

Project Descriptions for January 5, 2022

Board of Trustees Meeting

Asset Management Planning Commitments

Norwood CW-21-30

The proposed project will help the Town of Norwood better track and manage stormwater collection system maintenance activities, condition assessment, and repairs and compliance activities, to drive improved decision-making and provide a higher level of service. Additional benefits will include a higher overall level of service with reduced level of failures and a more cost-effective management of this utility infrastructure. The project will focus on pipelines, maintenance holes, outfalls, and catch basins in the drainage system.

Tyngsborough CW-21-31

The Town of Tyngsborough seeks to develop an Asset Management Plan (AMP) that establishes a proactive stormwater system maintenance, repair, and replacement program. The Town currently takes a reactive approach in maintaining its stormwater assets. To date, the Town has made limited drainage capital improvements, but typically repairs or replaces drainage infrastructure on an as-needed basis or upon failure of the asset. Additionally, the current stormwater asset inventory and mapping are incomplete and must be updated to provide Town staff with a thorough understanding of the condition and vulnerabilities within the drainage system.

Wellesley CW-21-29

The Town of Wellesley will continue its asset management efforts in water, wastewater, and stormwater. The Department of Public Works is dedicated to providing the essential, emergency, and maintenance services, together with information and planning support, to protect, maintain, and improve the Town's assets and infrastructure for the safety and well-being of the community.

Clean Water Commitments

Acton CW-21-41

The Town of Acton's construction project at the Middle Fort Pond Brook Wastewater Treatment Facility (WWTF), includes upgrades and improvements to the existing WWTF and pump stations in the Town's collection system. The WWTF was originally built in the year 2000 and, with no significant upgrades, has reached its 20-year design life in 2020. These improvements include the replacement of aged WWTF system components that are approaching or have exceeded their useful life to ensure continued facility compliance. Additionally, improvements will be made to account for future capacity needs in the Town including the upsizing of equipment and processes at the WWTF.

Adams CW-21-24

The Town of Adams' construction project includes the repair, replacement, and refurbishment of various systems of the Adams WWTF as defined in the 2020 Capital Needs Assessment Report to address stringent NPDES permit limits, reduce nutrient discharges, and ensure the integrity of the plant. The Adams WWTF has been in operation since 1968, with limited capital improvements occurring in 2006. The Town of Adams has performed general maintenance and rebuilt equipment to maintain WWTF operation; however, many components have far exceeded their anticipated life expectancy. This project serves to repair and replace aging process equipment and infrastructure to allow the WWTF to continue serving the community and reliably protecting the environment in the future.

Barnstable CW-21-42

The purpose of this project is to upgrade three (3) of the Town of Barnstable's existing wastewater pumping stations to be more resilient, reliable, energy efficient, and cost-efficient. The three proposed projects are consistent with the long-term rehabilitation plan prepared in 2019 for the Town's 27 existing pump stations.

Barnstable CW-21-49

The Town of Barnstable's project includes construction of approximately 11,000 linear feet of gravity sewer and a new pump station. Once operational, the new infrastructure will handle approximately 1.5 million gallons per day (MGD) of average daily flow. This project is the critical element toward building an extensive wastewater collection system that will eventually serve more than 7,000 properties during the town's thirty-year phased Comprehensive Wastewater Management Plan.

Bridgewater CW-21-32

The Town of Bridgewater's WWTF Phase I Upgrades project will implement improvements and new processes for advanced nutrient removal for Total Nitrogen, and modernize existing treatment systems to meet the more stringent effluent limits and compliance schedule as stipulated in the current NPDES permit and ACO issued by the EPA and DEP. The new processes include among others, additional RBC capacity to enhance nitrification, a pre-anoxic denitrification process ahead of the RBC process, internal recycle pumping, and expanded chemical addition to meet nitrogen limits set by the current NPDES permit, and phosphorus interim limits set by the ACO.

Chatham CW-21-38

The Town of Chatham's project, as a component of Chatham's Comprehensive Wastewater Management Plan, is intended to improve the water quality in coastal receiving water by reducing the amount of untreated stormwater runoff that reaches various receiving waters. Runoff to Frost Fish Creek (Pleasant Bay), Chatham Harbor (Pleasant Bay), and Oyster Pond (Stage Harbor) will be reduced through Best Management Practices, including the addition of leaching pits, leaching fields, and rain gardens.

