmental Health and Safety, Director of Project Support Services. We consult with our capital projects to help manage EHS issues and risk management.

Harvard conducts excavation of soils as part of our maintenance as well as our capital projects. Harvard recently, with its development partner, are starting the first phase of the Enterprise Research Campus located in Allston that requires extensive excavation of fill soils. The first phase encompasses about 10 acres of land. The first phase of that will have about 900,000 square feet of plant development, so a lot of soil removal in the next few years for us. Similarly the quality of the fill required that we take the material to New Hampshire and Maine . Our first project was the roads and infrastructure that started at the beginning of this year. We were slated to go to the facilities in New Hampshire and Maine. We were recently told that they've reached capacity so that we have to be diverted to the Fairport, New York facility, which, as others have said, is difficult to find drivers to go that far. It also created about a 170% cost increase per ton for shipping those soils up to Fairport, New York. Unfortunately due to the nature of the fill, MassDEP has not allowed us to stockpile more than a small amount of soil, even though we have plenty of room to do so. So we did have to significantly slow the last bit of that project because of the unavailability of the disposal facilities and the limited quantities that the New York facility can handle. We are advising all of our other projects to wait until the beginning of the year to generate soils. We are looking at all options for taking care of the soils that we will be generating in the future, also considering rail. As you know, it's difficult to find the containers to do that and the shipping costs via rail are much more than trucking locally. We are planning for our future excavations.

One thing I did want to hit on and reiterate through Dave's (and others) point is the emissions - the additional emissions that are generated from trucking so far for this soil. I know that the state of Massachusetts does have a very aggressive goal of reducing greenhouse gas emissions to 45% below 1990 levels. If we're looking just at this sector, as far as diesel emissions, we're just increasing and increasing our diesel emissions due to this this issue. In 1990 we had 573 landfills available for disposal and fortunately we have closed those up - that's not a not a bad thing - but we have nowhere else to take our soils. If we are looking to try and reach that goal of even just getting to 1990 emission levels, it's not going to happen unless we can figure out how to manage these soils locally.

Thank-you very much.

Thanks very much, Kelly. I think we have a few minutes to open the floor and I did promise the first slot to John Haas. Hi john, you can unmute.

John Haas, TerraTherm

Great, thank-you everybody and thanks for the MassDEP and LSPA and everybody that's on this call. Really great and powerful discussions.

My name is John Haas. I'm the regional sales manager at TerraTherm, headquartered in Gardner, Massachusetts. We're a thermal remediation contractor.

We use thermal remediation in the subsurface and in above ground excavated piles of soil to treat things like petroleum hydrocarbons, CVOCs, SVOCs, MGP waste, PCBs, 1,4-Dioxane, PFAS and other constituents. We get a lot of calls from clients that want to look at options other than soil disposal for any number of different reasons. One reason being what we're all talking about today, specifically reductions in issues with soil disposal capacity and landfills. So this session really caught my eye because (1) there are a number of different areas of situations where in-situ thermal remediation can be effective and very successful. One is where there may be a construction project going on, a redevelopment project going on, and stakeholders are struggling with what to do with contaminated soils. One of the options can be *in situ* thermal remediation. Here at TeraTherm we work on sites all over the country. We've worked on sites in Massachusetts. specifically in North Adams, Taunton [?], Lowell, Groveland… we're currently speaking with two local consultants about two different industrial facilities here in Massachusetts. Ironically enough, although TeraTherm isn't the thermal contractor on the project, *in situ* thermal is currently being used at the General Chemical site in Framingham. I'm sure a lot of people have thought… everyone on this calls knows about that site for sure. So I didn't want to make this a sales pitch by any means - it's not a shameless plug. Really I just want to let folks know that if you're working on a project and you're struggled and challenged with what to do with contaminated soils, think a little bit about things outside the box so to speak, other than disposal. Think about *in-situ* thermal or *ex-situ* thermal – [it could] be very successful, very cost effective.

Once again, thanks to everybody on the call. I appreciate your time.

Thanks John. I think we have a few raised hands.

Ned Abelson, Goulston & Storrs

My name's Ned Abelson. I'm an environmental lawyer with Goulston & Storrs. I sit on the Superfund Advisory Committee [https://www.mass.gov/waste-site-cleanup-advisory-committee] in the commercial real estate seat. I wanted to try and provide a little perspective from that angle, from that place of touching the elephant. Even though I'm not a developer myself. To start I agree with what most other people have said.

First in terms of thanking both DEP and the LSPA for increasing the focus on this issue. I think it's really important for all the reasons that have been presented by the folks who've spoken before me. I'm also going to try not to repeat everybody's comments. On the capacity issue, with respect to which there seems to be pretty clear agreement, one of the things that happens from the real estate perspective, just to emphasize something that was touched on previously, is occasionally in the midst of construction, excavation and off-site disposal, facilities shut down. Your list of approved facilities needs to expand immediately, which doesn't happen immediately. So depending on the specific part of the excavation you're in, it can be remarkably disruptive to a project that's already underway.

