

Dear Mayor and Council members,

We are happy for the Town of Ross' initiative to make focused study of the impacts of pickleball noise as a basis for considering restricting the development of private pickleball courts in residential areas. We believe that this is the first study of its kind in the Bay Area, but there are plenty of documented cases of grievance about pickleball noise across the nation in residential areas, leading to dispute, litigation, even the removal of already built courts at Congress Park in Denver, Colorado. We became concerned about the noise impacts of the sport as neighbors of two properties where courts have been proposed: 2 Bellagio, where a sport court has been approved excluding use for pickleball pending the Town's broader decision on policy; and 12 Canyon Road, which has a pickleball court application in process for an upcoming ADR meeting.

In listening to the sport in Tiburon and studying diverse sources, we've understood the severity of the sound impact. The attached New York Times article reports that "the most grating and disruptive sound in the entire athletic ecosystem right now may be the staccato pop-pop-pop emanating from America's rapidly multiplying pickleball courts." The sound of the paddle hitting the ball is loud--twice as loud as tennis at 90 dB--and has a high pitch that's attention grabbing, similar to the frequency of a garbage truck backing up. It's an impulsive noise that rises and falls in 2 milliseconds and has a fast, persistent rate of repetition at about 15 pops per minute that induces stress (Attached p.1, p.2, p.5 & p.8).

For reason of this severe impact, we strongly support Town action to prohibit pickleball within 250 feet of residential property lines, as set out in Option 1 of the Staff Report. A distance separation of this kind provides a more reliable form of restriction than Option 2's requirement that it be demonstrated that noise resulting from play at a proposed pickleball court not exceed 55 dB along all property lines, for reason of the inherent difficulty and uncertainty in projecting sound levels from a theoretical, unconstructed court. Also, as noted in the Staff Report Attachment 3, pp 46-47, measuring pickleball sound requires a sound meter fast enough to detect the impulse sounds of the sport (Attached p. 8). High fidelity meters of this kind are expensive and need to be operated professionally. General use sound meters don't have this capability and will be inaccurate in measuring the sound.

But the noise impacts of pickleball spread out further than 250 feet. The sound, which has been measured at 70 dB from 100 feet, falls off at 6 dB with a doubling of distance - to 64dB at 200 ft and to 58 dB at 400 ft, not to reach the Town standard of 55 dB until 600 ft. (Attached p.1 & p.9). We ask that the Town consider this 250ft. - 600 ft. margin as well in regulating residential pickleball courts. From the Staff Report, Attachment 1, p. 2 we see that Centennial, Colorado and Park City, Utah have policies governing pickleball courts up to 600 ft. from property lines, by which they prohibit pickleball entirely at close distances, and then require the owner to do a Sound Impact Assessment and propose mitigations beyond those distances. This makes sense in view of the pattern of the noise impact of pickleball, and should also be made policy in Ross.

We've attached our findings concerning the noise impacts of pickleball and identified the attached page # that locates a source referenced for this letter. The most pertinent passages of documents or commentary are included for each source, followed by the associated link.

Thank you for your consideration of this,

Zara and Dennis Muren

Shattered Nerves, Sleepless Nights: Pickleball Noise Is Driving Everyone Nuts

The incessant pop-pop-pop of the fast-growing sport has brought on a nationwide scourge of unneighborly clashes, petitions, calls to the police and lawsuits, with no solution in sight.

. . .

Sports can produce all kinds of unpleasant noises: referees' whistles, rancorous boos, vuvuzelas. But the most grating and disruptive sound in the entire athletic ecosystem right now may be the staccato *pop-pop-pop* emanating from America's rapidly multiplying pickleball courts.

The sound has brought on a nationwide scourge of frayed nerves and unneighborly clashes — and those, in turn, have elicited petitions and calls to the police and last-ditch lawsuits aimed at the local parks, private clubs and homeowners associations that rushed to open courts during the sport's recent boom.

The hubbub has given new meaning to the phrase racket sport, testing the sanity of anyone within earshot of a game.

"It's like having a pistol range in your backyard," said John Mancini, 82, whose Wellesley, Mass., home abuts a cluster of public courts.

"It's a torture technique," said Clint Ellis, 37, who lives across the street from a private club in York, Maine.