Chatham CW-21-46

The Town of Chatham's project, as a component of Chatham's Comprehensive Wastewater Management Plan (CWMP), is intended to upgrade the existing Queen Anne wastewater pumping station that is receiving increased wastewater flow from newly constructed sewer extensions, and to provide future capacity for new sewer extensions. These sewer extensions will allow the Town of Chatham to continue implementing their approved CWMP to achieve nitrogen TMDL compliance in the coastal estuaries, including Stage Harbor.

Dukes County CW-21-33

The Martha's Vineyard Airport Commission's project will implement recommendations in the November 2016 Engineering Report approved by the MassDEP in association with the renewal of the Permit SE#3-171 for the Martha's Vineyard Airport WWTF in West Tisbury, MA. The Draft Permit SE#4-171 retains the effluent discharge limitations for the WWTF and includes changes in monitoring and reporting to comply with current regulations. Facility improvements include repairs to the Process Building and exterior structures, a new flow-metering vault for composite sampling/reporting/process control, and process equipment and electrical upgrade/replacement. The improvements will ensure protection of a Sole Source Aquifer and associated significant environmental resources.

Fall River CW-21-06

The City of Fall River's Wastewater Treatment Facility (WWTF) Improvements' project is the second phase of a complete WWTF rehabilitation/upgrade for reliable NPDES compliance and to address water quality and public health and safety issues.

Fall River CW-21-50

The City of Fall River's project includes full replacement with a submersible pump station, a building to house the generator, electrical equipment and controls, a new 12" force main and lining of 1,500 LF of poorly performing vitrified clay sewer. The project will include an essential water booster pump station on the same parcel, presented in DWSRF PEF 6763. Constructed in 1970 to serve the Fall River Industrial Park and the northeast section of Fall River, the Wilson Road Sewer Pump Station is at the end of its service life and it has insufficient capacity to handle existing wet weather flows and projected future flows from expansion planned in the Industrial Park.

Great Barrington CW-21-53

The Town of Great Barrington's project is part of a 20-year Capital Improvement Plan (CIP) to upgrade and modernize the Great Barrington Wastewater Collection System. The Town recently completed a long-term planning study (CWMP) that recommended improvements to its pump stations to extend their lifespan, ensure long-term functionality, and permit compliance (federal and state). The key components of the project include upgrades to pump stations at the following four locations: Cone Avenue, Risingdale, South Main Street, and Fairgrounds.

Haverhill CW-21-40

The City of Haverhill's project will repair and rehabilitate the historic sewer system by addressing structural deficiencies and/or operational and maintenance deficiencies identified during recent inspections.

Hudson CW-21-36

The Town of Hudson's Wastewater Treatment Facility (WWTF) Phase 2 Upgrades project involves upgrades to Hudson's WWTF and Main Street Pump Station, which include the replacement of aged systems that have exceeded their useful life. At the WWTF, improvements will consist of comprehensive renovation and upgrade to the Control Building; Headworks Building repair and improvements; replacement of Trickling Filter and Activated Sludge Clarifier mechanisms; Aeration System Upgrades; Process Building system improvements; new generator to power the entire facility; and miscellaneous improvements. Improvements to the Main Station include new pumps, instrumentation, electrical, and generator. The project will improve the facility's overall reliability and efficiency to allow it to continue to meet its NPDES permit requirements.

Lawrence CW-21-25

The City of Lawrence's project will rehabilitate and replace sewer system defects, and operational and maintenance issues identified in the 2019 SSES report. The sewer and drainage system improvements will address structural pipe failures, reduce infiltration and inflow sources, and abate illicit cross-connections to the MS4 areas.

Lynn Water and Sewer Commission CW-21-22

The Lynn Water and Sewer Commission's project includes modifications and additions to the existing WWTF and collection system pump stations. These improvements are necessary to remain in compliance with effluent requirements, as well as improve and/or repair aging systems and infrastructure at the 40-year old WWTF and collection system pumping stations. This project will help to maintain the WWTF functionality through the next 20- year operations contract. The project includes upgrades to the Liquids and Solids Handling Processes, improvements to the Site and Building System and improvements to the Collection System Pumping Stations.

