

Report for the City Manager

Community Services: Engineering

Date: March 12, 2024



Engineering

Community Services | Dover, NH

The purpose of this document is to summarize the work the City of Dover Engineering Department from February 1st through February 29, 2024.

The Engineering Division is comprised of a dedicated team of individuals who work collectively to, as the Division's statement reads, "provide the City of Dover with professional engineering services that ensure long-range comprehensive planning, sound project design, and quality construction management, and to provide technical engineering assistance to other Departments of the City."

Ken Mavrogeorge, PE – City Engineer

Bill Boulanger – Special Projects Advisor

Amelia DeGrace – Assistant City Engineer (Utilities)

Jillian Semprini, PE – Assistant City Engineer (Transportation)

Eric Sanderson – Facilities Project Manager

Jamie Stevens – Waterfront Construction Manager

Jordan Chambers – Engineering Technician

Courtney Mitchell – Environmental Project Manager

Staff Workload:

In addition to their daily project management responsibilities, the City's Engineering staff also participate in the following Commissions, Committees, and Boards as either activate members or staff liaisons.

Dover Utilities Commission (Amelia DeGrace): The Dover Utilities Commission (DUC) did not meet in February 2024. The next meeting will be held in March 18, 2024.

Transportation Advisory Committee (TAC) (Jillian Semprini): TAC met on February 26th to discuss citizen speeding concerns at the intersection of Silver and Locust Streets as well as within the Lexington and Cushing neighborhood. In addition, concerns were raised about the Route 4 Roundabout, RRFBs downtown, and the possible addition of pedestrian crosswalks on Old Rollinsford Rd.

Planning Board (Ken Mavrogeorge): Planning Board met on February 13th to review four applications. City Engineer Ken Mavrogeorge presented to the Planning Board on the City's proposed Inspection Services Expansion at the Community Services Facility at Mast Road. The City Engineer prepared the Site Civil design drawings for the project to save on design costs.

Municipal Alliance for Adaptive Management (MAAM) (Courtney Mitchell): MAAM met on February 8th to review work in 2023 by PREP and a discussion of upcoming "So What" Charettes. The GB2030 Regional Street Sweeping project that is underway was also discussed. The next MAAM small discussion group will be held in March/April. Topics to be discussed include



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continued preparation for the “so what” charettes, an outline of the MAAM monitoring & data analysis plan, discussion of leaf litter pick up, and related implications for seasonal permitting.

Seacoast Stormwater Coalition (SSC) (Courtney Mitchell): The SSC met on February 21 with Courtney Mitchell in attendance. Meeting topics included an overview of the available Lake Phosphorus Control Plan Non-Structural Controls, a presentation on large scale BMPs, an update on the PTAP database, a discussion on all things related to wet weather/SVF/catchment investigations, and the announcement of the Municipal Green SnowPro Rules Public Hearing.

TIF Advisory/Cocheco Waterfront Development Committee (CWDAC)/Park Subcommittee (Jamie Stevens): The CWDAC did not meet in February. The TIF Advisory Board met on February 5, 2024 to get an update on the Waterfront Construction progress and to review an updated Revenue Analysis and Debt Service Coverage Report. Jamie Stevens presented the construction update.

Customer Service:

In addition to supporting other City Departments and working on Capital Projects, Engineering staff takes Service Calls from the public and responds to them as quickly as they can. The team meets regularly to review open Service Calls and discuss how to respond. The Table below shows the total calls year to date and over the past month.

Time Period	Logged Service Calls	Resolved Service Calls
Year to Date (2024)	29	38
February 2024	17	13

Public Outreach:

The Engineering Team routinely provides updates to Media Services for the various projects that are shared in advance of public meetings, major milestones, or in the event of a service shutdown or temporary road closure. Anyone can sign up for project specific updates using the QR code below.