"Living here is hell," said Debbie Nagle, 67, whose gated community in Scottsdale, Ariz., installed courts a few years ago.

Modern society is inherently inharmonious — think of children shouting, dogs barking, lawn mowers roaring. So what makes the sound of pickleball, specifically, so hard to tolerate?

For answers, many have turned to Bob Unetich, 77, a retired engineer and avid pickleball player, who became one of the foremost authorities on muffling the game after starting a consulting firm called [Pickleball Sound Mitigation](#). Unetich said that pickleball whacks from 100 feet away could reach 70 dBA (a measure of decibels), similar to some vacuum cleaners, while everyday background noise outside typically tops off at a "somewhat annoying 55."

But decibel readings alone are insufficient for conveying the true magnitude of any annoyance. Two factors — the high pitch of a hard paddle slamming a plastic ball and the erratic, often frantic rhythm of the smacks — also contribute to its uncanny ability to drive bystanders crazy.

“It creates vibrations in a range that can be extremely annoying to humans,” Unetich said.

Above from:

Shattered Nerves, Sleepless Nights: Pickleball Noise Is Driving Everyone Nuts - The New York Times
<https://www.nytimes.com/2023/06/30/sports/pickleball-noise-complaints-lawsuits.html>

Pickleball Courts in a Legal Pickle – YouTube - - - listen from 11 mins 40 secs for description of pickleball noise <https://www.youtube.com/watch?v=AK8IVttYAb4>

Paddles at Play: How Pickleball Noise Impacts Our Communities

While pickleball brings together people of all ages and builds a wonderful sense of camaraderie, the sport has not been without its fair share of challenges from the communities in which it’s played. As more and more paddles are at play across the country these days, there’s been a growing number of noise disputes, strained relations, and land-use conflicts.

One man in Massachusetts sold his house after pickleball courts were built 350 feet from his front door. He and his neighbors took their plight to court, **claiming pickleball courts have harmful and intolerable noise levels, and the noise was creating mental and physical health problems for residents.** **While in New Jersey** there’s a group of pickleball-playing senior citizens causing such a stir that the police have been called out to break up arguments, and now the mayor’s involved.

As mentioned, pickleball has largely taken over the same courts as tennis. This frequent repurposing and the addition of new pickleball-specific courts have led to friction between pickleball players and tennis players. People have even reported seeing fights between tennis players and pickleball players, others have witnessed pickleball players **occupying tennis courts** until removed by police.

And then there’s the vandalism and threats in Finley, where vandals took to **pouring oil over the pickleball courts** and leaving threatening notes that pickleball players’ cars will be keyed. **The vandals also called tennis players who didn’t stand up to pickleball players “chickens.” Yes - this is real.** These are only some examples of communities rising to become activists and pop the pickleball once and for all. So what are our leaders doing about it?

Communities Taking Action Against Pickleball Noise

Some municipalities have introduced enforceable regulations to quiet the court noise, where going above the regulated volume has consequences. Even more, some areas are taking extreme actions, such as removing courts and stopping new courts from being built until the situation has been assessed.

Denver Parks and Recreation removed pickleball from Congress Park after neighbors complained about the noise. An inspector was sent to investigate and found that pickleball noises were over 70 decibels in some nearby residences, and the City ordinance is set for 55 decibels at most. And the **City of Centennial** approved a **temporary pickleball moratorium** to give staff time to assess what regulations are needed for outdoor courts and the noise they generate. It's not only municipalities that are having to do something about the noise issue. Many **homeowners' associations** are **stopping pickleball or taking steps to reduce the noise in their community** too. Sometimes these actions are sparked by legal disputes, other times these are proactive associations that want to do something about pickleball exceeding the noise provisions in their codes.

. . .

What Can Be Done to Reduce Noise in Pickleball?

Pickleball noise can be reduced by playing with high-quality paddles, cushioning court surfaces to absorb more sound, regulating play times, and putting up soundproofing materials or sound barriers. Courts should be built at least 500 feet away from residences, in green buffer zones.

Above from:

<https://www.paddletek.com/blogs/news/noise-issue-pickleball>

DENVER — Denver Parks and Recreation will remove pickleball from Congress Park starting next week and is abandoning plans to build a pickleball court at Sloan's Lake Park over concerns about the game's noise.

It's the latest move to deal with noise problems related to the burgeoning sport since the city council in Centennial passed a six-month moratorium on new builds of outdoor courts in that city.