Mashpee CW-21-16

The Town of Mashpee proposes the construction of the new Phase 1 Mashpee Water Resource Recovery Facility (WRRF) and collection system to address nitrogen impacts to the Mashpee River watershed. The facility will provide advanced wastewater treatment including nitrogen removal through a membrane bioreactor process. The Phase 1 WRRF is designed for an average flow of 0.12 mgd and maximum month flow of 0.31 mgd. The facility has been designed to be expanded through future phases of the Town's multi-phase Recommended Plan in order to meet the TMDLs for the Town's two nitrogen impaired watersheds.

MWRA CW- 21-54

MWRA Contract 7463 Cottage Farm CSO Facility Improvements is one of the critical wastewater system improvements projects that MWRA has identified for 2016. The Cottage Farm CSO Improvements Project addresses critical needs for system rehabilitation, reliability and optimization of the MWRA wastewater collection system.

MWRA CW-21-55

Contract No. 7110 HVAC Equipment Replacement - Replacement of various Heating, Ventilation and Cooling units through the treatment plant. Replacements include fan coil units, air handling units, chiller systems, the WWTP central HVAC control system, and 29 existing fume hoods in the Laboratory Contract Nos. 7059/7420 Switchgear and NMPS MCC Replacements - Replacement of various electrical low voltage distribution equipment that provides power to critical pumping stations and laboratory processes Contract No. 7051 Fire Alarm Replacement - Replacement of the central fire detection and alarm system throughout the treatment plant This project will ensure that the plant continues to meet its discharge permit requirements by replacing obsolete equipment and systems. Some of the contracts are expected to result in decreased required maintenance and/or lower operating costs. All equipment is at the end of its useful life.

MWRA CW-21-56

The Nut Island Headworks is a preliminary treatment facility serving 22 communities that provides screening and degritting of wastewater prior to the wastewater receiving primary and secondary treatment and disinfection at MWRA's Deer Island Treatment Facility. This project replaces the odor control and HVAC systems at the Nut Island Headworks to maintain reliable operation of the systems, to meet requirements of the MADEP Air Quality Permit and to maintain an environment within the facility that is safe for workers and suitable for equipment. The project will also replace other equipment at the headworks that is approaching the end of its lifecycle to ensure reliable operation of this critical wastewater treatment facility.

Orange CW-21-52

The Town of Orange recently completed a three-year annual Flow Monitoring Program to evaluate the amount of infiltration and inflow (I/I) throughout the collection system. Additionally, a 2013 long-term planning study (CWMP) recommended I/I removal projects based on current recommendations and investigations. Based on the results of this Program and recommendations from the CWMP, the Town has elected to replace sanitary sewer mains located in North Main Street prior to a road reconstruction project in the same location. Water mains located on North Main Street will also be replaced as part of this Project. The key components of the project include the replacement of gravity sewer mains and water mains along North Main Street.

Quincy CW-21-09

The City of Quincy will evaluate its drainage system capacity to determine the causes of flooding identified in the Drainage Capital Improvement Study. GIS data, field visits, and surveys will be used to develop conceptual mitigation measures that can be implemented as capital improvements to reduce flooding frequency, duration and/or extents, along with potential water quality improvements. The Study will also focus on improving water quality of receiving water bodies by evaluating past and future projects to comply with the City's MS4 Permit Year 4 and 5 requirements. This planning study will include an illicit discharge investigation that integrates sewer/drain improvements and generates prioritized water quality improvement projects for consideration as capital improvement programs.

Revere CW-21-34

The City of Revere's Phase 13 Field Investigations, Illicit Discharge Detection and Eliminations (IDDE), and Illicit Connections and Sump Pump Investigation Programs will include common investigative elements such as: CCTV of drains and sewers throughout the City, dye testing, smoke testing, wastewater and storm water pump station inspections, and inspections of private homes and businesses to identify sources of inflow from sump pumps, roof leaders, roof drains, driveway drains, yard drains and other sources of inflow. The findings of these investigations will be incorporated in future construction projects to address the identified deficiencies.

