



TOWNSHIP OF WEST ORANGE DEPARTMENT OF ENGINEERING

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MEMORANDUM

TO: CHAIRMAN AND MEMBERS OF THE PLANNING BOARD

**CC: GENIECE GARY-ADAMS,
PLANNING DIRECTOR/ZONING OFFICIAL
DIANA P. MCGOVERN, ESQ., BOARD ATTORNEY**

**FROM: ZAYIBETH CARBALLO, P.E., P.L.S., P.P, CME, CFM
DIRECTOR/MUNICIPAL ENGINEER**

DATE: OCTOBER 31, 2025

**SUBJECT: 4TH ROUND AFFORDABLE HOUSING ELEMENT
AND FAIR SHARE PLAN INFRASTRUCTURE
TOWNSHIP'S INFRASTRUCTURE CONCERNS**

In preparation of this memorandum, I have reviewed the following items:

- Report entitled, "Draft Fourth Round Housing Element and Fair Share Plan, Township of West Orange, Essex County, New Jersey." The report prepared by Heyer, Gruel & Associates (HGA), is dated October 2025.

The new law enacted in March 2024 by Governor Murphy and State legislature significantly amended New Jersey's Fair Housing Act (FHA) and how the Fourth Round of Municipal Housing Element and Fair Share Plan (HEFSP) for 2025 to 2035 and future rounds to meet fair share housing obligations are established and satisfied.

At the Planning Board meeting on Wednesday September 10th, 2025, the Township's 4th Round Housing Element and Fair Share Housing Plan was presented by Susan Gruel, P.P. of HGA for which a request was made by the Planning Board for the Township Engineer to address concerns brought up by the residents during public comment. Some of the relevant factors and concerns to be taken into consideration for the proposed affordable housing sites are locations and the capacities of the Township's existing infrastructure. Most of the proposed inclusionary developments are to take place in Main Street, Northfield Avenue and Pleasant Valley Way.

INFRASTRUCTURE

Municipal infrastructure refers to the key and basic facilities that support a community that include transportation, utilities, communications, waste management, and energy.

Transportation

The Township of West Orange roadway network consists of mostly collector roads, arterial roads, and local roads with access to interstate I-280 and NJ Route 10. Most of the arterial roads are County routes connecting to other Townships including highways. The proposed inclusionary developments will increase residential development and escalate the number of vehicles and lead to further traffic congestion. As a result, the demand on local roads will most likely increase and impair them from handling the higher volume demand from new developments.

Utilities

I. Water:

New Jersey American Water (NJAW) owns, operates, and maintains the water system and is the purveyor of potable water for the Township of West Orange. On the other hand, the storm and sanitary sewers are owned, operated, and maintained by the Township of West Orange.

II. Electric and Gas:

Public Service Electric Gas & Co. (PSE&G) operates primarily as a regulated utility licensed by the Board of Public Utilities (BPU) to supply electricity and gas for the Township of West Orange.

III. Sanitary Sewers:

The sanitary sewer system consists of gravity and force main sewage that is conveyed to and treated by the Joint Meeting of Essex and Union Counties (JMEUC) located at 500 South First Street in the City of Elizabeth, New Jersey.

JMEUC has a rated capacity of 85 MGD (million gallons per day) with an average dry weather flow of 60 MGD. In 2004 the JMEUC as a means of ensuring adequate future capacity within its sanitary sewer trunk lines, and to encourage future growth and development within the municipalities that are part of it, initiated an Infiltration and Inflow (I/I) Reduction Program.¹

Any new development whether; is residential, commercial, or mixed-use requires a Treatment Works Application (TWA) with the New Jersey Department of Environmental Protection (NJDEP) for anything over 8,000 gallons per day (GPD) and as a result initiates the need for the I/I reduction program established by the JMEUC. The I/I reduction

¹ Email from Andres Gallego, Collection System Manager JMEUC
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program states that for each additional gallon per day of sewage flow added to the JMEUC collection system from the new development, three (3) gallons per day of extraneous flow (I/I) that is currently known to exist within said municipal sanitary sewer lines and manholes, shall be eliminated and/or removed through an agreement or resolution between the developer and the municipality. Consequently, for every development that generates 100,000 GPD and based on the I/I reduction program, it will require the removal of 300,000 GPD of I/I from the Township's sanitary sewer collection system.