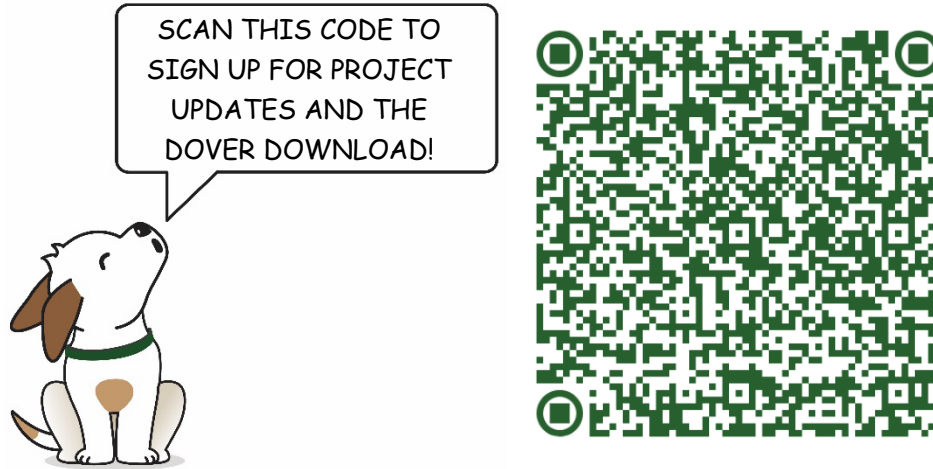


Figure 1: Rover the Community Services Dog and a QR Code to sign up for project specific updates and the Dover Download.

City Engineer, Ken Mavrogeorge, is in the process of developing new informational materials to highlight some of the work that the Engineering Division is doing in the community and to answer some of the most frequently asked questions from callers to Community Services. Engineering staff will be meeting with Media Services in the coming weeks to brainstorm ideas for improved public outreach in advance of events such as Public Works week and Apple Harvest Day.

Figure 2: Draft public outreach materials prepared by Engineering.

Water Service Line Inventory:

The United States Environmental Protection Agency's (EPA's) revised Lead and Copper Rule (LCRR) requires all community water systems to prepare a service line inventory by October 16, 2024. This revision is in response to the Flint, MI water crisis; inventories will be available to the public and will be used to identify service lines with potential lead contamination.

Led by Assistant City Engineer, Amelia DeGrace, preparation of the inventory has been a true team effort, with the Office of Information Technology (OIT), Community Services Utilities, Water & Sewer Billing, Media Services, and Engineering all pitching in. NHDES awarded the City a \$75k grant to prepare the inventory.

The inventory work to date includes the organizing of over 10,000 meters that the team will need to identify the service materials for. In order to determine the materials of service lines, staff must comb through record drawings, water tie cards, and other City documents. To help staff identify materials for services lines, an online survey has been developed and is currently live through the City's website for the public to submit information on their water service. The survey can be accessed by scanning the QR code in Figure 3. As of March 12th, 468 responses to the survey have been received.



Figure 3: Scan this QR code for access to the Water Service Line inventory.

Standard Operating Procedures:

City Engineer, Ken Mavrogeorge, and other Community Services Division Heads met to review and approve recently updated Community Services Department standard operating procedures (SOP). Input on the SOPs has been requested from Engineering, Admin, and Operations staff as well as the City's Legal Department. The focus of the SOP development process is to formalize the most common procedures that staff perform each day to improve efficiencies. The staff's goal is to annually assess the procedures to improve cross training of employees.

Documents that have been approved by Admin, Operations and Engineering Division Heads include:

Standard Operating Procedure Template


Guidance Document Template

01.01.1.001_SOPPrep

01.03.1.001_IncomingInvoiceProcessing-Engineering

01.01.2.001_Doc Number

Future meetings of Division Heads are scheduled quarterly to review and approve assigned SOPs.

SOP 01.01.1.001 SOP Preparation		Version	1
 Community Services		Pages	1
		Prepared By	JC, AD, DF, KM, CM, MN, ES, JS
		Approved	2/22/24
		Adopted	

Purpose

- Establish a procedure to develop a standard operating procedure (SOP) for the City of Dover, NH, Community Services (CS) SOP Program.

Scope

- This SOP will apply to all individuals preparing a CS SOP.