Second, as noted by others, we have the remarkable - not quite unique, but very unusual - good fortune in the Boston area of having an economic engine that continues to chug along very, very well in terms of the focus of those types of businesses that want to be downtown and excavate and do that sort of thing. We're very fortunate indeed, in terms of the biotech focus and the lab focus, but one of the other things that's happening in the real estate development market is lots of other costs are going through the roof. So how does that come back to this issue? It means there's less

ability to absorb the increased costs that are associated with the soil management issues we've been discussing. In addition, from a real estate perspective, as with any business, certainty is critical. As everyone who's spoken before me has indicated, we're in very uncertain times with things pointed in the wrong direction at the moment in terms of this issue in particular. As at least one person who spoke before me mentioned, one of the safety valves that was available before when you're doing a big dig-and-haul project, in the form of the tax credits, [it] is way, way less than it used to be. I don't I don't think developers really use that in their *pro forma* at this point.

One point that I don't think has been focused on, but I think everybody would agree is obvious, is this problem has a long lead time to solve. It's not like we're going to fix it tomorrow. I think that's another important reason that it needs focus. As much as just a citizen of the Commonwealth, I can't believe sending things to Ohio is the right solution. That can't be good for the environment. I wasn't aware of what remarkable impacts it has to budget - that just doesn't seem like a helpful solution.

The last thought in terms of a possible solution is perhaps there's a way to create a parallel to the current ACO process that applies with respect to Less-Than-RCS-1 soils. That's been terrific, in large part because, much like the MCP, it really is self-implementing. Once it's set up it moves along quite nicely. At least from my perspective that's been quite a success. I don't know if there are other issues that have come from it, but that certainly seems like an approach that's worked very well in terms of the problem it was designed to address.

Thanks for your time.

Thanks, Ned. David? David Foss.

David Foss (LSP), Wilcox & Barton

Thank-you. I know I said I had one comment but I have three, so…

One is I totally stand behind both what Ned just said and Kerry and Kate, about the environmental justice and equity challenges. Metro Boston has got big finances and a lot of people are spending money there. Our other gateway cities are having a really hard time and development projects are on a razor thin margin. It doesn't take much and certainly the lack of certainty in Brownfields Tax Credits is a problem. It doesn't take much and a change in soil management cost can kill brownfields redevelopment in cities and neighborhoods that really need it. We're seeing a really big inequality in how those projects are going forward.

My other my other comment, and it's just kind of the invisible elephant in the room, in the parts-per-trillion, is PFAS. It's out there in soil. One of the reasons Maine is not taking a lot of soil is because they're worried about biosolids that are coming their way, that are probably loaded with PFAS. I know that this is new, we've only been dealing with it for a couple of years, but if we start testing for PFAS in soil - whether that's within <RCS-1 or COMM-97 or whatever the category of the soil is - and we start finding it, we're not too far away from those being considered hazardous waste. We will have now taken a huge volume of soil in the Commonwealth that might be in a very different category for management. I think in the world of what waste site cleanup and solid waste need to think about, is, as we test for these compounds, what are the implications on, like, killing massive development projects or the challenge that will come with facing those compounds.

Thank-you, I appreciate your time. And I really appreciate everyone's comments and contributions today.

Thanks, David. Don Nagle

Don Nagle (representing Marilyn's Landing)

> Good morning, everybody. My name is Don Nagle. I'm an environmental attorney representing a soil fill project called Marilyn's Landing in Bridgewater that accepts below RCS-2 soils. It's a COMM-15 site, but it's also site-assigned under the solid waste regulations. On the positive side of this conversation, I offer an immediate opportunity for creating additional capacity at landfills is to divert remediation waste from landfills that are below RCS-2 to these kinds of sites. If acceptance of remediation waste at these levels were allowed, it would help alleviate demand for a limited landfill space, or their need to truck the soils out of state at great expense. The soil acceptance criteria wouldn't have to change. Currently Marilyn's Landing is approved to accept soils up to RCS-2, but can't accept these same soils that are from 21e sites.
>
> Marilyn's Landing is partnered with Republic Industries, which owns an adjoining closed landfill, to create over 2 million tons of airspace for these soils. A short-term solution which doesn't require any regulatory changes, that would mitigate the shortage of disposal space for soils above RCS-2 would be to approve acceptance of soils that are less than RCS-2 at facilities like Marilyn's Landing.
>
> I offer that for your consideration. That can be done fairly quickly, without making any regulatory changes. Thank-you.