The JMEUC had Hazen & Sawyer perform a Sewer System Evaluation Survey (SSES) in 1994 with an accompanying sanitary sewer map for the Township in which various sources of I/I were discovered in the Township of West Orange at the time the study was conducted. According to tables 2, 3 and 4 of the SSES report² the Township's specific I/I source discovered at the time consists of:

Table No. & Title	(GPDR)
2- Sewer Infiltration Projects	88,415
3- Manhole Infiltration Projects	38,902
4- Inflow Identified	6,699,600

Although, there is a 1994 map of the Township's sanitary sewer system as part of the SSES report, it does not provide any information in regards to the sanitary sewage capacity at the time nor takes into consideration the development that has taken place since 1994 to the present. There are certain sections of the Township that are known for residents experiencing sewer backups during severe rainfall events. It is uncertain if the backups experienced during these events is due to lack of capacity of the sanitary sewer system or if it is due to I/I sources known since 1994 or after.

The Township reports on an annual basis the I/I reductions obtained through the replacement of manholes via the various roadway improvement projects to the JMEUC. However, it is also uncertain if these I/I reductions are sufficient to address existing capacity issues and sewage increases in the future due to development.

It will be necessary for the Township to ensure that for any future developments that agreements with developers are put in place to address the JMEUC's I/I reduction program. Also, to find creative ways to fund a comprehensive asset management plan that will provide flow capacity and assist the municipality to pinpoint areas in which it will be necessary and feasible to replace and/or enlarge the sanitary sewer system.

Based on the above, there is adequate capacity at the JMEUC sewer treatment plant to accommodate future developments; however, the Township will need to be careful in ensuring that prior to the construction of any of the proposed inclusionary developments that adequate sewer capacity exists to convey the sewage to the treatment plant to fulfill its affordable housing obligation.

² Sewer System Evaluation Survey (SSES) Report, 1994 JMEUC
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II. Storm Sewers:

Unlike the sanitary sewer system, there is no current or former mapping of the Township's storm sewer system that is accurate and precise to provide a full picture of these assets nor to identify areas that will need improvements to accommodate additional runoff discharge to the municipal system. Future developments will be required to comply with the Township's Stormwater Control Ordinance (SCO) that was adopted in May of this year.

The proposed inclusionary developments as shown in the HGA report will most likely generate additional runoff and particularly for properties that are mostly vacant; therefore, overwhelming municipal drainage systems and contributing to fluvial, and pluvial flooding. Additional considerations need to be taken for the effects of climate change that can become severe due to extreme weather events such as hurricanes that might impact flood-prone areas within the Township. These extreme weather events lead to flash floods that can occur within a few minutes or hours due to heavy precipitation.

The Township will need to be careful and ensure that the proposed inclusionary development does not overwhelm existing drainage systems. It is imperative that the capacity of the system is confirmed and that the existing conveyance system can service the existing and proposed developments.

Communications

Verizon, Xfinity, Altice, and Optimum are some of the major telecommunication providers in West Orange that own, operate, and maintain their telecommunications infrastructure.

Energy and Waste Management

There are significant costs associated with upgrading energy infrastructure in the State of New Jersey to meet future needs that can be strained by the demands of proposed development.

The Township's solid waste management might be affected by the proposed inclusionary developments. An option for these developments is to use private waste management collection systems for regular household garbage and recyclables, bulk, and item removals. However, if any of the proposed inclusionary developments are condominiums and other community associations, the State's Municipal Services Act (MSA) provides qualified private communities with maintenance services, or reimbursement for the cost of obtaining them elsewhere.

The MSA covers the removal of snow, ice and other obstructions from roadways, lighting of the roads and streets that include payment for the electricity required, but not the

installation or maintenance of lights, conduit, or other equipment. Also, the MSA covers the cost for the collection and disposal of leaves and recyclable materials, as well as solid waste along the roads and streets.

Overall, there are legitimate municipal infrastructure concerns with the fourth round of affordable housing as to having the appropriate utilities capacity (water, sewers, electricity, telecommunications, transportation) for the Township to provide and sustain the demands of the proposed inclusionary developments. Also, coordination will be key to handle the increase in population and density with the schools and transportation.

The Township will need to prepare by developing a comprehensive asset management plan to identify deficiencies in the sewer systems to create an action plan to upgrade the sewer system where feasible. Also, the Township might want to consider implementing a Sewer Utility for the sanitary sewer system and a Stormwater Utility for the storm sewer system to handle the maintenance, repairs, and upgrades of these sewer systems.

The Township faces significant challenges with its existing infrastructure as it moves towards compliance with its obligation to provide its fair share of affordable housing. It is crucial for the Township to consider all current infrastructure needs while simultaneously addressing the need for inclusionary developments, and the increased infrastructure demands that accompanies it. The Land Use Boards must consider the capacity of the Township's current infrastructure and the current limitations in the efforts to improve it as the municipality continue towards addressing its fair share housing obligations.