

CITY OF NEWTON

IN BOARD OF ALDERMEN

PUBLIC FACILITIES COMMITTEE AGENDA

WEDNESDAY, NOVEMBER 18, 2015

7:00 PM
Room 204

ITEMS SCHEDULED FOR DISCUSSION:

Public hearing assigned for November 18, 2015

#102-06(17) CHESTNUT HILL REALTY requesting a modification to Board Order #102-06(14) for a common sewer extension and water main in Lagrange Street by relocating the sewer extension to BRYON ROAD from an existing manhole in Bryon Road extending 190' ± northerly to a proposed manhole in Lagrange Street. (Ward 8) [10/29/15 @ 2:21 PM]

Public hearing assigned for November 18, 2015:

#320-15 VERIZON NEW ENGLAND, INC. petitioning for a grant of location to relocate Pole No. P61/4 10' ± south of its existing location in TROY LANE to accommodate a new driveway for new homes at 29A and 29B Troy Lane. (Ward 5) [10/28/15 @ 10:41 AM]

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#325-15 HIS HONOR THE MAYOR requesting authorization to appropriate and expend seven hundred sixty-six thousand dollars (\$766,000) from bonded indebtedness for the purpose of funding the replacement of the Manet Road Emergency Communications Facility Building, site modifications and tower optimization. [11/09/15 @ 3:43 PM]

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#455-14 HIS HONOR THE MAYOR recommending amendment to Chapter 29, Section 80 **Sewer/Stormwater use charge.** of the City of Newton Ordinances to create a storm water rate fee structure based upon square footage of impervious surface area.

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#224-15 HIS HONOR THE MAYOR requesting authorization to appropriate two million dollars (\$2,000,000) from bonded indebtedness for the purpose of funding Newton's share of the cost of the repairs to the Elliot Street Bridge, which the City co-owns with the Town of Needham. [09/01/15 @ 8:46 AM]

The location of this meeting is handicap accessible and reasonable accommodations will be provided to persons requiring assistance. If you need a special accommodation, *please contact Jini Fairley, at least two days in advance of the meeting: jfairley@newtonma.gov, or 617-796-1253. For Telecommunications Relay Service dial 711.*

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

- #324-15 HIS HONOR THE MAYOR requesting authorization to appropriate and expend four hundred thousand dollars (\$400,000) from bonded indebtedness for the purpose of replacing a Combination Sewer Cleaner for the Utilities Division of the Department of Public Works. [11/09/15 @ 3:43 PM]

REFERRED TO PS&T, PUBLIC FACILITIES AND FINANCE COMMITTEES

- #85-15 ALD. SANGIOLO requesting discussion with the Director of Transportation and the Transportation Coordinator to determine whether a fee could be imposed on all residents who own automobiles in the City. Such fee to be placed into a transportation fund to pay for roadway and sidewalk improvements. Residents would get a parking sticker in return for each automobile they have registered with the City that would enable them to bypass parking restrictions in the City except for Tow Zones and Fire Hydrants and any other emergency zones determined by the Police and Fire Departments.
FINANCE VOTED NO ACTION NECESSARY 7-0 on 11/09/15

REFERRED TO PS&T, PUBLIC FACILITIES AND FINANCE COMMITTEES

- #310-10(2) ALD. DANBERG, BLAZAR, KALIS, SCHWARTZ, ALBRIGHT, HESS-
(#409-12) MAHAN, RICE, COTE, LEARY, AND NORTON requesting amendments to Sec. 26-8D of the City of Newton Ordinances to modify and make permanent the trial program for removal of snow and ice from sidewalks and to provide for enforcements and fines for violations. [09/10/14 @ 2:12 PM]

ITEMS NOT SCHEDULED FOR DISCUSSION:

REFERRED TO PUBLIC SAFETY AND PUBLIC FACILITIES COMMITTEES

- #314-15 ALD. COTE, HARNEY AND NORTON requesting a review of all public buildings with a priority on schools and the Senior Center to ensure that functioning carbon monoxide detectors, that alert the entire facility are in use.
- #313-15 ALD. LAPPIN requesting an update from the Department of Public Works on the second water meter program including: the progress of the inspection and programming of the approximately 900 new outdoor irrigation meters provided by the City to property owners that have yet to be inspected and/or programmed by the City; the process going forward for the issuance, inspection, programming and tracking of second meters; and the notification of residents who already had second meters regarding the process for registering their meters. 10/26/15 @ 7:15 PM]

REFERRED TO FINANCE AND APPROPRIATE COMMITTEES

- #288-15 HIS HONOR THE MAYOR submitting the FY 2017-FY 2021 Capital Improvement Plan pursuant to section 5-3 of the Newton City Charter. [10/01/15 @ 1:53 PM]

REFERRED TO PROGRAMS&SERVICES AND PUBLIC FACILITIES COMMITTEES

#201-15 ALD. SANGIOLO requesting a discussion with the Commissioner of Public Buildings, the Commissioner of Parks and Recreation, and the Executive Department regarding the condition of the property located at 246 Dudley Road (Kennard Estate) and how much, if any, repairs and upgrades will be needed as the City relocates the Parks and Recreation Department to that location. [09/01/15 @ 4:00 PM]

#200-15 ALD. LAREDO requesting that the Department of Public Works provide an update on the creation of a strategic plan for the improvement of streets and sidewalks in the City. [08/13/15 @ 11:20 AM]

REFERRED TO PROG & SERV AND PUBLIC FACILITIES COMMITTEES

#141-15 ALD. BROUSAL-GLASER, SANGIOLO, HESS-MAHAN, COTE, NORTON AND ALBRIGHT requesting a discussion with the Director of Urban Forestry, a representative of the Department of Public Works and a representative of the Law Department about tracking and improving the condition of the gas utility infrastructure in Newton, new state statutes governing infrastructure repairs, coordination of increased repair work with city operations, the status of negotiations with National Grid to compensate for tree deaths resulting from gas leaks, and the possibility of creating a utilities working group to monitor progress on these and related issues. [05/26/15 @ 2:52 PM]

REFERRED TO PROG & SERV AND PUBLIC FACILITIES COMMITTEES

#140-15 PROGRAMS & SERVICES AND PUBLIC FACILITIES COMMITTEES requesting that the School Department and/or the Executive Department provide updates on the progress of the potential purchase of the Aquinas site as well as short and long-term plans for uses and operations at the site. [05/20/15 @ 8:53 PM]

#133-15 HIS HONOR THE MAYOR requesting authorization to enter into negotiations for the potential lease on city properties for purposes of third-party construction, ownership, and operation of on-site renewable solar energy generation from which the City will purchase electric output and/or net metering credits. [05/11/15 @ 5:00 PM]

ITEM SPLIT INTO PART A AND PART B

PART A – *Ground mounted solar panels at Rumford Avenue landfill, solar panels mounted on new carport structures at 60 Elliot Street, all roof mounted solar panel locations with the exception of City Hall, which is removed from the list of sites for solar panels. APPROVED*

PART B – *Solar panels mounted on new carport structures at Newton South High School and solar panels mounted on new carport structures at the Library. HELD on 011/04/15*

- #100-15 ALD. NORTON, SANGIOLO, LEARY, AND ALBRIGHT requesting that the Administration pursue municipal aggregation of energy purchasing with the goals of reducing and/or stabilizing electricity costs for resident, businesses and the City; and requiring the purchase of Class 1 RECs at some percentage above the level required by the Massachusetts Renewable Portfolio Standard. [04/06/15 @ 9:12 AM]
- #83-15 ALD. CROSSLEY, GENTILE, & ALBRIGHT requesting a discussion and update from the Administration on the following energy related items: status of municipal power purchasing contracts for gas and electricity; status of the Power Purchase Agreement including solar PV rooftop installations, power offset (cost benefit) to date and review of potential future projects; and an update on municipal energy consumption including the recent Green Communities report filed with the Department of Energy Resources. [03/26/15 @ 9:19 AM]
- #48-15 ALD. JOHNSON, SANGIOLO & YATES requesting a discussion with the Commissioner of Public Works regarding: (1) short and long term snow clearing of streets and sidewalks, (2) proactive planning relative to potential issues resulting from melting snow, (3) short term plans for addressing potholes, and (4) how the Department of Public Works will use the data gathered from where potholes need to be filled to guide planning for street repairs. [02/23/15 @ 9:31 AM]
- #47-15 ALD. RICE AND YATES requesting establishment of a pilot storm water treatment program for the streets in Waban between Quinobequin Road and Chestnut Street including but not limited to Amherst Road, Radcliffe Road and Tamworth Road. [02/11/15 @ 9:13 AM]

REFERRED TO PUB FACIL, PROG & SERV, AND PS&T COMMITTEES

- #46-15 ALD. JOHNSON & CICCONE, requesting a discussion with the Commissioner of Department of Public Works and the School Department to determine and discuss parking options including use of school properties based on the current municipal parking lot programs including the issuance of permits. [02/11/15 @ 1:35 PM]
- #328-14 ALD. ALBRIGHT, DANBERG, & LAREDO requesting a review of double poles in Newton including a random sampling of ten double on the north side and ten double poles on the south side of Newton to determine which utility is holding up the removal of double poles. [08/19/14 @ 9:16 AM]
- #189-14 PUBLIC FACILITIES COMMITTEE requesting periodic updates on the Zervas Elementary School Project. [04/17/14 @ 10:48 PM]
- #188-14 PUBLIC FACILITIES COMMITTEE requesting periodic updates on the Cabot Elementary School Project. [04/17/14 @ 10:48 PM]

REFERRED TO PROGRAMS & SERVICES AND PUBLIC FACILITIES COMMITTEES

#119-14 ALD. ALBRIGHT AND CROSSLEY requesting discussion with the Inspectional Services Department to explain the development of short and long term plans to identify and correct buildings, sidewalks, playgrounds, etc...that do not conform to American Disability Act (ADA) standards. The discussion should include information on how improvements will be incorporated into the Capital Improvement Plan or if less than \$75,000 into a comprehensive budget plan to correct ADA deficiencies. [03/12/14 @ 4:18 PM]

#62-14 ALD. CROSSLEY, HESS-MAHAN, ALBRIGHT AND SALVUCCI requesting a report from the administration on the status of the City strategy to meet its obligations as a Department of Energy Resources Green Community, to reduce municipal energy consumption by 20% over five years, particularly regarding advancing the implementation of the building energy audits program recommending energy efficiency measures in existing buildings, and how that strategy is incorporated into the capital improvement plan. [02/24/14 @ 6:35 PM]

#417-13 PUBLIC FACILITIES COMMITTEE requesting that the Administration provide updates on the progress of the Angier Elementary School project. [11/21/13 @ 9:16 AM]

#131-13 ALD. CROSSLEY, FULLER, SALVUCCI, JOHNSON, CICCONE requesting periodic updates and discussion, at the discretion of the members of the Public Facilities Committee or the Commissioner of Public Works, on the condition functioning, operations and management of all elements of the City sewer, water and storm water systems including the following:

- Water meters
- Implementation of the ten project area strategic plan to remove infiltration in the City sewer system
- Implementation of the long range strategic plan to repair and replace City water mains, especially to correct for fire flow
- Status of the City's Private Inflow Removal Program to resolve and disconnect illegal storm water connections to the City sewer system
- Current billing practices
- Rates analyses needed to facilitate an informed comparison of billing options to include the following options either alone or in combination: seasonal rates, second meters, tiered rates, frequency of billing, low income credits. [03/23/13 @ 11:13 AM]

REFERRED TO PUBLIC FACILITIES AND FINANCE COMMITTEES

#41-13 ALD. CROSSLEY, FULLER AND SALVUCCI requesting a discussion with the administration to review how the city inventories, plans for, budgets and accounts for needed smaller capital expenditures (currently set at under \$75,000), which are excluded from the Capital Improvement Plan (CIP); how to make these non-CIP capital maintenance items visible, and how to integrate them with the overall planning, CIP, and budgeting processes. [01/14/13 @ 5:02 PM]

REFERRED TO PROG. & SERV AND PUBLIC FACILITIES COMMITTEES

- #36-12 ALD. CROSSLEY & FULLER requesting Home Rule legislation or an ordinance to require inspections of private sewer lines and storm water drainage connections prior to settling a change in property ownership, to assure that private sewer lines are functioning properly and that there are no illegal storm water connections to the city sewer mains.
- A) Sewer lines found to be compromised or of inferior construction would have to be repaired or replaced as a condition of sale;
 - B) Illegal connections would have to be removed, corrected, and re-inspected in accordance with current city ordinances and codes, as a condition of sale.
- [01/24/12 @ 8:07 AM]

REFERRED TO PS&T AND PUBLIC FACILITIES COMMITTEES

- #413-11 ALD. CICCONE, SALVUCCI, GENTILE & LENNON updating the Public Facilities and Public Safety & Transportation Committees on the progress of renovations to the city's fire stations. [11-17-11 @ 11:07 AM]
- #367-09 PUBLIC FACILITIES COMMITTEE requesting discussion with the Law Department on how to resolve the dispute with NStar regarding whose responsibility it is to repair the streetlight connection between the manhole and the base of the streetlight. [10/21/09 @ 9:00 PM]
- #253-07 ALD. LINSKY ALBRIGHT, JOHNSON, HARNEY, SANGIOLO, SALVUCCI, MANSFIELD, BURG, SCHNIPPER requesting (1) a review as to how provisions of applicable ordinances, specifically 5-58, were implemented during the course of the Newton North project, and (2) consider proposed revisions of 5-58 including, but not limited to:
- (a) timely provision of documentation by the public building department to the Board of Aldermen and Design Review Committee;
 - (b) establishment of liaison committees to facilitate communications and input from neighborhoods affected by projects subject to this ordinance;
 - (c) approval of final design plans by the Board of Aldermen of projects subject to this ordinance;
 - (d) oversight during the construction phase of projects subject to this ordinance by appropriate Board committee(s) both in respect to approval of change orders as well as design changes; and
 - (e) generation of a required record detailing the entire construction process by the public building department to guide present and future oversight of projects subject to this ordinance.
 - (f) establishment of a committee to provide oversight for public building construction and renovation during all phases of planning, design and construction. [08/07/07 @ 3:12 PM]

Respectfully submitted,

Deborah Crossley, Chairman



2015 OCT 29 PM 2: 21

October 29, 2015
File: 210801167

David A. Olson, GMC
Newton, MA 02459

Attention: Shawna Sullivan, Committee Clerk
Ald. Deborah Crossley
City of Newton Board of Alderman
Newton City Hall
1000 Commonwealth Avenue
Newton, MA 02459

Dear Chairperson Crossley,

Reference: Amendment to Grant of Location, Docket No. #102-06 (14)

This letter requests that the Board of Aldermen consider a request from Chestnut Hill Realty Development, LLC, owner of the Kessler Woods project, to modify the Order For Common Sewer Extension and Water Main #102-06 (14) granted by the Board of Aldermen on April 6, 2015. The public hearing of the Public Facilities Committee at which this Grant of Location was considered took place on March 18, 2015. Copies of the revised plan for the common sewer and main drain are attached.

Please docket this item for earliest consideration of the Public Facilities Committee, which we understand to be November 18, 2015.

Regards,

STANTEC PLANNING AND LANDSCAPE ARCHITECTURE P.C.

A handwritten signature in black ink that reads 'FRANK HOLMES' in a cursive, stylized script.

Frank Holmes
Principal
Phone: 617-654-6059
Frank.Holmes@stantec.com

Attachment: 1. Board Order (April 6, 105)
2. Utility Plan



October 29, 2015
Shawna Sullivan, Committee Clerk
Page 2 of 2

Reference: Amendment to Grant of Location, Docket No. #102-06 (14)

c. Marc Levin, Chestnut Hill Realty
Frank Stearns, Esq., Holland & Knight
John Daghlian, Associate City Engineer

lj document2

RECEIVED
Newton City Clerk

2015 OCT 29 PM 2:48

DAVID A. OLSON, Clerk
Newton, MA 02459

CITY OF NEWTON
IN BOARD OF ALDERMEN

April 6, 2015

ORDER FOR COMMON SEWER EXTENSION AND WATER MAIN

WHEREAS, a petition for extension of a common sewer and water main in LaGrange Street has been presented to the Board of Aldermen, and

WHEREAS, said Board has appointed a time for a public hearing and has caused a notice thereof and of its intention in the matter to be given, and

WHEREAS, said public hearing has been held before the Board of Aldermen, and it is the opinion of the Board of Aldermen of the City of Newton that it is necessary for the public convenience and the public health that such common sewer and main drain be extended; it is hereby

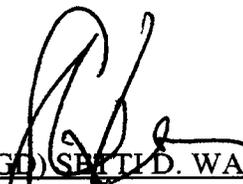
ORDERED: that a common sewer and main drain shall be laid, made, repaired and maintained in and through the following street(s):

LAGRANGE STREET, the proposed sewer will extend from the existing sewer manhole on Lagrange Street located between the intersection of Byron Road and Broadlawn Drive easterly 150' ± to a proposed sewer manhole in Lagrange Street and the proposed water main will extend from the existing service in Lagrange Street located at the intersection of Broadlawn Drive and Lagrange Street 500' ± easterly to the Kessler Project site, identified as Section 82, Block 37, Lot 95. The existing dead-end water service at the intersection of Broadlawn Park and Lagrange Street will be connected to the proposed water main.

Both main extensions will be built to city standards and paid for by the petitioner. The petitioner will also mill and overlay that portion of Lagrange Street when the extension installations are complete.

Under Suspension of Rules
Readings Waived and Adopted
24 days 0 days


(SGD) DAVID A. OLSON
City Clerk


(SGD) SETH D. WARREN
Mayor

Date: 4/14/15

RECEIVED
Newton
2015 OCT 28 PM 2:08
DAVID A. OLSON
City Clerk

Final Label Report

102-06(17)

| SBL | Owner | Number | Street | Unit |
|-------------|-----------------------------|---------|--------------|------|
| 82044 0001 | GOLESTANI ELAHEH | 2-2 | BRYON RD | |
| 82044 0002 | KO-LAI WENDY | 4-4 | BRYON RD | |
| 82044 0003 | NEWTON HOUSING AUTHORITY | 6-6 | BRYON RD | |
| 82043 0005 | NEWTON HOUSING AUTHORITY | 29-31 | BRYON RD | |
| 82043 0006 | P&N OBRIEN REALTY LLC | 37-39 | BRYON RD | |
| 82043 0007 | BANKOVSKY LARISA & BORIS | 45-47 | BRYON RD | |
| 82043 0008 | LEFKOWITZ RONAN LEE | 69-71 | BRYON RD | |
| 82038 0007 | LEE MANUEL C & VIRGINIA Y K | 78-80 | BRYON RD | 1 |
| 82038 0007A | LEE BILLY W M & TAI CHAN | 78-80 | BRYON RD | 2 |
| 82037 0095 | KESSELER WOODS LLC | | KESSELER WAY | |
| 82043 0004 | NEWTON HOUSING AUTHORITY | 248-250 | LAGRANGE ST | |
| 82043 0003 | LI SAM PL & WINNIE | 256-258 | LAGRANGE ST | |
| 82043 0002 | LEE SOOK JAE & WOONG SOON | 264-266 | LAGRANGE ST | |
| 82043 0001 | NIKAS SPYRIDON P | 272-274 | LAGRANGE ST | 272 |
| 82043 0001A | KULKARNI ROHIT N | 272-274 | LAGRANGE ST | 274 |
| 82038 0006 | SNYDER GLENNA | 286-288 | LAGRANGE ST | |
| 82038 0005A | MOTEDAYEN-AVAL IDIN | 290-292 | LAGRANGE ST | 292 |
| 82038 0005 | LIST DAVID | 290-292 | LAGRANGE ST | 290 |

CITY OF NEWTON
ENGINEERING DIVISION

MEMORANDUM

To: Jennifer Steel, Conservation Commission Administrator

From: John Daghlian, Associate City Engineer

Re: Notice of Intent – Central Ave/Elliot Street Bridge

Date: November 13, 2015

CC: Lou Taverna, PE, City Engineer

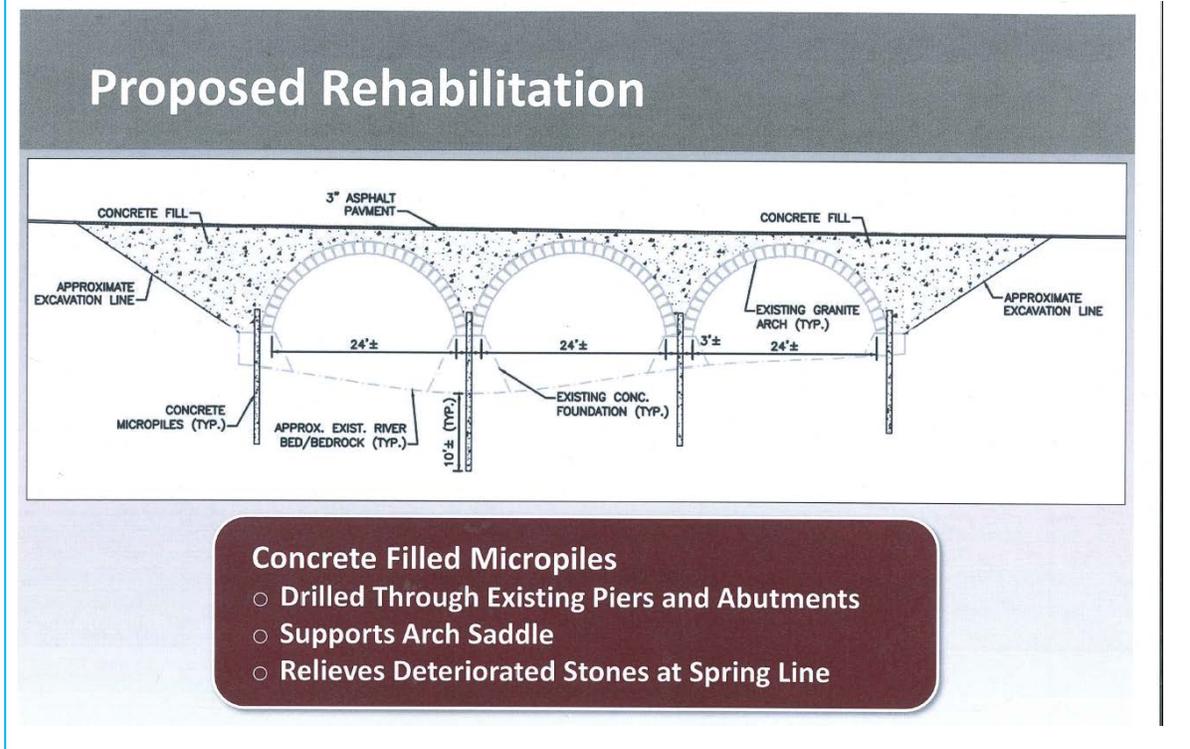
In reference to the above site, I have the following comments for a Notice of Intent entitled:

*Central Avenue/ Elliot Street Bridge Rehabilitation Project
Needham/Newton, MA
Prepared by: CDW Consultants
Dated: November 5, 2015*

Executive Summary:

This project entails the rehabilitation of the stone arched bridge that span the River Charles in Newton Upper Falls. The bridge's original construction dates to 1844 constructed of stone is a three span masonry arch with single lane of traffic in two directions. The bridge is jointly owned by the Town of Needham and City of Newton, over the past several years various stones within the archway have fallen out of the arch and the carrying capacity of the bridge has been reduced. The load carrying capacity is posted on each side of the approaches. The bridge spans the river in an east-west orientation, and has pedestrian sidewalks on the north & south sides.