The move comes after neighbors near the Congress Park court complained to the city about violations of the city's noise ordinance. An inspector found sound levels relating to pickleball at over 70 decibels in some residential locations near the court, according to records obtained by 9NEWS. City ordinance only allows for 55 decibels.

"Clearly at these homes along this site....it is violating the noise ordinance," Denver Parks and Recreation Deputy Director Scott Gilmore said.

The court planned for Sloan's Lake Park is only about 100 feet away from homes, Gilmore said. He said the current guidance he's gotten from researching sound abatement found pickleball courts need to be 500 feet or further away from homes.

The Congress Park court and surrounding tennis courts were already slated to close for a maintenance project on April 3, which includes abatement of asbestos in the concrete. Denver Parks and Recreation originally planned to move the pickleball courts away from homes along Detroit Street and further into the park but abandoned that plan after researching the noise issue.

9NEWS obtained some of the complaints about the park. Neighbors complained about parking, trash, players having door dash and alcohol delivered to adjacent homes and noise as well.

“It has taken my true joy of living on the park away as now the noise and continuous congestion has become a true nuisance to my family and me,” one neighbor wrote in a complaint to 311.

“I am saddened to write you today that the noise emanating from pickleball played in this beloved park has become illegally loud, unhealthy — and simply untenable,” another neighbor wrote.

Betsy Rumely, who lives further down the block, told 9NEWS the sound has made it unpleasant to sit in her backyard. The sound inspector found the pickleball noise near her home violated the ordinance.

Above from:

<https://www.9news.com/article/news/local/next/next-with-kyle-clark/pickleball-noise-divides-neighbors-and-players/73-8beb759c-c19f-40f2-83f3-e09d0753242a>

FROM: Point Tiburon Marsh Condominium Association

RE: **OPPOSITION TO PROPOSED PICKLEBALL AT TEATHER PARK / BEACH RD / MARSH RD PUBLIC TENNIS COURTS**

Dear Town Council Members,

On August 17, 2022, you are being asked to authorize use of the tennis courts on Marsh Road (Teather Park) for Pickleball use as part of a management agreement with The Ranch. The Point Tiburon Marsh Condominium Association remains very concerned with this proposed change in use and respectfully request that the Town Council direct staff to consider other facilities for expanded Pickleball activities.

As expressed below, the noise generated by Pickleball and the resulting negative effects on property values, in addition to the lack of effective mitigation options, demonstrate that Pickleball is an incompatible use for the Teather Park / Beach Rd. / Pt. Tiburon tennis courts.

Pickleball has been characterized as a rapidly growing sport that is very social and can be played by all age groups. The HOA recognizes that Pickleball may be a very fun and social sport. Doubtless, the Town Council will hear from Pickleball enthusiasts who will cite the popularity of Pickleball as a reason for the need for more courts.

Unfortunately, Pickleball is also a notoriously noisy activity, which tends to present a nuisance within communities unless it is enclosed or very distant from residential uses. The ball/paddle contact of Pickleball is characterized by a much higher pitch, volume and frequency than tennis. As described in the study prepared by Gigahertz for the POST, *“the sound of a pickleball hit has a higher pitch or tone than tennis and this ‘pop’ sound is considered more annoying to people than the ‘thud’ of a tennis ball hit”*. Since Pickleball courts are half the size of a tennis court, the ball travels a much shorter distance between the players and is therefore struck much more frequently. Pickleball is also, seemingly, a more socially interactive sport with more continuous conversation and loud enthusiasm. As such, Pickleball is an inherently noisy sport that has engendered numerous community conflicts and litigation. **A simple Google search of “Pickleball Noise” and “Pickleball Lawsuits” reveals dozens if not hundreds of documented controversies in communities throughout the country**, most often involving the local municipal governments. As a result, Pickleball has been banned outright in many cities throughout the U.S.

Pickleball Exceeds Town of Tiburon Noise Guidelines


It appears that the Town’s own noise and land use compatibility guidelines prohibit Pickleball in public parks.





As noted in the GigaHertz report obtained by the POST Commission, a hard **Pickleball strike will generate 90 decibels of sound, clearly exceeding the Town’s guidelines of a maximum 70 decibels for “...neighborhood parks, tennis courts...”**.