Procedure

- Any CS employee to identify SOP topic and propose topic to their supervisor
- Supervisor to review and recommend topic to next level in chain of command, terminating with division head
- Division head to review
- Division head to define SOP topic priority and assign SOP development
- Designated employee to draft SOP
- Division head to review draft SOP
- Division head to evaluate whether peer review is required, and assign peer review
- SOP to undergo peer review and revision as required
- SOP division head panel review, send back for revision as required
- Division head to confirm whether Legal Department or other department review is required, send back for revision as required
- Official approval and recommendation for adoption by division head
- Adoption by CS Director
- Reevaluate SOP every five years, or sooner if needed

Related Documents

- Glossary
- SOP Template
- CS Template
- Index
- SOP guidance (pending)

Version Summary

Figure 4: Newly Approved Standard Operating Procedure Preparation Document.

Engineering Projects:

As noted above, the Engineering staff is actively supporting a number of projects across the city. The following are some highlights on just some of the active projects.

Project Highlight: Fifth and Grove Street Reconstruction:

The City of Dover has targeted Fifth Street and Grove Street for reconstruction to upgrade underground utilities and address drainage concerns and roadway/sidewalk conditions.

The City of Dover is committed to a multi-modal approach to roadway design, particularly in urban residential areas. The City of Dover tasked their design consultant, Woodard & Curran, to design the reconstruction project so that streets and sidewalks are safe and accessible for all users regardless of age, physical ability or mode of transport. To that end, the project incorporates the City of Dover's Complete Streets & Traffic Calming Guidelines where possible.



Figure 5: Limits of the Fifth and Grove Reconstruction Project.

During the design phase of the project, two public meetings were held to solicit feedback from residents. In addition, a public opinion poll was also conducted. Based on feedback from the meetings and the poll, the traffic pattern on Fifth St will be adjusted to one way travel from Chestnut St to Fourth St.



Figure 6: Fifth St. Pedestrian Refuge Island.

In addition to improvements along Fifth and Grove, the pedestrian median within Central Avenue, that was installed in 2021, will be relocated to improve vehicle turning movements for vehicles exiting Fifth Street.

The reconstruction of Fifth Street (Central Ave to Fourth Street) and Grove St (Sixth to Fourth) was put out to bid in January and bids

were opened in early March. the bids are undergoing a review by Woodard & Curran with a recommendation to award being presented to the City Council in late March. The project is anticipated to last approximately 18 months once work commences.

Once a contractor is selected a preconstruction meeting will be held to review a more detailed construction schedule with residents within the construction zone.

Other Engineering Projects:

Pudding Hill Water Treatment Plant:

The City's consultant and contractor have begun to start up the treatment plan which is on track for substantial completion in early 2024 and final completion by summer 2024. Once online, the plant could provide an additional 1 million gallons of drinkable water per day to City residents, boosting its current capacity back to levels prior to when the aquifer was taken offline.



Figure 7: Interior components of the Pudding Hill PFAS Treatment Facility.

Waterfront Redevelopment:

The City's contractor, Northeast Earth, continues to advance the installation of stormwater, water and sewer utility infrastructure around the project site as well as the removal of buried infrastructure from prior facilities on the property.

Blasting of the remaining bluff area has started to generate material to prep the development pads and road base materials.

Orange fabric has been placed in areas to be capped as part of the site's Remedial Action Plan or RAP. Construction of the private infrastructure is expected to begin in the spring of 2024. The development is expected to be under construction until at least 2026.



Figure 8: Sitework and blasting continues on the waterfront.

Smith Well Road Elevated Tank:

Work continues on the interior of the new elevated storage tank. The new 1-million-gallon tank is being constructed to allow the City to take the Garrison Hill tank offline in 2024/2025 for rehabilitation. The new tank is currently schedule for final completion in early 2024.

Garrison Hill Water Tank Rehabilitation:

The City's consultant, Underwood Engineers, continues to advance the plans for the Garrison Hill Water Tank. Additional survey work will be performed in the spring of 2024 in anticipation of the project being bid in late 2024. The rehabilitation of the 4-million-gallon tank will be under construction by spring 2025 once the City's new 1-million-gallon elevated storage tank is tested, filled and brought online.



Figure 9: Interior fit up of the new elevated storage tank near Exit 9.