Revere CW-21-35

The City of Revere's Phase 12 Construction Project will include the removal of inflow/infiltration (I/I) from the City's sewer system. Construction will include the redirection of public and private inflow sources discovered during Phase 12 Field Investigations, IDDE source removal, and drainage improvements. Illicit connections, including sump pumps, roof leaders, etc., will be removed from the City's sewer system in order to remove inflow and increase wastewater capacity. Construction will also include pump station improvements (both stormwater and wastewater), CIPP lining, sewer spot repairs, replacements, new sewer lines, cleaning, and additional wastewater metering.

Spencer CW-21-48

The Town of Spencer's project involves essential upgrades to the WWTF to address stringent phosphorus and copper limits, achieve nitrogen removal goals, and replace aging infrastructure. An Administrative Order and the current NPDES permit require compliance with TP and copper limits by 12/31/2024. The project also includes abandoning use of constructed wetlands, and the construction of new septage receiving equipment, upgraded influent screening and odor control systems, improved grit removal, new submersible influent pumps, nitrogen removal, renovations to create lab space, the addition of a secondary clarifier, a new tertiary treatment building for phosphorous removal, UV disinfection, and new sludge thickening equipment.

Springfield Water & Sewer Commission CW-21-39

The Springfield Water and Sewer Commission's Locust Transfer and Flow Optimization project will advance the Integrated Wastewater Plan Phase 3 goal for system redundancy between the Main Interceptor Sewer (MIS) and Connecticut River Interceptor (CRI). The project will include design and construction of approximately 2,300 linear feet (LF) of sewer upgrades on Locust Street and York Street and installation of flow optimization / junction structures to allow for flow to be transferred from the MIS to the CRI adding overall system redundancy. In addition, approximately 3 MG of CSO reduction will be achieved through upgrades implemented on the MIS system near CSO Regulator 019 and the Dickenson Siphon.

Taunton CW-21-43

The City of Taunton's Phase 2 of the WWTF Upgrade project consists of a complete upgrade of the Taunton Wastewater Treatment Facility (WWTF). Improvements to the WWTF are required to meet the requirements of the new NPDES discharge permit. This phase will increase the level of treatment at the WWTF for Total Nitrogen

Taunton CW-21-44

The City of Taunton's project is the third and final phase of the upgrades to the Taunton Main Lift Pump Station. This project involves the construction of the pump station superstructure and equipment.

Taunton CW-21-45

The City of Taunton's project consists of improvements and repairs to the existing sewer and stormwater systems. This is a continuation of work begun during previous infiltration and inflow removal projects. The objective is to further reduce wastewater-related water pollution to the Taunton River by removing I/I from the sanitary collection system. This project will focus primarily on separating combination manholes and removing sewer and drain cross connections reducing the potential for infiltration to enter the sewer system.

Weymouth CW-21-28

The Town of Weymouth is striving to comply with new and evolving stormwater regulations that require holistic management practices to address multiple stormwater management objectives. The intent of this project is to create a comprehensive Stormwater Master Plan that will contain an evaluation of the elements that make up the Town's stormwater system and will provide critical information to manage the system in the coming years. This plan will help constituents and decision-makers look at stormwater comprehensively to ensure stormwater management and environmental health are integrated into planning and future development within the Town.

Drinking Water Commitments**Braintree DW-21-21**

The proposed Tri-Town Regional Water Treatment Plant (TTRWTP) project would create a regional facility to replace the existing Braintree WTP and Randolph/Holbrook WTP. The new regional facility would eliminate redundancies of having two individual plants and their associated capital and operation and maintenance costs. The new TTRWTP will incorporate improved treatment technology in order to provide high quality finished water and to maintain distribution system residuals. The regional facility, with a design capacity of 12.5 MGD, would meet all current and anticipated drinking water standards, and would also improve the aesthetic quality of drinking water for Braintree, Randolph, and Holbrook.

Dudley DW-21-16

The Town of Dudley's PFAS Water Treatment Plant project includes construction of a new PFAS water treatment plant (WTP) on the existing Pump Station No. 6 parcel, which would remove PFAS from the water of Pump Station No. 3 (and adjacent proposed Well No. 7) and Pump Station No. 6. In addition, this project includes upgrades to Pump Station No. 6 and Pump Station No. 3.