The rehabilitation will include the replacement of missing stones, repoint the masonry, the foundations will be reinforced by coring concrete filled mini-piles through the existing stone piers and abutments down to ledge, the gravel core of the bridge will be replaced with reinforced cement concrete; see schematic drawing indicating the rehabilitation work (below).

Graphic delineation of rehabilitation

Improvements that will be made to the drainage system of the bridge to include the installation of new deep-sump hooded catch basins at the roadway approach. Removal & replacement of drain pipes, drain manholes and catch basins in the roadway and installation of a Water Quality Control (WQI) Inlet structure. The WQI will provide a mechanism to trap suspended solids removal prior to stormwater discharge. On the north side of Elliott Street an existing drain pipe discharges directly to the ground surface resulting in eroded slope condition, to remedy this; a proposed vegetated water quality swale will be constructed to increase infiltration and a sediment trap at the discharge point along with rip rap. In lieu of the proposed rip rap, a cast in-place splash pad or forebay should be considered as this would be easier configuration for future sediment removal and maintenance. Although I concur with the water quality improvements, a Total Suspended Solids (TSS) removal calculation should be submitted to complete the Stormwater Management Checklist.

Work within Resource Areas

The report indicates that minor disturbances will occur to *Land Under Waterways*: the proposed dredging of 3 cubic yards of material by coring concrete-filled minipiles

through the existing foundations and filling scour holes under the existing foundation and walls will not impair the water carrying capacity of the river, nor impact water quality.

Riverfront Area of 99 square feet of lawn area will be restored upon completion and water quality will be improved by eliminating the “ponding” at the roadway approach, eroded areas will be restored and the proposed vegetated swale and sediment trap will improve water quality. The only impact to the Flood Zone will be the temporary installation of erosion control barrier on the ground surface.

The bridge will be closed during construction and detoured to other routes between Needham and Newton, the anticipate time to complete the work is 6-months.

Recommendations:

1. The contractor needs to notify the Engineering Division 48-hours in advance and schedule an appointment to have the drainage system inspected. The system must be fully exposed for the inspector. ***This note must be incorporated onto the final contract plans.***
2. A preconstruction meeting shall be conducted with the contractor of record, the Conservation Commission Agent, Engineering Departments, and Police for both municipalities prior to any construction.
3. All siltation control systems shall be installed and inspected by the Conservation Commission Agent(s) prior to any construction.
4. The detail for the concrete washout station (sheet 9 of 11) should have an addition row of compost filter sock. Also a plan for cleaning & removal of wasted concrete is needed.
5. As an alternate to the proposed rip rap, something to consider: a cast in place splash pad having a “sump” may be easier for the DPW to clean and maintain.
6. Prior to a request for a Certificate of Compliance an As-Built Plan shall be submitted to the Engineering Division in both digital format and in hard copy. The plan should show all utilities and final grades, any easements and final grading, improvements and limits of restoration work. ***This note must be incorporated onto the final contract plans.***
7. When plans are updated it is the responsibility of the applicant to provide all City Departments [Conservation Commission, ISD, and Engineering] involved in the permitting and approval process complete and consistent plans.

If you have any questions or concerns please feel free to contact me @ 617-796-1023.

CITY OF NEWTON
MASSACHUSETTS

PETITION for GRANT OF LOCATION

To the Petitioner:

City of Newton Ordinance Section 23-52 requires that each petition for grant of location be submitted to the Board of Aldermen before it is sent to the Public Works Department for a preliminary review. The comments of the Public Works Commissioner will be part of the record submitted to the Board of Aldermen. Upon filing with the Board of Aldermen, the petition will be scheduled for a public hearing before the Public Facilities Committee of the Board of Aldermen. **The petitioner is responsible for insuring that the petition is complete and all required materials are in order for review.** Attached please find the City Engineer's Standard Requirements for Plans and the Department of Public Works Permit Processing brochure.

Grant of Location Process:

1. Applicant submits completed Petition Form and required materials to the Board of Aldermen
2. Public Works Department conducts preliminary review and gives written comments to the applicant
3. Engineering Division files Petition Form with comments with the Clerk of the Board of Aldermen
4. Board of Aldermen schedules petition for a public hearing before the Public Facilities Committee of the Board of Aldermen
5. Public Facilities Committee recommendations are forwarded to the Board of Aldermen for a final decision

Questions my be directed to:

Lou Taverna, City Engineer, 617-796-1020
Shawna Sullivan, Clerk of the Board of Aldermen, 617-796-1213

I. IDENTIFICATION (Please Type or Print Clearly)

Company Name VERIZON NEW ENGLAND INC.

Address 125 LUNDQUIST DR.
BRAINTREE, MA 02184

Phone Number 781-849-6320 Fax Number 781-380-8854

Contact Person PENNY KANE Title RIGHT OF WAY MANAGER

Signature Penny Kane Date 10/5/2015
Person filing application

If a telecommunications company, indicate how certified by the Department of Telecommunications and Energy:

2015 OCT 11 AM 11:41

II. DESCRIPTION OF PROJECT: to be completed by petitioner

A. Write here or attach a description of the project including, location, proposed time frame for completion, type of materials to be used, benefit provided to the City, project mitigation plan as applicable, street reconstruction plan including timetable for completion.

This project is to relocate a utility pole at the request of Ryan Lenhart who is building new homes at 29A and 29B TROY LANE. THE WORK will be done within a months time of receiving the approval from The Board and Committee.

B. Include or attach a sketch to provide a visual description of the project. If plans are attached, provide:

Title of Plan PETITION PLAN HADCOKE Date of plan 9/29/2015

III. PUBLIC WORKS DEPARTMENT REVIEW

Date received by Public Works Department _____

Check One:

Minor Project

Major Project

Lateral

(Refer to City Engineer Standard Requirements for Plans for definition of minor and major project)

Plans Submitted:

Certified Plot Plan

Stamped Plans

2015 OCT 2 AM 10:41

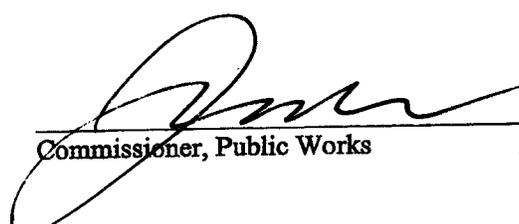
DATE AND COMMENTS:

RECOMMENDATIONS:

| | |
|---|--|
| The new pole should be placed w/in the ROW on the back sideline to avoid blocking any pedestrian traffic. Any sidewalk or curbing damaged shall | be replaced in kind. The old pole shall be removed ASAP following the transfer of all wires. |
| | John Daghlian Associate City Engineer Nov. 2, 2015 |

L. Terrence 11/2/15

V. RECOMMENDATION TO PUBLIC FACILITIES COMMITTEE:



Commissioner, Public Works

11/2/15

Date

Penny Kane
VERIZON METRO Right of Way
Manager
125 Lundquist Dr, 02 Floor Room
Braintree, MA USA 02184
penny.l.kane@one.verizon.com
(781) 849-6320



RECEIVED
MAY 16 2015 10:40 AM
2015 OCT 28 AM 10:40
Dorinda D. DeLeon
Braintree, MA 02605

October 20, 2015

Chairman of the Board
Board of Aldermen
City of Newton
Newton City Hall, Room 105
1000 Commonwealth Avenue
Newton, MA 02459

Enclosed please find one joint petition (4A0C8KE) from Verizon New England Inc. and NSTAR ELECTRIC CO. d/b/a EVERSOURCE ENERGY for a pole relocation on Troy Lane.

This petition is necessary to provide clearance for a new driveway for new homes at 29A and 29B Troy Lane.

A public hearing and notice to the abutters is not required.

Favorable action on the part of the Aldermen will be deeply appreciated.

Thank you.

Sincerely,
VERIZON NEW ENGLAND INC.

Penny Kane
Manager Right of Way

PETITION FOR JOINT POLE RELOCATIONS

October 5, 2015

To the Board of Alderman

City of Newton, Massachusetts

VERIZON NEW ENGLAND INC. and the NSTAR ELECTRIC CO. d/b/a EVERSOURCE ENERGY request permission to relocate a pole, wires, cables and fixtures, including anchors, guys and other such necessary sustaining and protecting fixtures, along and across the following public way or ways:

RECEIVED
Newton City Clerk
2015 OCT 28 AM 10:40

Troy Lane

One (1) Pole Relocation

The petition proposes to relocate Pole 61/4 Troy Lane approximately 10 feet south of its existing location. This petition is necessary to accommodate a new driveway for new homes at 29A and 29B Troy Lane at the request of the builder Ryan Lenhart.

Wherefore they ask that they be granted a joint relocation for and permission to erect and maintain poles, wires and cables, together with anchors, guys and other such sustaining and protecting fixtures as they may find necessary, said poles to be erected substantially in accordance with the plan filed herewith marked-Verizon No. 4A0C8KE dated 09/29/2015.

Also for permission to lay and maintain underground laterals, cables, conduits and wires with the necessary equipment in the above or intersecting public ways for the purpose of making connections with such poles and buildings as each of said petitioners may desire for distributing purposes.

Your petitioners agree to reserve space for one crossarm at a suitable point on each of said poles for the fire and police telephone and telegraph signal wires belonging to the municipality and used by it exclusively for municipal purposes.

VERIZON NEW ENGLAND INC.

By Penny Kane
Manager Rights of Way

Dated this 21 day of October, 2015.

NSTAR ELECTRIC CO. d/b/a EVERSOURCE ENERGY

By William D. Lenhart
Supervisor

Dated this 21 day of October, 2015.