Traffic Signal Management:

The City's staff and traffic engineering consultant, Sebago Technics, held a monthly meeting on February 29th to review signal concerns received from calls to Community Services or other City Departments. The focus of the February meeting was to review the analysis completed by Sebago on the traffic signals at Back River Rd and Durham Rd. that Community Services staff requested at the January meeting. Sebago ran simulations of the intersections along Durham Road to show how proposed changes to the signal timing could improve the driver experience. It should be noted that the traffic volumes through this intersection are greater than the capacity of the signal and that timing adjustment are not going to eliminate all traffic jams. The City has a traffic study identifying potential upgrades needed to improve traffic through the area but the plan cannot be implemented without additional funding and NHDOT upgrades to the Route 16 overpass.

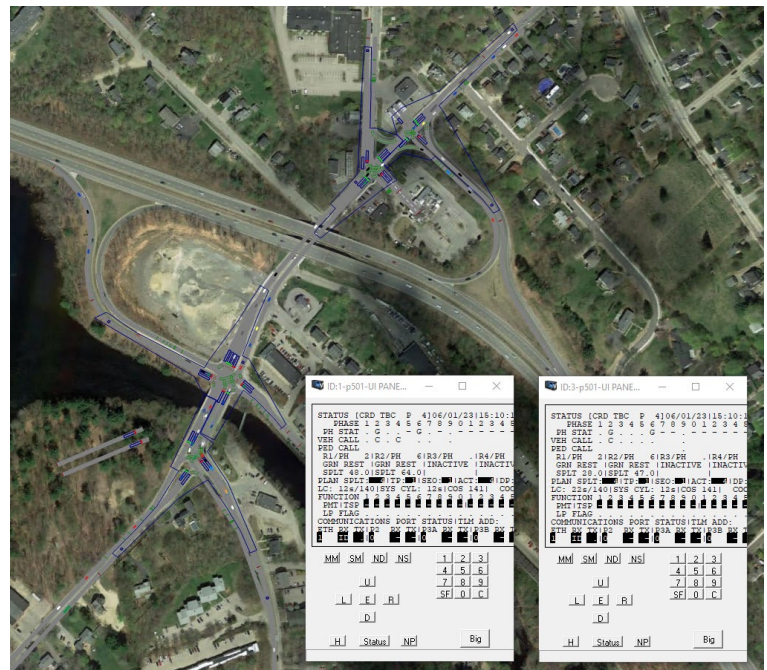


Figure 10: Traffic simulation for Exit 7 and Durham Rd.

Mill Street Pump Station Upgrade:

The City has engaged the engineering firm Woodard & Curran to conduct an assessment on the Mill St Sewer Pump Station to determine what upgrades to the station would look like as the station is reconstructed in 2025. The evaluation builds off a City-wide assessment of the sewer pump stations completed in 2023 by Wright Pierce and will look at consolidating pump stations to reduce the City's operating costs. The draft evaluation report was received at the end of February and is under review by staff. The basis of design is expected to be submitted by the end of April 2024 so that a design can be selected and moved forward in 2024.

Sidewalk Improvements:

Engineering staff is overseeing the assessment of all the City's sidewalks to help inform future sidewalk reconstruction projects. Green International Affiliates, Inc., the firm selected to complete the assessment is wrapping up their assessment all of the City's public sidewalks and curb ramps in preparation for the development of a summary of their findings and make recommendations for which sidewalks need repairs. This summary of findings will also include a 5-year sidewalk improvements program that the City can execute to improve sidewalks across the City with a focus on priority routes including those close to schools and businesses and those in need of ADA accessibility improvements. The summary of findings will be completed in the spring and a presentation to the City Council is anticipated to outline a plan to improve City sidewalks. To date 109 miles of sidewalks and over 1213 curb ramps have been assessed by the consultants.

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River St. Pump Station Rehabilitation:

The contractor for the project, Waterline, has begun to mobilize equipment to the pump station on River Street in anticipation of starting work in March. Work is expected to last over 12 months but be completed prior to the completion of the waterfront project.