Eastham DW-21-10

The Town of Eastham's Water System - Phase 2D project consists of constructing the third well field at District H and installation of 11 miles of water main for the newly built Town-wide municipal water system.

Haverhill DW-21-15

The project involves cleaning and cement lining of 8,000 linear feet of 20-inch transmission main as the third and final phase of a three-phase improvement plan to provide redundancy from the City of Haverhill's water treatment facility and main storage tank to the distribution system. The project also involves the replacement of 12,650 linear feet of undersized water main and replacement of 2 lead service lines.

Holbrook DW-21-22

The proposed Tri-Town Regional Water Treatment Plant (TTRWTP) project would create a regional facility to replace the existing Braintree WTP and Randolph/Holbrook WTP. The new regional facility would eliminate redundancies of having two individual plants and their associated capital and operation and maintenance costs. The new TTRWTP will incorporate improved treatment technology in order to provide high quality finished water and to maintain distribution system residuals. The regional facility, with a design capacity of 12.5 MGD, would meet all current and anticipated drinking water standards, and would also improve the aesthetic quality of drinking water for Braintree, Randolph, and Holbrook.

Hudson DW-21-04

The Town of Hudson's Chestnut Street PFAS Treatment System project involves expanding the existing temporary PFAS removal system at the Chestnut Street WTP to include a third treatment train in addition to the two existing trains in response to elevated levels of PFAS in the Town's groundwater supply. The proposed third treatment train will include an additional two ion-exchange vessels in a lead-lag configuration. The resulting system will consist of three treatment trains, each with a design capacity of 50% of the plant's maximum flow, and all appurtenant piping and valves. The treatment process expansion will include piping modifications, expansion of the existing concrete support slab and foundation, installation of a building with all associated electrical, lighting, and HVAC systems.

Littleton DW-21-01

The Town of Littleton's Fe, Mn, and PFAS Water Treatment Plant project includes installation of piping water from Spectacle Pond to Whitcomb Ave and a new combined Water Treatment Plant (WTP), rather than two separate WTPs at Spectacle Pond and Whitcomb Ave. The WTP will include biological filtration for Fe and Mn removal and GAC filters for PFAS removal. The two largest source waters operated by the Littleton Water Department are currently limited by pumping capacity and water quality. The Spectacle Pond well has elevated levels of Fe, Mn, and PFAS above the regulatory limits. This is the LWD's largest source water and can only currently be operated through blending. The existing Spectacle Pond WTP is outdated and in need of repair. The Whitcomb Avenue wells also have elevated levels of Fe and Mn and detectable levels of PFAS.

Lowell DW-21-14

The City of Lowell's Transmission Main Connection project involves installation of approximately 4,000 linear feet of transmission main as an extension to a previously installed water main needed to provide redundancy from the Water Treatment Facility to the existing distribution system.

Massachusetts Development Finance Agency DW-21-05

The Town of Devens' Water Treatment Plant project consists of constructing two 1.44 MGD water treatment plants (WTPs) for iron and manganese removal and PFAS treatment for Devens' existing Patton and Shabokin wells. The project includes a GreensandPlus™ pressure filtration system, Granular Activated Carbon filters, Ion Exchange contact chambers, chemical feed systems, backwash recycling system, settled solids waste system, baffled clearwell and ancillary equipment and controls at both WTPs. Also included is construction of a new finished water main for the Patton WTP, new raw water and finished water mains for the Shabokin WTP, and site restoration and miscellaneous work and cleanup necessary to provide complete and fully operational water treatment plants.

MWRA DW- 21-26

Construction of low service suction and pumps for the Commonwealth Avenue Pump Station (CAPS) in Newton. The project includes 24-inch diameter low service connections to the Weston Aqueduct Supply Mains 1 & 2 (W2 & W6) in the Carriage Lane of Commonwealth Avenue, a 325-lf 24-inch diameter low service suction main from the WASM 1 & 2 connections to the existing Shaft 6 Line suction main and the capability to pump using low service suction into the Newton Southern Pressure District with one new pump and one replacement pump in the East Building. The new low service suction and pumps provide redundancy to the CAPS if there is an interruption in the high service water supplied to the pump station from Shaft 6 of the City Tunnel.