ORDER FOR JOINT POLE RELOCATION

In Board of Aldermen of the City of **Newton**, Massachusetts

ORDERED: That the VERIZON NEW ENGLAND INC. and the NSTAR ELECTRIC CO. d/b/a, EVERSOURCE ENERGY be and they are hereby granted joint relocations for and permission to erect and maintain poles and their respective wires and cables to be placed thereon, together with anchors, guys and other such sustaining and protecting fixtures as said Companies may deem necessary, in the public way or ways herein after referred to, as requested in petition of said Companies dated the 5th day of October 2015.

All construction under this order shall be in accordance with the following conditions:

Poles shall be of sound timber, and reasonably straight, and shall be set substantially at the points indicated upon the plan marked- Verizon No.4A0C8KE dated **9/29/2015** - filed with said petition. There may be attached to said poles by said VERIZON NEW ENGLAND INC. and by said NSTAR ELECTRIC CO. d/b/a EVERSOURCE ENERGY, the necessary wires, cables and fixtures, and all of said wires and cables shall be placed at a height of not less than 18 feet from the ground at highway crossings, and not less than 16 feet elsewhere.

The following are the public ways or parts of ways along which the poles above referred to may be erected and the number of poles which may be erected thereon under this order:

Troy Lane

One (1) Pole Relocation

The petition proposes to relocate Pole 61/4 Troy Lane approximately 10 feet south of its existing location. This petition is necessary to accommodate a new driveway for new homes at 29A and 29B Troy Lane at the request of the builder Ryan Lenhart.

Also that permission be and hereby is granted to each of said Companies to lay and maintain underground laterals, cables, conduits and wires with the necessary equipment in the above or intersecting public ways for the purpose of making connections with such poles and buildings as each may desire for distributing purposes.

I hereby certify that the foregoing order was adopted at a meeting of the Board of Aldermen of the City of **Newton**, Massachusetts, held on the _____ day of _____ 2015.

Clerk of Aldermen

CERTIFICATE

I hereby certify that the foregoing is a true copy of a joint relocation order adopted by the Board of Aldermen of the City of **Newton**, Massachusetts, on the _____ day of _____ 2015, and recorded with the records of location orders of said City, Book _____ Page _____.

This certified copy is made under the provisions of Chapter 166 of General Laws and any additions thereto or amendments thereof.

Attest:

City Clerk

015 OCT 29 AM 10:30
RECORDED

Final Label Report

Troy

| SBL | Owner | Number | Street | Unit |
|----------------|---------------------------------|--------|---------|------|
| 53004 0005A | WEINSTOCK JULIAN | 17-19 | TROY LN | 2 |
| 53004 0005 | REICHER LIN | 17-19 | TROY LN | 1 |
| 53003 0027A | DEDEOGLU FATMA | 18 | TROY LN | B |
| 53003 0027 | OBERMAN LINDSEY M | 18 | TROY LN | A |
| 53004 0006 | LENHART RYAN TR | 23-25 | TROY LN | |
| 53003 0026 | HUANG YIEN YU & SZE FENG | 24 | TROY LN | |
| 53004 0007 | PARAGON INVESTMENTS LLC | 29 | TROY LN | |
| 53003 0025 | MORELLO NANCY | 30 | TROY LN | |
| 53003 0024A | KLEIN LUCAS & ALEXANDRA | 36-38 | TROY LN | 38 |
| 53003 0024 | COHEN MATTHEW L | 36-38 | TROY LN | 36 |
| 53004 0008 | MCDONAGH KEVIN | 37 | TROY LN | |
| 53004 0009 | FABRIZIO DONALD P & ELIZABETH D | 43 | TROY LN | |
| 53003 0023B | ASHOUR AYMAN S & ASHRAF TRS | 44-46 | TROY LN | 46 |
| 53003 0023AMAI | 44-46 TROY LN MASTER DEED | 44-46 | TROY LN | |
| 53003 0023A | ASHOUR AYMAN | 44-46 | TROY LN | 44 |



SETTI D. WARREN
MAYOR

City of Newton, Massachusetts
Office of the Mayor

#325-15

Telephone
(617) 796-1100

Facsimile
(617) 796-1113

TDD/TTY
(617) 796-1089

E-mail
swarren@newtonma.gov

RECEIVED
NEWTON OFFICE
2015 NOV -9 PM 3:43
David M. DiStasio
Newton, MA 02459

November 9, 2015

Honorable Board of Aldermen
Newton City Hall
1000 Commonwealth Avenue
Newton, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Board docket for consideration a request to authorize the appropriation of \$766,000 and authorize a general obligation borrowing of an equal amount to fund the Manet Road Emergency Communications facility, site modifications, and tower optimization. The work includes the replacement of the existing building that houses communications equipment for the City of Newton.

Thank you for your consideration of this matter.

Very truly yours,

Setti D. Warren
Mayor

1000 Commonwealth Avenue Newton, Massachusetts 02459

www.newtonma.gov



DEDICATED TO COMMUNITY EXCELLENCE



PUBLIC BUILDINGS DEPARTMENT

Josh Morse, Building Commissioner
Telephone (617) 796-1600
FAX (617) 796-1601
TTY: (617) 796-1608
52 ELLIOT STREET
NEWTON HIGHLANDS, MA 02461-1605

Setti D. Warren
Mayor

September 3, 2015

Mayor Setti D. Warren
Newton City Hall
1000 Commonwealth Avenue
Newton Centre, MA 02459

RE: Request for funds: Manet Road Emergency Communications Tower Facility

Dear Mayor Warren:

The Public Buildings Department requests the sum of \$766,000.00 to fund the Manet Road Emergency Communications Facility, site modifications, and tower optimization.

This project will replace the existing building that houses all of the emergency communications equipment for the City of Newton. The existing building is failing, unsafe, and is beyond repair. This building is failing, and if is not replaced, we jeopardize the emergency communication equipment within and therefore put Newton in a position that it could lose Police and Fire Department communications for an extended period of time. The funds requested are broken down as follows:

| | |
|---------------------|---------------------|
| Construction: | \$721,000.00 |
| Architectural Fees: | \$9,500.00 |
| Contingency: | <u>\$35,500.00</u> |
| | \$766,000.00 |

Should you have any questions regarding the above, please feel free to contact my office.

Sincerely,

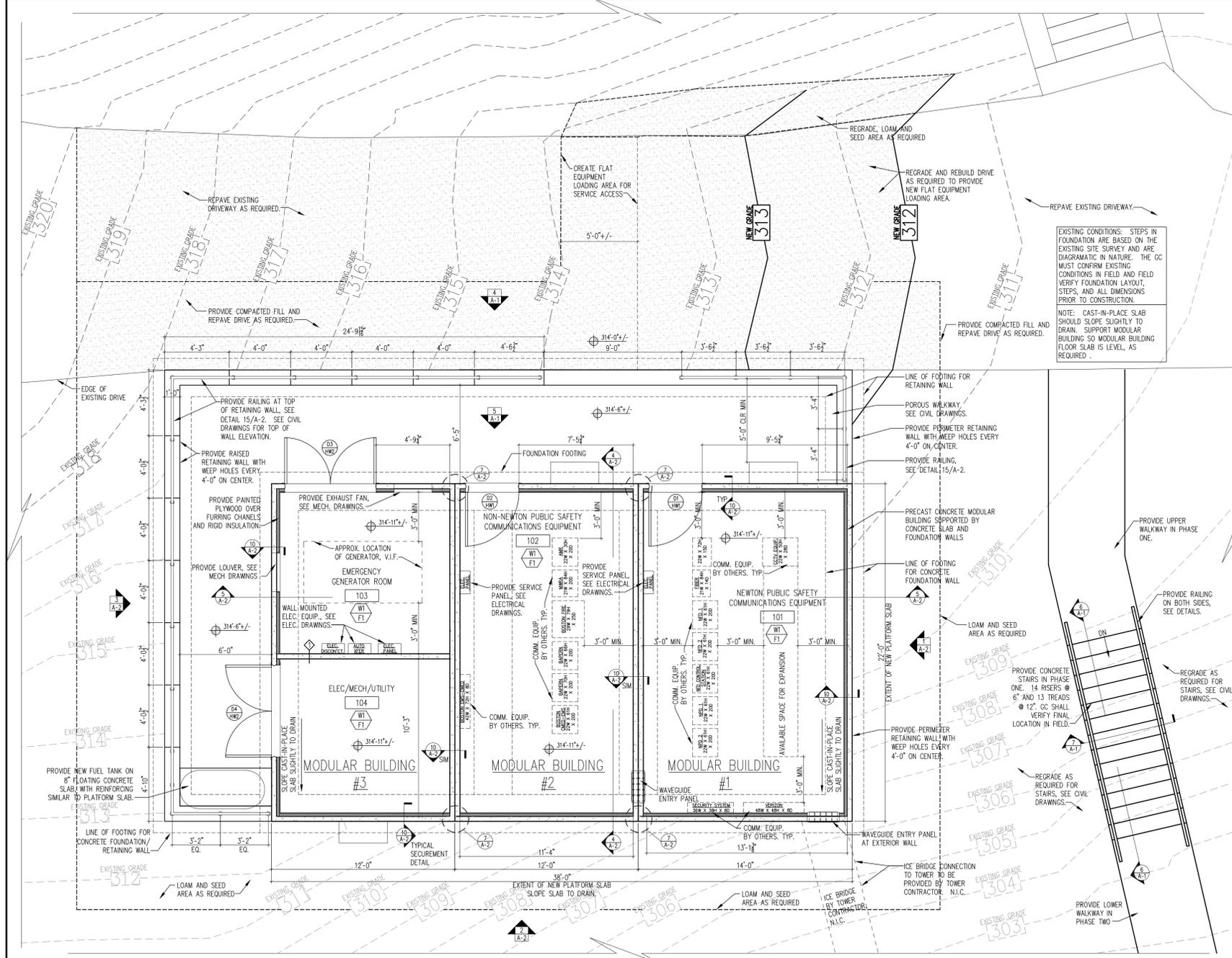
Josh Morse
Public Buildings Commissioner

cc: Maureen Lemieux, Chief Financial Officer
Alex Valcarce, Deputy Commissioner
Dori Zaleznik, Chief Admin Officer

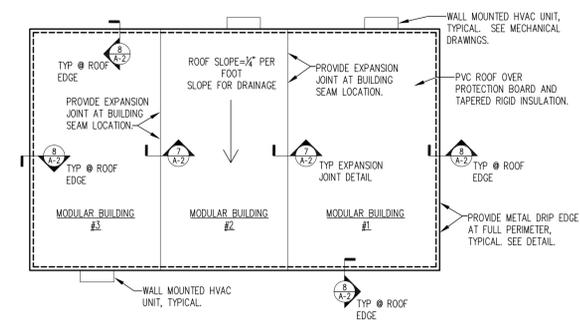
PROJECT ARCHITECT

GOLDMAN REINDORF ARCHITECTS INC.