Cocheco St Outfall Replacement:

Engineering staff continue to meet with Eversource and the City's consultant to discuss the logistics of constructing a new outfall which is located on land owned by multiple parties that needs soils remediation prior to the outfall installation.

Dredge Cell Closure:

Dover's dredge cell is located west of Maglaras Park and was constructed in the early 2000s to dispose of material dredged from the Cocheco River in coordination with PSNH and the USACE. The City's consultant, Verdantas is under contract to design the final cap of the dredge cell and a public parking facility/snow dump on top of the cell. It is anticipated that construction on the dredge cell closure will begin in 2025 once excess materials from the waterfront are moved up to areas in and around the dredge cell. As part of the design, the roadway from the waterfront is being extended up to Maglaras Park.

Henry Law Ave and River Street Reconstruction:

The City of Dover has contracted with Kleinfelder Northeast, Inc, of Manchester for design consulting services for the reconstruction of River Street and a section of Henry Law Avenue. These visible and active streets in Dover's downtown area require roadway, sidewalk and utility evaluation and reconstruction. The design is to also incorporate innovative and easily maintainable low impact development stormwater management practices as part of the roadway improvements where feasible. Work in early 2024 included some soil sampling and preliminary archeological work in Henry Law Park.

Street Paving

Program: The 2024 annual street maintenance bid has been posted (B24045) and bids are due in at the end of March 2024. As per usual, the final list of streets to be paved may be adjusted based on availability of funds.

Preliminary Street List and Repair Method

Street	From	To	Avg. Width (ft)	Approx. Length (ft)
INDIAN BROOK DR	TOWN LINE	NEW ROCHESTER RD	120	550
BARRY ST	SMITH WELL RD	END	35	1133
CENTRAL AVE	RR	MILK ST	56	1220
EAST ST	HAM ST	NEW YORK ST	36	465
DURREL ST	SAINT JOHN ST	WINTER ST	27	561
WINTER ST	BROADWAY	END	15	502
SAINT JOHN ST	CHAPEL ST	BROADWAY	30	518
WASHINGTON ST	MINERAL PARK DR	ARCH ST	34	4407
WASHINGTON ST	ARCH ST	CHESTNUT ST	44	2519
WALLACE DR	COLUMBUS AV	END	25	1584
JENNESS ST	CENTRAL AV	STARK AV	28	141
PISCATAQUA RD	TOWN LINE	BACK RIVER ROAD	26	7864
BERKSHIRE LN	TANGLEWOOD DR (W)	TANGLEWOOD DR (E)	30	630
TANGLEWOOD DR	SPRUCE LN (W)	SPRUCE LN (E)	32	1555

Figure 11: Initial list of streets to be paved in 2024.

Facilities Projects:

Inspection Services Expansion:

City Engineering staff have been working with the City’s design build contractor and architect to finalize the design plans for a new Inspection Services building for the Community Services parcel on Mast Road. Survey work was completed in November and the City Engineering Department prepared and presented plans to the Technical Review Committee and Planning Board in February. The City is saving on design engineering costs by taking on the site civil components of the project themselves and securing competitive bidding for the survey of the site. The City also anticipates completing some of the site work including utilities for the new building to further save on construction costs.