MWRA DW- 21-27

This project includes the Southern Extra High service area that has been identified as being deficient in distribution storage and lacking redundant distribution pipelines. Correction of these deficiencies has been assigned a Priority One under MWRA's 2006 and 2013 Water System Master Plans due to the potential critical threat to public health that could result from a failure in this single transmission main.

MWRA DW- 21-28

The Weston Aqueduct Supply Main 3 (WASM 3) is an existing 10-mile, 56-inch to 60-inch diameter, steel water main that supplies the communities of Waltham, Watertown, Belmont, Arlington, Lexington, Bedford and Winchester. In addition, the pipe conveys flow to the MWRA's Intermediate High, Northern High and Northern Extra High pressure systems. The pipe was built in the 1920's and is in need of repair due to frequent leaks and aging valves and appurtenances. It serves as a primary means of backup supply within the MWRA's distribution system in the event of a failure along the City Tunnel and City Tunnel Extension.

MWRA DW-21-29

This construction project will replace approximately 10,500 feet of 48-inch PCCP water main, Section 89, in Stoneham, Winchester, and Woburn, the abandonment of Section 29 in Stoneham, and the replacement of valves and appurtenances for approximately 9,000 feet of 36-inch Ductile Iron water main in Woburn. Replacement of the older PCCP pipeline in Section 89 (identified as having a significant risk of catastrophic failure) will ensure that this service area has a redundant means of water supply.

Randolph DW-21-23

The proposed Tri-Town Regional Water Treatment Plant (TTRWTP) project would create a regional facility to replace the existing Braintree WTP and Randolph/Holbrook WTP. The new regional facility would eliminate redundancies of having two individual plants and their associated capital and operation and maintenance costs. The new TTRWTP will incorporate improved treatment technology in order to provide high quality finished water and to maintain distribution system residuals. The regional facility, with a design capacity of 12.5 MGD, would meet all current and anticipated drinking water standards, and would also improve the aesthetic quality of drinking water for Braintree, Randolph, and Holbrook.

Asset Management Planning Grant Agreements**Norwood CWA-21-30**

The proposed project will help the Town of Norwood better track and manage stormwater collection system maintenance activities, condition assessment, and repairs and compliance activities, to drive improved decision-making and provide a higher level of service. Additional benefits will include a higher overall level of service with reduced level of failures and a more cost-effective management of this utility infrastructure. The project will focus on pipelines, manholes, outfalls, and catch basins in the drainage system.

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Clean Water Agreements**Barnstable CWP-20-24**

The project involves the installation of sewer infrastructure to accommodate future sewer expansion identified in the Town's wastewater plan. MassDOT is planning an intersection improvement project at Route 28 and Yarmouth Road. The Town is partnering with MassDOT to include the installation of sewer infrastructure improvements within the project limits. The Town's scope of work will include the installation of gravity sewer along Route 28 for future sewer expansion, a sewer force main in Yarmouth Road which will connect the future "Old Yarmouth Road" sewer expansion to the existing collection system and multiple force mains within Route 28 that could accommodate a potential future wastewater partnership with the Town of Yarmouth.

Fall River CWP-21-06

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Whitman CWP-21-17

The Town of Whitman's project involves the full-length replacement of the 16,000 LF sewer force main from the Auburn Street Pump Station in the Town of Whitman to a gravity sewer terminus manhole located on Southfield Drive in the City of Brockton.

Drinking Water Agreements

Hudson DWP-21-04

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This project includes the Southern Extra High service area that has been identified as being deficient in distribution storage and lacking redundant distribution pipelines. Correction of these deficiencies has been assigned a Priority One under MWRA's 2006 and 2013 Water System Master Plans due to the potential critical threat to public health that could result from a failure in this single transmission main.

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The Weston Aqueduct Supply Main 3 (WASM 3) is an existing 10-mile, 56-inch to 60-inch diameter, steel water main that supplies the communities of Waltham, Watertown, Belmont, Arlington, Lexington, Bedford and Winchester. In addition, the pipe conveys flow to the MWRA's Intermediate High, Northern High and Northern Extra High pressure systems. The pipe was built in the 1920's and is in need of repair due to frequent leaks and aging valves and appurtenances. It serves as a primary means of backup supply within the MWRA's distribution system in the event of a failure along the City Tunnel and City Tunnel Extension.

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