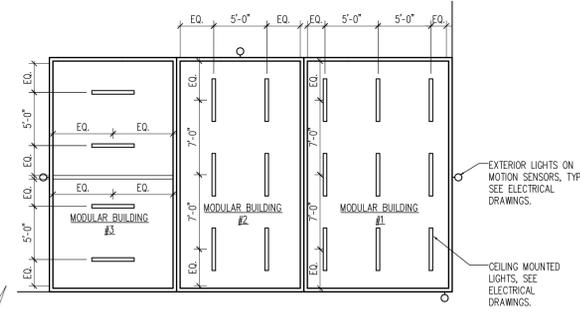
427 WATERTOWN STREET
SUITE 102
NEWTON, MA 02458



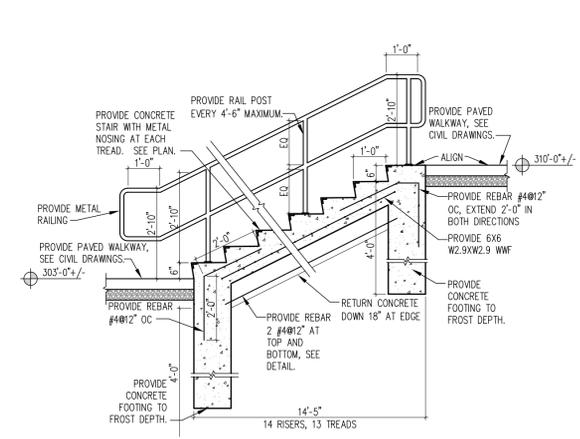
1 MODULAR BUILDING PLAN
1/4" = 1'-0" SCALE



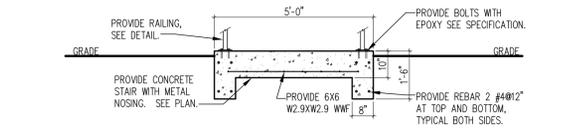
2 ROOF PLAN
1/8" = 1'-0" SCALE



3 REFLECTED CEILING PLAN
1/8" = 1'-0" SCALE



6 WALKWAY AND STAIR SECTION DETAIL
3/8" = 1'-0" SCALE



7 WALKWAY AND STAIR CROSS SECTION
3/8" = 1'-0" SCALE

PLAN KEY:

- NEW DOOR, SEE DOOR NUMBER FOR TYPE.
- FLOOR AND WALL FINISH KEY TAG
- FLOOR FINISH
- INTERIOR ELEVATION KEY TAG
- ELEVATION NUMBER
- SHEET NUMBER
- EXTERIOR ELEVATION KEY TAG
- ELEVATION NUMBER
- SHEET NUMBER
- 315'-11"± DENOTES ELEVATION OF FLOOR/GRADE
- ELECTRICAL SERVICE DISCONNECT MOUNTED TO WALL, SEE ELECTRICAL DRAWINGS.
- AUTOMATIC TRANSFER SWITCH MOUNTED TO WALL, SEE ELECTRICAL DRAWINGS.
- ELECTRICAL SERVICE PANEL MOUNTED TO WALL, SEE ELECTRICAL DRAWINGS.

WALL KEY:

- 4" CAST CONCRETE WALL

DOOR KEY:

- DOOR NUMBER
- HARDWARE SET
- PROVIDE PAINTED METAL DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.
- PROVIDE PAINTED METAL DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.
- PROVIDE PAINTED METAL DOUBLE DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.
- PROVIDE PAINTED METAL DOUBLE DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.

WALL FINISH KEY:

- SINGLE DOOR: PROVIDE HINGES, LOCKSET, WEATHER STRIPPING, DOOR BOTTOM, THRESHOLD, STOPS.
- DOUBLE DOOR: PROVIDE HINGES, LOCKSET, FLUSH BOLTS, ASTRAHAL, WEATHER STRIPPING, DOOR BOTTOMS, THRESHOLD.
- PERIMETER WALLS TO RECEIVE PAINTED PLYWOOD INTERIOR PANELS OVER RESILIENT CHANNELS OVER Z CHANNELS AND RIGID INSULATION. CONCRETE SEAM WALLS AND INTERIOR WALLS OF MODULAR BUILDINGS TO RECEIVE NO PANELS.

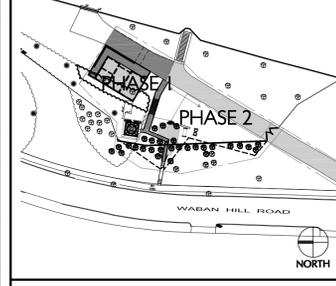
FLOOR FINISH KEY:

- CONCRETE FLOOR OF MODULAR BUILDINGS TO RECEIVE SEALANT WITH 4" RUBBER WALL BASE AT WALLS.

CEILING KEY:

- SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS.
- EXTERIOR WALL MOUNTED FLOOD LIGHT FIXTURE ON MOTION SENSOR, SEE ELECTRICAL DRAWINGS.

LOCUS PLAN NOT TO SCALE



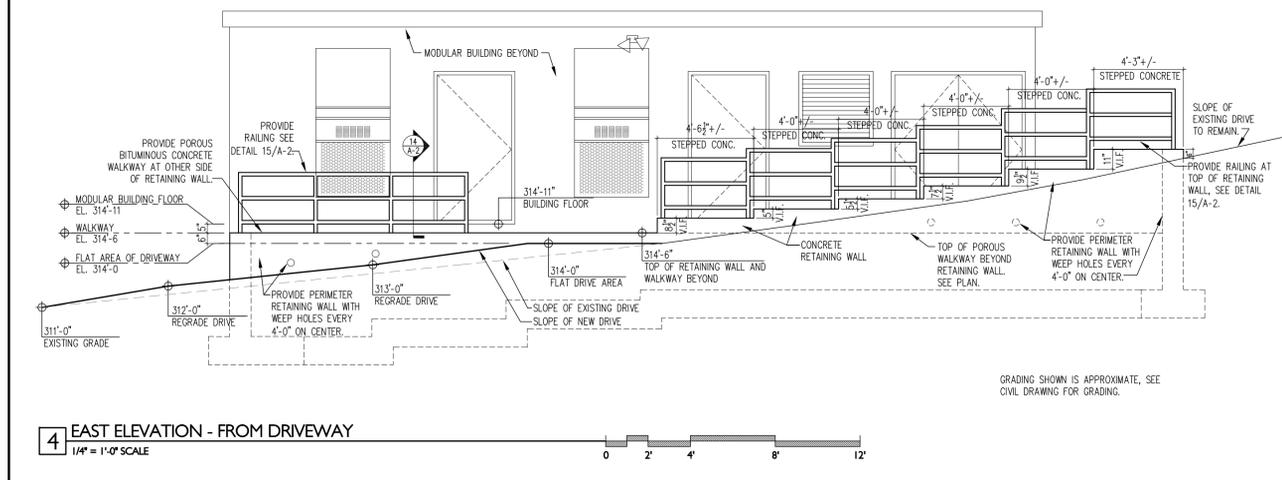
WABAN HILL COMM. TOWER EQUIPMENT BUILDING

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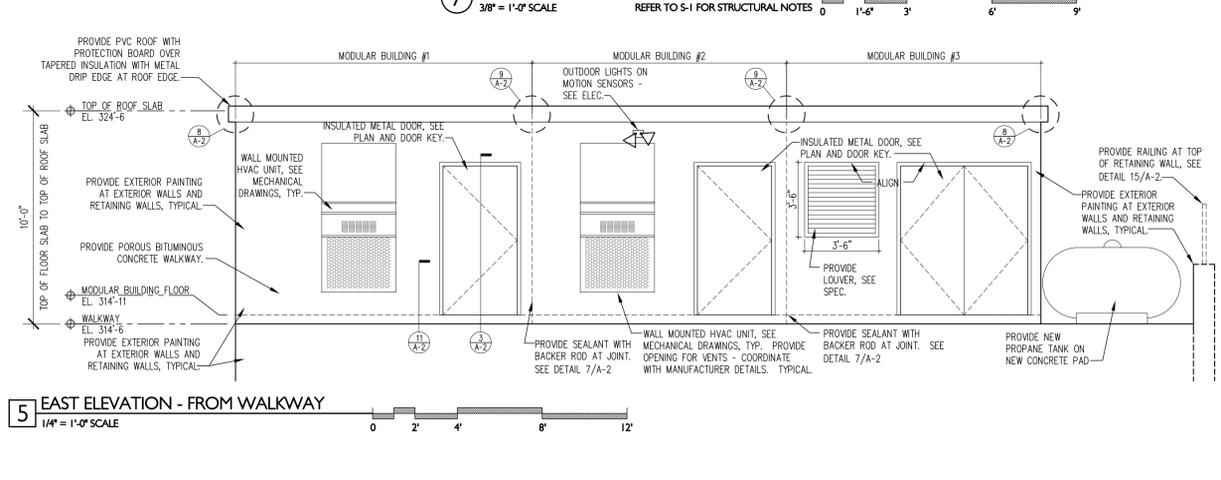
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DATE: 10-03-14