Further, all parks (including Teather Park) and the Railroad Marsh wildlife reserve are classified as “Sensitive Receptors” most affected by noise (diagram 7.1-3 of the General Plan). This might suggest an Environmental Analysis under CEQA would be in order before Pickleball and other similarly noisy sport activities are permitted in the area.

TIBURON GENERAL PLAN

7.2 Noise and Land Use Compatibility Guidelines



Land Use Category	Community Noise Exposure, Ldn or CNEL, in dB						
	55	60	65	70	75	80	85
Residential (interior noise levels not to exceed 45 dBA Ldn)	Green	Green	Yellow	Yellow	Red	Red	Grey
Transient Lodging, Motels, Hotels	Green	Green	Yellow	Yellow	Red	Red	Grey
Schools, Libraries, Churches, Hospitals, Nursing Homes	Green	Green	Yellow	Yellow	Red	Red	Grey
Auditoriums, Concert Halls, Amphitheaters	Green	Green	Yellow	Yellow	Red	Red	Grey
Sports Arenas, Outdoor Spectator Sports	Green	Green	Yellow	Yellow	Red	Red	Grey
Playgrounds, Neighborhood Parks, Tennis Courts, Outdoor Recreation	Green	Green	Green	Green	Red	Red	Grey
Water Recreation, Riding Stables, Golf Courses, Cemeteries	Green	Green	Green	Green	Red	Red	Grey
Office Buildings, Business, Commercial & Professional	Green	Green	Green	Yellow	Yellow	Red	Red
Industrial, Manufacturing, Utilities, Agriculture	Green	Green	Green	Green	Yellow	Red	Red
 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.							
 Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.							
 Normally Unacceptable: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.							
 Clearly Unacceptable: New construction or development clearly should not be undertaken.							

Negative Impact on Property Values

The TPC Pickleball is a “Known Nuisance” that must now be disclosed to potential buyers. Loss of the peaceful enjoyment of decks and patios will certainly have a negative effect on property

Above from:

https://townoftiburon.granicus.com/MetaViewer.php?view_id=5&event_id=892&meta_id=36240

The sound of pickleball – a detailed explanation, and what you need to consider before building courts

July 13, 2021 Betsy

After my last post “*Respecting our neighbors – creating a quieter pickleball environment*,” I received some feedback from readers seeking more information on how to deal with sound issues at their outdoor pickleball courts.

I have asked my friend, **Bob Unetich** to write a contributing article on the sound of pickleball; how to measure it, and how to reduce it in order to keep happy neighbors or select a location for new courts.

The term we will use is the decibel. The selected reference for sound measurements is 1 micro-pascal which we set to equal zero decibels, or 0 dB as commonly written. Humans perceive an increase of 10 decibels in sound level to be roughly 2x as loud. This is quite helpful since we can then simply use a meter calibrated in decibels to take measurements, and then easily estimate how the sound levels will be perceived.

Now we are ready to use the numbers for comparison purposes. Here are some points of reference from the website, <https://noiseawarness.org>:

0 dBA – The softest sound a person can hear with normal hearing

10 dBA – normal breathing

20 dBA – whispering at 5 feet

30 dBA – soft whisper

40 dBA – quiet residential area on a calm day

50 dBA – steady rainfall

60 dBA – normal conversation

70 dBA – freeway traffic

85 dBA – noisy restaurant

90 dBA – shouted conversation

100 dBA – nearby snowmobile

110 dBA – shouting into an ear

120 dBA – nearby thunder

As you know, at some level our hearing can be damaged. It is recommended that we avoid extended periods of exposure to levels above 80 dBA. Above 90 dBA is considered dangerous according to the Occupational Safety and Health Association (OSHA) standards. Loud music fans beware!

Frequent pickleball sounds are typically about 70 dBA at about 100 feet away from the strike of the ball. Residents in homes located in a quiet residential area, that are within 100 feet from pickleball courts are used to noise levels of 40 dBA, therefore the level of pickleball noise is 30 decibels louder. And, remember, each time you increase a sound level by 10 decibels, it will sound twice as loud. So, an increase of 30 decibels is (10dB+10dB+10dB) or 2x as loud x 2x as loud x 2x as loud, or 8 times as loud. That's a significant increase in loudness. Would that be annoying? Probably.