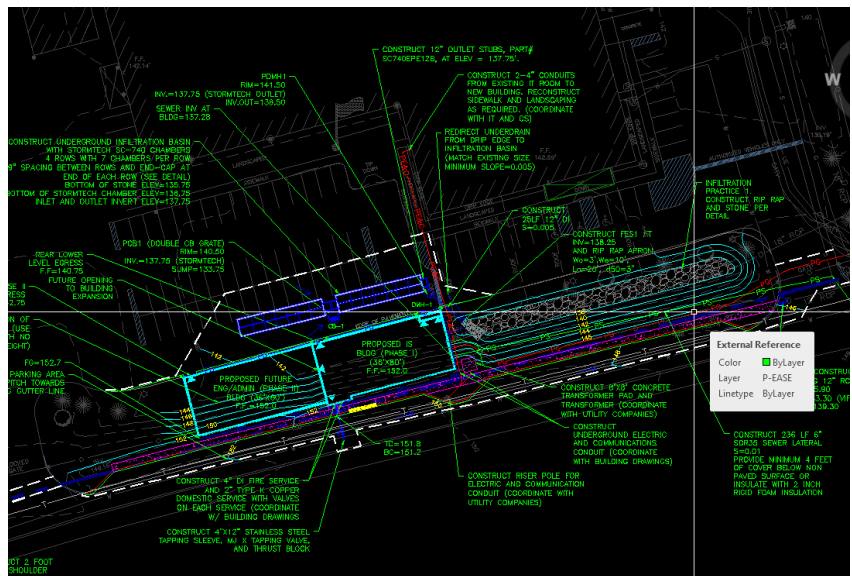


Figure 12: CAD drawing for the new Inspection Services Building prepared by Engineering.

Skate Park Pavilion:

In December funding was approved to pour a concrete slab to support the new pavilion to act as a shade structure as well as a place to get out of the elements. Later in December, skate park contractors poured the slab for the pavilion as well as a learning area for young skaters, during a period of warm weather. The City hired Unified Builders a contracted carpentry firm located in Barrington to construct the pavilion structure. A total of one and a half weeks of assembly was concluded with the structure being completed, Martineau Electric installed lighting the following week.



Figure 13: New Skate Park pavilion

Permits and Licenses:

Contractor Paving Contractor and Utility Contractor Licenses are required to ensure contractors are properly qualified, suitably insured, and have provided the City with an emergency contact information. Licenses must be obtained prior to commencing work within the City of Dover. Licenses in Dover expire on December 31 each calendar year, regardless of when the license was obtained. The fee for the license is not prorated based on when the license is obtained.

Contractor Paving Contractor and Utility Contractor Licenses may be submitted online through the City's online permitting portal, EnerGov. The site can be reached by going to the following website:

https://permits.dover.nh.gov/energov_prod/selfservice#/home

Licenses:

Paving Contractor License

A Paving Contractor License application and fee must be submitted to, and approved by, the Community Services Department prior to paving on the City's roads and within the City's rights-of-way.

Utility Contractor License

A Utility Contractor License application and fee must be submitted to, and approved by, the Community Services Department prior to working on water, sewer, or storm drainage systems owned or controlled by the City of Dover, including system connections located on private property that connect to the public system.

Permit and License Summary for February 2024:

Driveway Permits:	0
Utility Licenses:	2
Paving Licenses:	1
Excavation Permits:	2
Certificate of Occupancy Inspections:	10
Construction:	2
Obstruction Permits:	2

Site Review/Project Oversight Support:

Technical Review Committee:

The City's Engineering staff typically takes between 1 to 4 hours for each review as part of the Technical Review Committee. The review focuses on engineering related design elements such as utilities (water and sewer), stormwater, parking lot layout and pedestrian pathways. To ensure that projects efficiently move through the TRC process, City Engineering staff is available for preapplication meetings with applicants. To schedule a meeting with staff, call 603-516-6450.

Two (2) projects came to TRC in February that required Engineering review:

- Quality Way: Construction of two industrial facilities in Enterprise Park
- Fisher Street: 22 unit condominium complex with associated parking and utilities.

Wastewater Permit Review Summary for February 2024:

Sewer Connection Permit: 0
Septic Design Reviews: 3

Construction Oversight:

Engineering Technician, Jordan Chambers, continues to conduct oversight of over 60 private construction projects approved by the Planning Board. Projects that are underway or have been completed include:

- Copley Commons Subdivision (Leathers Ln.)
- Tiny Home Development (Back River Rd.)
- Sophie/Banner Dr Subdivision (Bellamy Rd.)
- Goosetail Dr (757 Central Ave.)
- 725 Central Ave Development (Central Ave and Brick Rd.)
- Medical Office Building (Durham Rd.)
- Northeast Credit Union (Education Way)
- Bluebird Storage (Littleworth Rd.)
- Emerson Ridge (Old Oak St.)



Figure 14: Medical Office Building on Durham Rd.

There was one (1) preconstruction kickoff meeting in February for the White Cliffs of Dover Recreation Building off Knox Marsh Road.