Thank-you, Don

I don't see any additional hands raised…so I'm really impressed with the timing today…

Oh, it's Jason Barroso. Go ahead Jason.

Jason Barroso, Waste Management

> Hi guys. I'm sorry, I just wanted to point out - it didn't come up in my conversation but I think it's important to note and it's another sign of the times - that Waste Management and I believe other facilities that operate Subtitle D landfills with leachate collection and liners and that sort of thing - we've already stopped voluntarily reviewing Less-than-RCS-1 and Less-than-RCS-2 materials. Our capacity concern is unrelated to those materials. That may impact unlined [landfills], but we've already voluntarily pushed those materials away a couple years ago.

Okay, thank-you Jason. Bill?

Bill French, WL French Excavating Corp.

> Yes, I guess my question would be, "*Where do we go from here?*" I mean obviously this was a great jumping off point. Like Don and others have said, we know we can't do something immediately, but with the holidays and whatnot, obviously some time is going to pass. How do we do we reconvene? How do we do this? How do we come together as a group or formulate some strategy, sooner than later, so that we aren't 6 months (or a year) from now having the conversation I brought up about the unlined landfills? Those really are the facilities that are taking the most regulated waste. The ACO facilities are taking most material, but I'm talking regulated soils. Those four unlined landfills are all coming to a head. So how do we reconvene or when do we reconvene and what's the path forward?

Elizabeth Callahan, Acting Assistant Commissioner, MassDEP BWSC

Well thank-you for that comment and for MassDEP's part, I'll let Paul speak to this. Paul looks across both the Waste Site Cleanup program as well as the Solid Waste program. We want to take what we heard today, some of the sobering information as well as some of these suggestions. We want to take them back, discuss them more, pull the right people together to have those discussions and keep this conversation going with this group of stakeholders. That's generally what we plan on doing with this information.

Paul Locke, MassDEP Acting Deputy Commissioner for Policy & Planning

First, I would give thanks to a number of the folks out there who have periodically raised this to the Commissioner, Marty Suuberg. It's something that our commissioner is aware of. Stephanie Cooper, whom I am acting for, for the time being, also had been made aware of it. It's an issue that has been percolating up and I think we do have an opportunity now, particularly since I'm sitting where I'm sitting for the moment, to make some headway in it.

One of the things that we can use to keep it in the forefront, keep the impetus going, is… we are spending a lot of time over the past month or two looking at the funding that is coming our way - first through the ARPA bill and now through the federal infrastructure bill. There are going to be a lot of infrastructure construction projects happening in Massachusetts over the next five years. If you think that the real estate market has been hot and the construction industry has been running hot the past few years, it's not going to slow down. That is one of the reasons why it will remain elevated in our eyes. There will be some pressure (which is good) on the department to try to find some solutions.

As many of you pointed out, there's no one silver bullet for all of this. It's going to be a collection of tweaking here, adjusting there, and maybe some big efforts that are going to take longer. We do need to look at all the different pieces and see what we can we can work with, both in the short term and long term. In the very short term, it's good that the holidays are coming up that will give us a chance to go through all of your comments and organize them. We'll try to summarize that and put it on the website so we'll see both the options and the suggestions that have come in. It will be good to have in one place a summary of the pressures and the challenges that we're all facing - not just the private sector, but we've heard from a number of folks from the public sector on how it is affecting your state-driven projects as well. Once we have that, we'll put it out circulate among you guys. We'll put it on the web. In order to make sure we get it all together, I would encourage anybody listening and everybody who has spoken - if you have anything else to contribute, any other suggestions, send it in. That would be very helpful. Then we'll try to set up an another meeting with initial thoughts… early to mid… probably more like mid-January, but on the early side of January.

Greg Cooper from our Solid Waste program in our Bureau of Air and Waste has raised his hand. Greg?

Greg Cooper, MassDEP

> Yeah, hi! Well, I just wanted to mention to folks, if they aren't plugged in, we have been looking at our Solid Waste regulations, both the facility siting and the facility management regulations over the past (probably) year. We've had a couple of stakeholder meetings on reg updates - regular revisions. We had one just back in September. The proposal is for us to try to go out with some reg revisions in 2022. I will try to include the link or have Liz send that out. We're trying to take comments, but certainly welcome people's inputs in this avenue on the topic. Obviously

there's overlap and we're looking at reg revisions and what we can do on a whole host of things. Your comments would be appreciated.

Elizabeth Callahan, Acting Assistant Commissioner, MassDEP BWSC
Sounds good, thanks Greg.

With that, I think we're at the end here. I'd really like to thank all of you for participating. People that commented and all of you that tuned in and stayed with us - it's been a great session. I've learned a lot, I know. As I said, we'll keep this going and keep in touch with you. Check back at that link where we'll be posting information and updates and wishing you all a happy holiday season.

Thanks again - thank-you all!