Above From:

<https://crazypickleballlady.com/2021/07/13/the-sound-of-pickleball-a-detailed-explanation-and-what-you-need-to-consider-before-building-courts/>

Why Are Your Pickleball Courts Receiving Complaints from Neighbors?

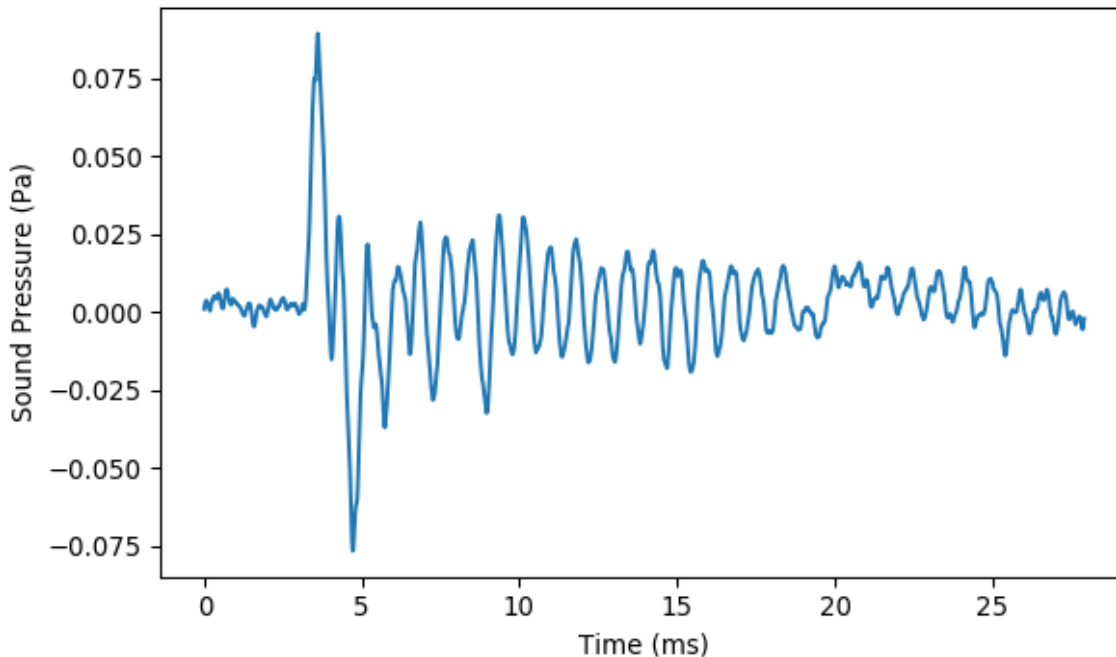
by [Lance Willis](#)

Posted on [April 25, 2018](#)

[Pickleball](#) is a game played with a paddle and ball on a converted tennis court or dedicated asphalt pad. It has become very popular in retirement resort communities and other recreation centers. Unfortunately, some developers of pickleball courts have not adequately addressed the sound produced by the impact of the hard paddle and ball which creates a sharp pop.

Characteristics of Pickleball Sound

The sound produced by the impact between a pickleball and paddle is characterized by a sudden onset and brief duration, typically on the order of two milliseconds for the direct path sound. Figure 1 shows a time trace of a pickleball paddle impact measured near Phoenix, Arizona. The main part of the direct sound impulse can be seen to be less than two milliseconds followed a rapid decay and some later reverberant arrivals.



Above from:

<https://www.acousticalnoise.com/noise-control/why-are-your-pickleball-courts-receiving-complaints-from-neighbors/>