PLANS AND ELEVATIONS



4 EAST ELEVATION - FROM DRIVEWAY
1/4" = 1'-0" SCALE



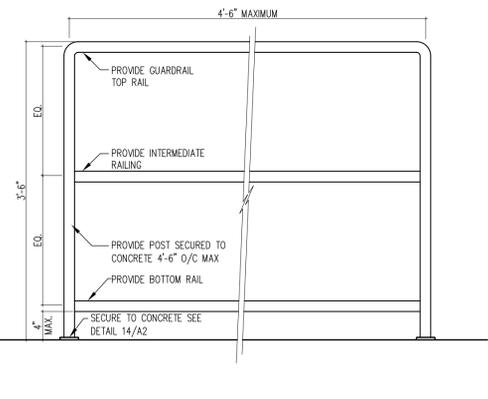
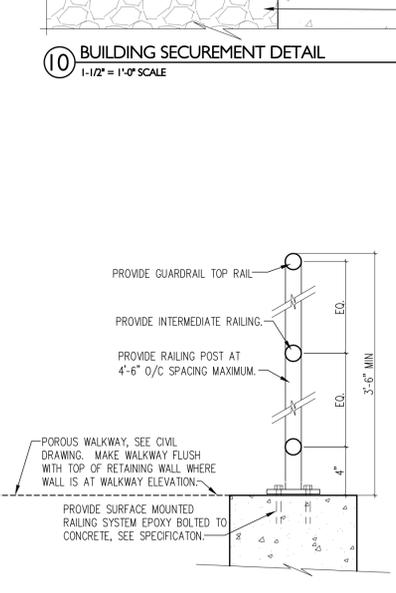
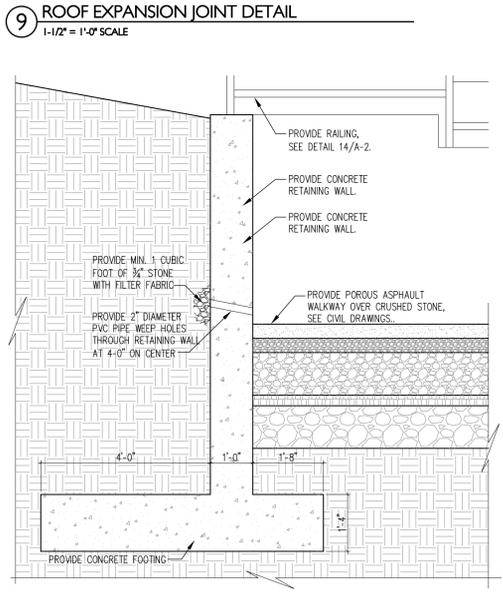
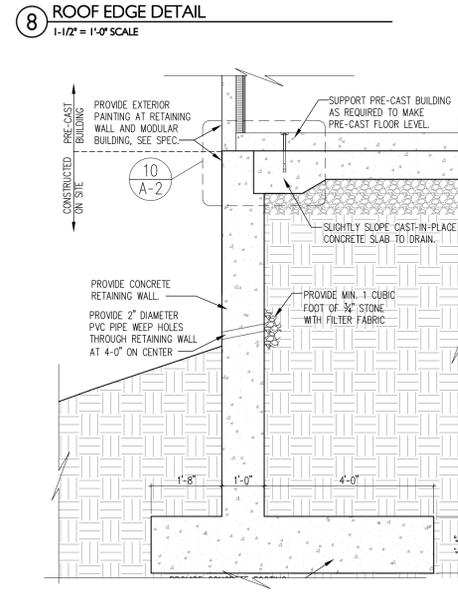
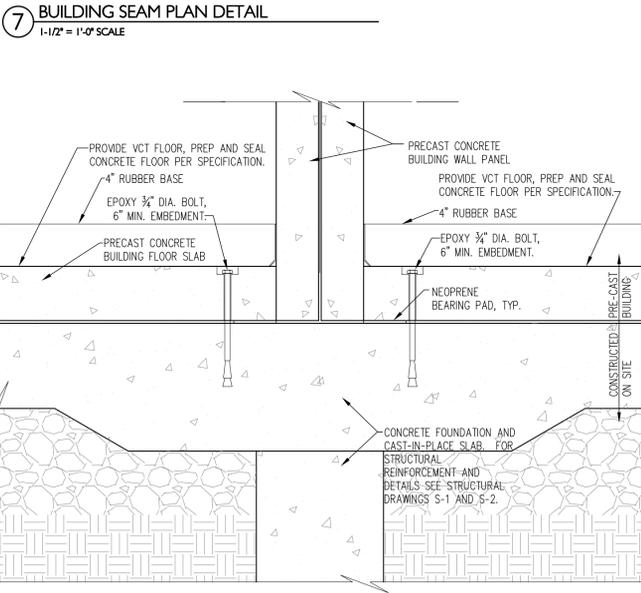
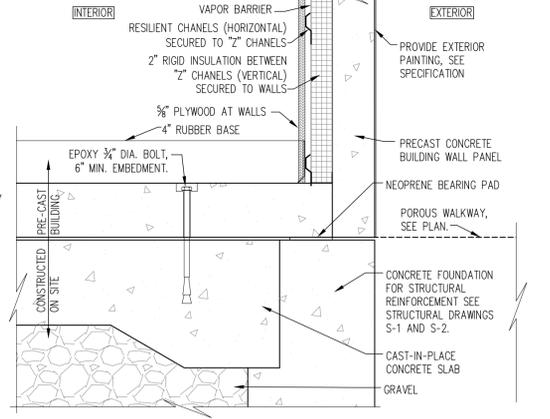
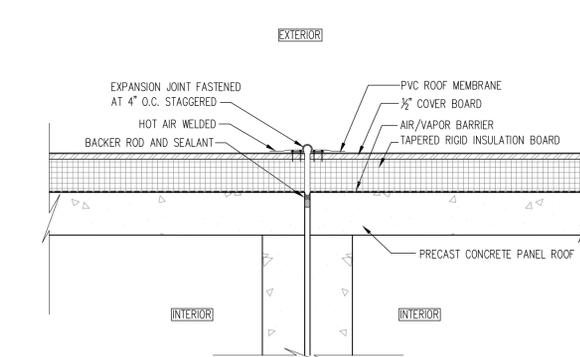
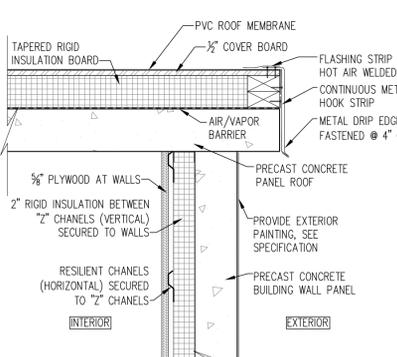
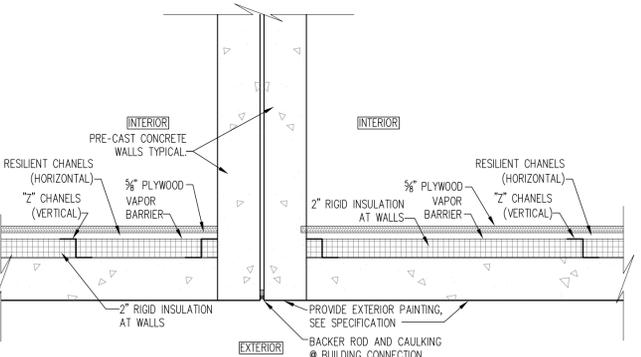
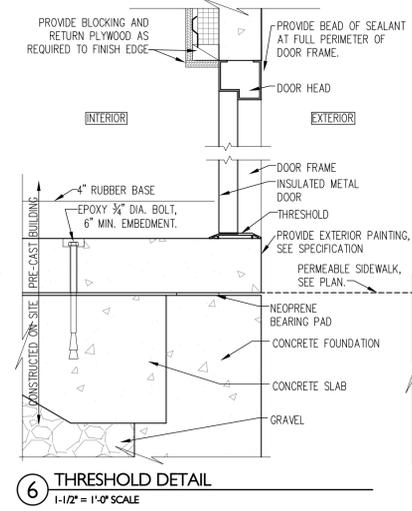
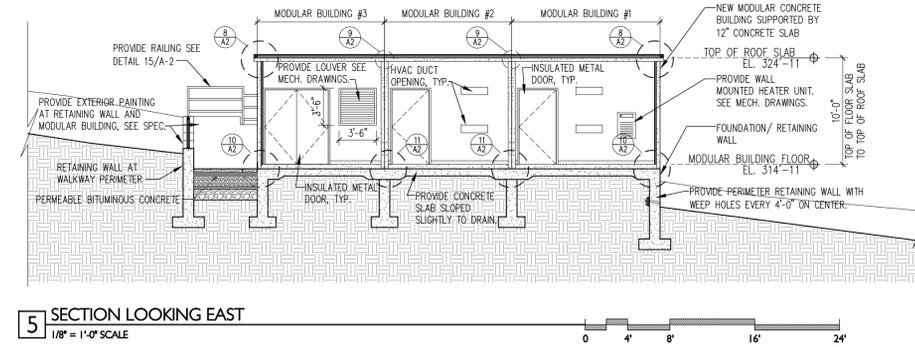
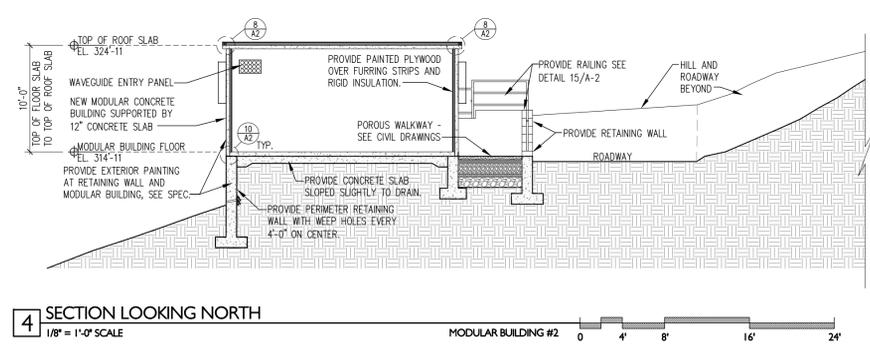
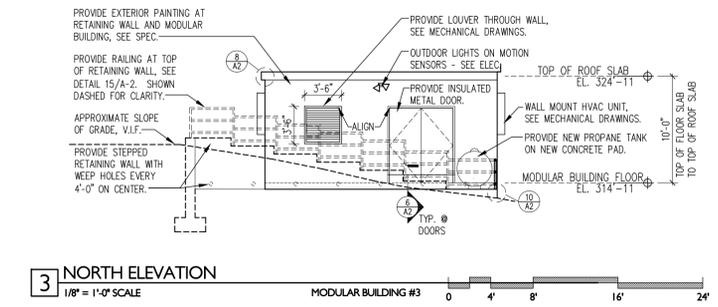
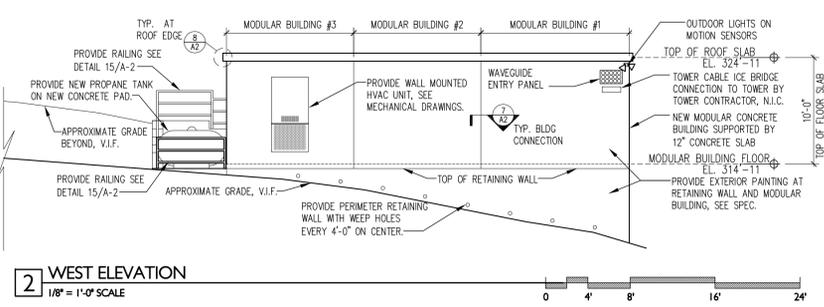
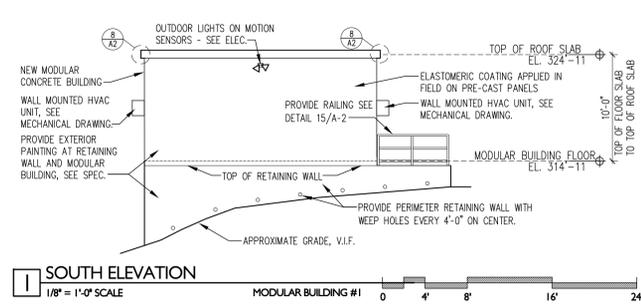
5 EAST ELEVATION - FROM WALKWAY
1/4" = 1'-0" SCALE

A-1

PROJECT ARCHITECT

GOLDMAN REINDORF ARCHITECTS INC.

427 WATERTOWN STREET
SUITE 102
NEWTON, MA 02458



PLAN KEY:

- NEW DOOR, SEE DOOR NUMBER FOR TYPE.
- FLOOR AND WALL FINISH KEY TAG
- WALL FINISH
- FLOOR FINISH
- INTERIOR ELEVATION KEY TAG
- ELEVATION NUMBER
- SHEET NUMBER
- EXTERIOR ELEVATION KEY TAG
- ELEVATION NUMBER
- SHEET NUMBER
- 315'-11+/- DENOTES ELEVATION OF FLOOR/GRADE
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- AUTOMATIC TRANSFER SWITCH MOUNTED TO WALL, SEE ELECTRICAL DRAWINGS.
- ELECTRICAL SERVICE PANEL MOUNTED TO WALL, SEE ELECTRICAL DRAWINGS.

WALL KEY:

- 4" CAST CONCRETE WALL

DOOR KEY:

- DOOR NUMBER
- HARDWARE SET
- PROVIDE PAINTED METAL DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.
- PROVIDE PAINTED METAL DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.
- PROVIDE PAINTED METAL DOUBLE DOOR IN PAINTED METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.
- PROVIDE PAINTED METAL DOUBLE DOOR IN PAINTED HOLLOW METAL FRAME, DOOR AND FRAME TO RECEIVE FACTORY PAINT FINISH.

WALL FINISH KEY:

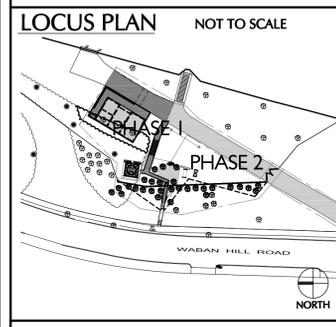
- SINGLE DOOR: PROVIDE HINGES, LOCKSET, WEATHER STRIPPING, DOOR BOTTOM, THRESHOLD, STOPS.
- DOUBLE DOOR: PROVIDE HINGES, LOCKSET, FLUSH BOLTS, ASTRAGAL, WEATHER STRIPPING, DOOR BOTTOMS, THRESHOLD.
- PERIMETER WALLS TO RECEIVE PAINTED PLYWOOD INTERIOR PANELS OVER RESILIENT CHANNELS OVER 2" CHANNELS AND RIGID INSULATION. CONCRETE SEAM WALLS AND INTERIOR WALLS OF MODULAR BUILDINGS TO RECEIVE NO PANELS.

FLOOR FINISH KEY:

- CONCRETE FLOOR OF MODULAR BUILDINGS TO RECEIVE SEALANT WITH 4" RUBBER WALL BASE AT WALLS.

CEILING KEY:

- SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS.
- EXTERIOR WALL MOUNTED FLOOD LIGHT FIXTURE ON MOTION SENSOR, SEE ELECTRICAL DRAWINGS.



WABAN HILL COMM. TOWER EQUIPMENT BUILDING

| REVISION/DATE | |
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DRAWN BY: JM CHECKED BY: MG

DATE: 10-03-14

SECTIONS, ELEVATIONS AND DETAILS

A-2

PROJECT ARCHITECT

GOLDMAN REINDORF ARCHITECTS INC.

427 WATERTOWN STREET SUITE 102 NEWTON, MA 02458

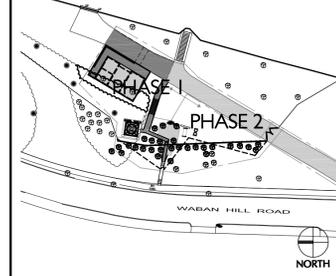
1. THE CONTRACTOR AND SUB-CONTRACTORS ARE REQUIRED TO INSPECT THE SITE AND CONTRACT DOCUMENTS AND TO NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES IN THE DOCUMENTS PRIOR TO PROVIDING BID PRICES.

2. THE DRAWINGS ARE MERELY REPRESENTATIONAL AND DO NOT FREE THE CONTRACTOR OR SUB-CONTRACTORS FROM THE REQUIREMENT OF PERFORMING NORMALLY REQUIRED TASKS TO PERFORM A SAFE, CODE-COMPLYING AND COMPLETE PROJECT.

3. FIELD MEASUREMENTS: THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS PRIOR TO FABRICATION AND INSTALLATION OF WORK AND SHALL ASSUME COMPLETE RESPONSIBILITY FOR ACCURACY OF SAME. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR CHECKING THE DIMENSIONS ON THE DRAWINGS AND NOTIFYING THE ARCHITECT OF ANY DISCREPANCIES WHICH ARE FOUND. NO MATERIALS SHALL BE ORDERED OR FABRICATED BASED ON DIMENSIONS SHOWN ON THE DRAWINGS. ALL DIMENSIONS MUST BE VERIFIED. NO DRAWINGS SHALL BE SCALED.

4. THE CONTRACTOR SHALL LAY OUT ALL NEW WALLS BY CHALK FOR ARCHITECT APPROVAL PRIOR TO THE CONSTRUCTION OF ANY WALLS, TYPICAL.

LOCUS PLAN NOT TO SCALE



WABAN HILL COMM. TOWER EQUIPMENT BUILDING

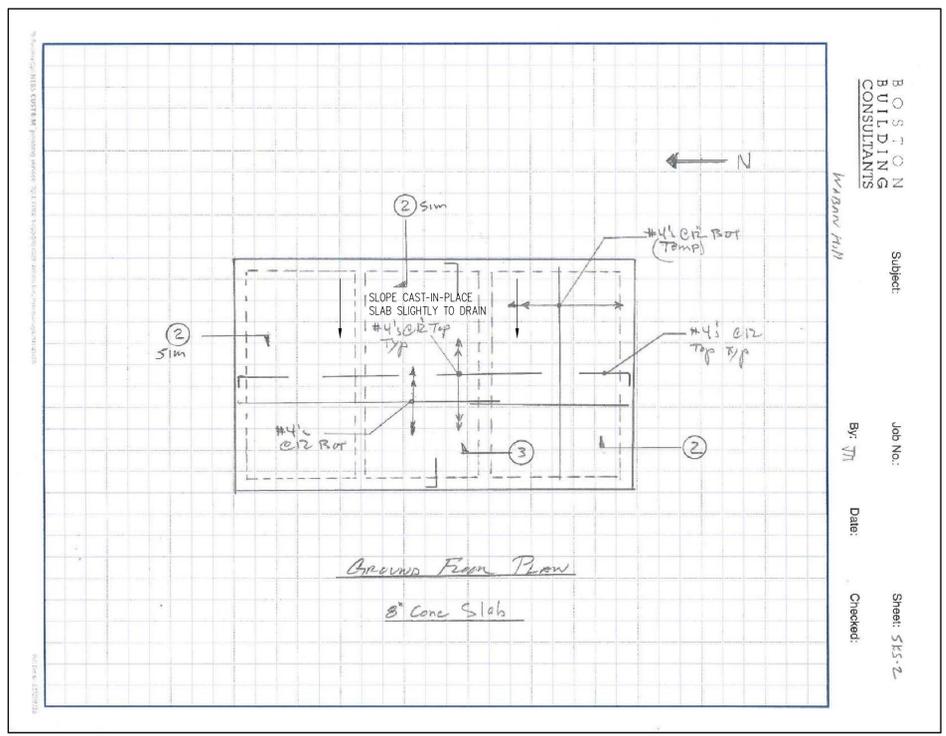
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DRAWN BY: JM CHECKED BY: MG

DATE: 10-03-14

STRUCTURAL PLAN SKETCHES AND GENERAL NOTES

S-1



2 SKS-2 - GROUND FLOOR PLAN SKETCH NOT TO SCALE

STRUCTURAL GENERAL NOTES

STRUCTURAL GENERAL NOTES

1. REFER TO THE PROJECT MANUAL FOR GENERAL CONTRACT REQUIREMENTS AND DETAILED REQUIREMENTS FOR MATERIALS, WORKMANSHIP AND SHOP DRAWINGS.

2. REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND APPROVED PRECAST CONCRETE SHOP DRAWINGS FOR LOCATION AND DIMENSIONS OF CONNECTION HARDWARE, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS, AND ATTACHMENT OF FINISHES.

3. ALL DIMENSIONS SHALL BE FIELD COORDINATED BY THE CONTRACTOR WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND APPROVED PRECAST CONCRETE SHOP DRAWINGS. REPORT ANY INCONSISTENCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

4. ALL FOOTINGS AND PIERS SHALL BE CENTERED UNDER SUPPORTED MEMBERS, UNLESS NOTED OTHERWISE.

5. ALL FOUNDATION WALLS, RETAINING WALLS, AND GRADE BEAMS SHALL BE BRACED DURING THE OPERATIONS OF BACKFILLING AND TAMPING. BRACING SHALL BE LEFT IN POSITION UNTIL PERMANENT RESTRAINTS HAVE BEEN INSTALLED.

STRUCTURAL TESTS AND INSPECTIONS

1. REQUIRED STRUCTURAL TESTS AND INSPECTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING SPECIFIC ITEMS. THE DESIGNATED INSPECTORS AND AGENCIES NAMED IN THE PROGRAM OF TESTS AND INSPECTIONS ARE RESPONSIBLE FOR THE FOLLOWING. ALL SAMPLING AND TESTING SHALL CONFORM TO THE APPLICABLE STANDARDS REFERENCED IN THE STATE BUILDING CODE.

A. INSPECT NATURAL SOIL UNDER THE BUILDING FOOTPRINT TO ENSURE CONFORMANCE WITH THE ALLOWABLE SOIL BEARING VALUES SPECIFIED IN THE CONTRACT DOCUMENTS.

B. SAMPLE AND TEST ALL ON OR OFF SITE SOIL MATERIALS INTENDED FOR STRUCTURAL USE FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.

C. TEST SITE COMPACTED SOIL UNDER THE BUILDING FOOTPRINT FOR CONFORMANCE WITH COMPACTION REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS.

D. INSPECT CONCRETE REINFORCING FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND THE APPROVED SHOP DRAWINGS.

E. OBSERVE THE PLACEMENT OF STRUCTURALLY CONTROLLED CONCRETE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS.

F. PREPARE AND TEST CONCRETE CYLINDERS IN CONFORMANCE WITH THE SPECIFICATIONS.

2. STRUCTURAL SYSTEMS DESIGNED INDEPENDENTLY OF THE SER MUST BE INSPECTED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THAT DESIGN. THAT ENGINEER SHALL ESTABLISH AND DIRECT AN INDEPENDENT PROGRAM OF STRUCTURAL TESTS AND INSPECTIONS FOR ALL COMPONENTS AND ELEMENTS FOR WHICH THAT ENGINEER HAS PREPARED A DESIGN.

DESIGN LOADS

THE VARIOUS PORTIONS OF THE STRUCTURE ARE DESIGNED TO CARRY THE FOLLOWING LIVE LOADS, IN ADDITION TO SPECIFIC MACHINERY AND EQUIPMENT LOADS, IN CONFORMANCE WITH CHAPTER 16 OF THE EIGHTH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE (780 CMR/80C 2009):

1. GRAVITY LOADS:

A. FLOOR LIVE LOADS: 100PSF

B. ROOF SNOW LOAD(BASIC SNOW LOAD PLUS PROVISIONS FOR UNBALANCED)

i. GROUND SNOW LOAD, Ps: 40 PSF

ii. SNOW IMPORTANCE FACTOR 1.2

iii. FLAT ROOF SNOW LOAD, Ps: 34 PSF

2. LATERAL LOADS:

A. WIND LOADS:

i. BASIC WIND SPEED: 105 MPH

ii. WIND IMPORTANCE FACTOR, Iw: 1.15

iii. OCCUPANCY CATEGORY: IV

iv. WIND EXPOSURE: B

B. EARTHQUAKE DESIGN DATA:

i. SEISMIC IMPORTANCE FACTOR: 1.5

ii. OCCUPANCY CATEGORY: IV

iii. SPECTRAL RESPONSE ACCELERATIONS:

Ss: 0.27 S1: 0.068

iv. SITE CLASS: D

v. SPECTRAL RESPONSE COEFFICIENTS:

Sds: 0.29 Sdt: 0.11

vi. SEISMIC DESIGN CATEGORY: C

EXCAVATIONS

1. REMOVE ALL SOFT, ORGANIC OR OTHER UNSUITABLE MATERIAL FROM UNDER AND ADJACENT TO ALL FOOTINGS AND FROM UNDER ALL SLABS ON GRADE.