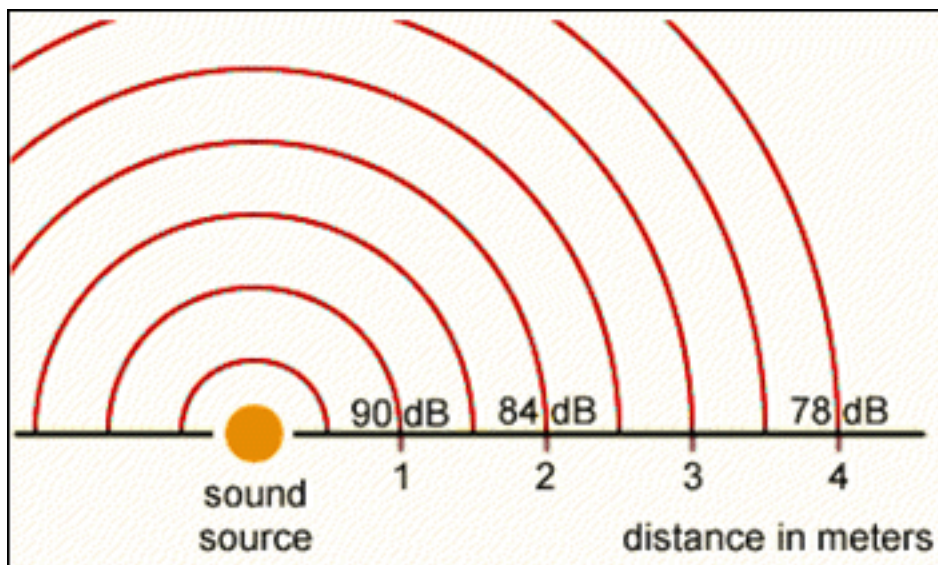
Doubling of Distance Noise Reduction

eNoise Control presents the following information regarding doubling of distance. This information can also be found in the [OSHA technical manual, Section III, Chapter 5](#).

Sound Pressure Level Decreases 6dB – with the Doubling of Distance from the Sound Source

A free field is a region in which there are no reflected sound waves. In a free field, sound radiates into space from a source uniformly in all directions. The sound pressure produced by the source is the same in every direction at equal distances from the point source. As a principle of physics, the sound pressure level decreases 6dB, on a Z-weighted (i.e., unweighted) scale, each time the distance from the point is doubled. This is a common way of expressing the inverse-square law in acoustics and is shown in Figure 4.

Figure 4. Sound Pressure Levels in a Free Field



If a point source in a free field produces a sound pressure level of 90 dB at a distance of 1 meter, the sound pressure level is 84 dB at 2 meters, 78 dB at 4 meters, and so forth. This principle holds true regardless of the units used to measure distance.

Above from:

<https://www.enoisecontrol.com/acoustic-terminology/doubling-distance-noise-reduction-decibel/>

And finally, the following two posts from Facebook's 'Pickleball Noise Relief':

The screenshot shows a Facebook browser window with the address bar displaying www.facebook.com/groups/3367374030189320. The browser's top navigation bar includes Google, News, Google Map, ChatGPT, YouTube, Amazon, Films, MyChart, Family, Facebook, Reddit, and Instagram. The Facebook interface shows the group name 'Pickleball Noise Relief' with 889 members. A banner image features a 'no noise' symbol and the text 'Pickleball Noise Relief Noise Hot Spots - By City Recorded 6/14/23 to 3/18/24'. Below the banner is a long list of city names. The group's navigation tabs include Discussion, Guides, Featured, People, Events, Media, and Files. A post by Matthew O'Donnell is visible, asking for a summary of noise issues in Osterville, Cape Cod. An aerial map shows a residential area with 'W Bay Rd' and '1st Ave' labeled. The right sidebar contains an 'About' section, 'Chats' with links to other groups, 'Recent files' with PDF documents, and 'Recent media'.

Rob's Post



Rob Mastroianni

Admin · July 24 at 4:17 AM · 🌐

Members Kerri and Dianne representing Melrose, MA along with Braintree's Mike Megley and neighbors keeping the pressure on. Thank you Dave from channel 7 investigates for the opportunity to share our stories.



👍👍👍 18

3 comments 1 share

👍 Like

💬 Comment

🔗 Copy

➦ Share

Top comments ▾



Soraya Faris

Move pickle ball courts away from homes! The noise causes stress and anxiety and prevents people from enjoying living in their own home- how can this continue?

1w Like Reply Share Edited

👍 2



Marcus Marin

Good job Keeping the pressure on. The courts are too close to residents. No amount of mitigation will decrease the sound to an acceptable level. The courts need a new location.

13h Like Reply Share



David Wright

Notice at 0.33 seconds, the shot of noise barriers that don't work, and windows are in view. They spent \$22,000 for nothing

2d Like Reply Share Edited

👍👎 2



Nalini Lasiewicz **Admin**

Bravo 🙌 great coverage. 👍

1w Like Reply Share