2. EXTEND AND SLOPE SIDES OF EXCAVATION TO ENSURE STABILITY AND SAFETY AT ALL TIMES.

3. SHORE, SHEET AND BRACE EXCAVATION AS REQUIRED TO ENSURE STABILITY AND SAFETY AT ALL TIMES.

4. PUMP EXCAVATION TO REMOVE SURFACE AND GROUND WATER TO PERMIT FINISHING OF EXCAVATION AND PLACEMENT OF FOUNDATIONS IN THE DRY.

5. ELEVATIONS GIVEN ARE MINIMUM IN DEPTH AND ARE NOT TO BE CONSTRUED AS LIMITING IN ANY WAY THE AMOUNT OF EXCAVATION REQUIRED TO REACH A SPECIFIED BEARING STRATA.

FOUNDATIONS, BACKFILL AND DRAINAGE

1. ALL FOOTINGS SHALL BE CARRIED DOWN TO UNDISTURBED SOIL HAVING A MINIMUM BEARING CAPACITY OF TWO TONS PER SQUARE FOOT.

2. TYPICAL FOOTING EXCAVATIONS WILL BE INSPECTED BY THE DESIGNATED STRUCTURAL INSPECTOR BEFORE THE FOOTINGS ARE CAST.

3. ALL EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN A MINIMUM OF FOUR FEET BELOW FINISHED EXTERIOR GRADE, UNLESS LEGE IS ENCOUNTERED.

4. NO FOOTING SHALL BE PLACED IN WATER.

5. ALL FOOTING EXCAVATIONS ARE TO BE FINISHED BY HAND.

6. MATERIAL ADJACENT TO AND BELOW FOOTING SHALL BE KEPT FROM FREEZING AT ALL TIMES. IF ANY MATERIAL IS FOUND TO BE FROZEN, IT SHALL BE REMOVED AND REPLACED WITH CONCRETE. IF ANY FROZEN MATERIAL IS FOUND BELOW THE SLAB ON GRADE IT SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL COMPACTED TO 95% MAXIMUM DRY DENSITY.

7. BACKFILL UNDER SLABS ON GRADE AND AGAINST FOUNDATION WALLS INSIDE AND OUTSIDE THE BUILDING WITH AN APPROVED, OFFSITE GRANULAR MATERIAL PLACED IN SIX INCH THICK LIFTS. COMPACT EACH LIFT TO 95% MAXIMUM DRY DENSITY AT OPTIMUM WATER CONTENT. ENTIRE FILLING AND COMPACTING OPERATION TO BE MONITORED AND TESTED BY THE STRUCTURAL INSPECTOR.

8. PROVIDE 15 MIL CONTINUOUS VAPOR BARRIER UNDER ALL SLABS ON GRADE.

9. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR PERIMETER FOUNDATION INSULATION AND THERMAL BREAKS.

REINFORCING STEEL

1. ALL REINFORCING BAR DETAILING SHALL CONFORM TO THE ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."

2. SUBMIT COMPLETE SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.

4. SUPPLY WELDED WIRE FABRIC IN FLAT SHEETS CONFORMING TO ASTM A185.

5. WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED, OR REQUIRED THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS, DOWELED INTO INTERSECTING WALLS, LAPPED AT NECESSARY SPLICES, WITH SPLICES STAGGERED WHEREVER POSSIBLE, AND HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 AND BE NO LESS THAN 48 BAR DIAMETERS.

6. AT EACH SIDE OF SLAB OPENING, PROVIDE (2)-#5 BARS TOP AND BOTTOM. AT EACH SIDE OF WALL OPENING, PROVIDE (1)-#5 EACH FACE, UNLESS NOTED OTHERWISE. EXTEND BARS 2'-6" BEYOND OPENING, HOOKED IF NECESSARY.

7. PROVIDE AND SCHEDULE WITH SHOP DRAWINGS, ALL NECESSARY ACCESSORIES TO HOLD THE REINFORCING SECURELY AND ACCURATELY IN POSITION. SPACE HIGH CHAIRS AT 4'-0" o/c MAXIMUM AND WIRE TO BOTTOM SLAB REINFORCING. SUPPORT BARS ON HIGH CHAIRS SHALL BE #5 MINIMUM. SPACE SLAB BOLSTERS AT 3'-6" o/c MAXIMUM.

8. CLEARANCE OF REINFORCING BARS FROM CONCRETE SURFACES SHALL BE:

A. UNFORMED FACE IN CONTACT WITH EARTH: 3"

B. UNFORMED SLABS IN CONTACT WITH EARTH: 1-1/2"

C. FORMED FACE IN CONTACT WITH EARTH: 2"

D. FORMED FACE EXPOSED TO WEATHER: 1-1/2" FOR #5 SMALLER BARS

E. SLABS NOT EXPOSED TO EARTH OR WEATHER: 3/4"

THE MAXIMUM ALLOWABLE DEVIATION FROM THE FIGURES ABOVE SHALL BE 1/4" FOR CONCRETE SHAPES 12" OR LESS IN DEPTH OR WIDTH AND 1/2" FOR CONCRETE SHAPES MORE THAN 12" IN DEPTH OR WIDTH.

9. WHEREVER TEMPERATURE BARS ARE CALLED FOR THEY SHOULD BE PLACED PERPENDICULAR TO ALL MAIN REINFORCING BARS AND LAPPED 48 BAR DIAMETERS. TEMPERATURE BARS SHOULD BE IN UPPER LAYER FOR BOTTOM STEEL AND IN LOWER LAYER FOR TOP STEEL.

10. DO NOT CUT OR DISPLACE ANY REINFORCING STEEL TO ACCOMMODATE THE INSTALLATION OF ANY EMBEDDED ITEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE ARCHITECT.

11. COORDINATE THE INSTALLATION OF PIPES AND CONDUIT IN THE SLAB WITH THE PLACING OF THE REINFORCING STEEL AND MESH TO ENSURE THAT THE TOP BARS AND MESH ARE IN THEIR PROPER POSITION AT THE TOP OF THE SLAB AND ARE NOT CUT OR DISPLACED BY CONDUIT OR PIPES.

12. USE SLEEVES TO ACCOMMODATE PIPING WHICH MUST PASS THROUGH STRUCTURAL CONCRETE. SUBMIT LAYOUT OF SLEEVES TO ARCHITECT FOR APPROVAL PRIOR TO CASTING CONCRETE. ALL SLEEVES SHALL BE STEEL CAST IRON PIPE OR PVC PIPE.

CAST-IN-PLACE CONCRETE

1. CONCRETE WORK SHALL COMPLY WITH THE LATEST EDITION OF ACI 301, "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE IN BUILDINGS," AND ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

2. ALL STRUCTURAL CONCRETE IS CONTROLLED AND SHALL BE USED, PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF THE STRUCTURAL INSPECTOR AS A PART OF THE STRUCTURAL INSPECTIONS REQUIRED FOR THE PROJECT.

3. NORMAL WEIGHT CONCRETE SHALL ATTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI, UNLESS NOTED OTHERWISE.

4. PROVIDE SIX PERCENT (PLUS/MINUS) AIR ENTRAINMENT IN ALL CONCRETE EXPOSED TO EARTH OR WEATHER.

5. ALL SLABS ON GROUND SHALL BE PLACED ON MINIMUM SIX INCH LAYER OF STRUCTURAL FILL UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ARCHITECT. SEE TYPICAL DETAIL FOR VAPOR BARRIER REQUIREMENTS.

6. PROVIDE DOWELS AND KEYWAYS AT ALL CONSTRUCTION JOINTS. ALLOW 48 HOURS TO ELAPSE BETWEEN ADJACENT SLAB POURS.

7. NOTIFY THE STRUCTURAL INSPECTOR AT LEAST 48 HOURS IN ADVANCE OF PLACING CONCRETE FOR INSPECTION OF THE REINFORCING STEEL. DO NOT CAST CONCRETE UNTIL THE INSPECTION HAS BEEN MADE OR WAIVED.

PRECAST/PRESTRESSED CONCRETE

1. ALL PRECAST CONCRETE WORK SHALL CONFORM TO ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND TO MNL 116, "PCI MANUAL FOR QUALITY CONTROL OF PRECAST/PRESTRESSED CONCRETE."

2. ALL PRECAST ELEMENTS SHALL BE DESIGNED BY THE SUPPLIER TO SUPPORT THE SUPERIMPOSED LOADS NOTED ON THE DRAWINGS, PLUS ADDITIONAL LOADS FROM CONCRETE TOPPING, FINISHES AND PARTITIONS AS SHOWN ON THE DRAWINGS.

FOUNDATION NOTES

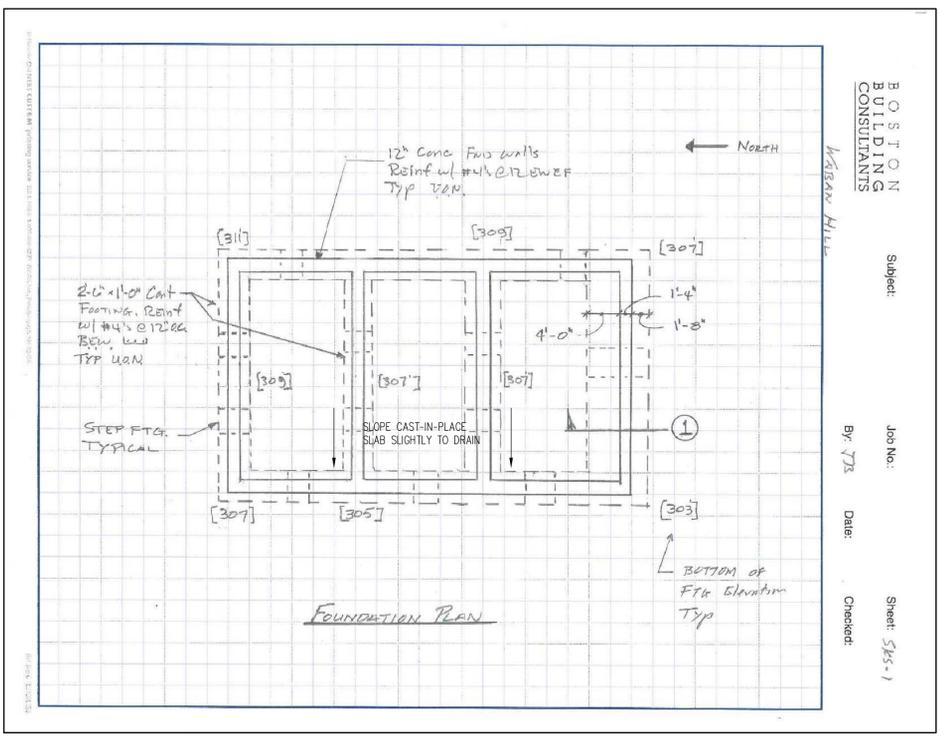
1. ALL FOOTINGS SHALL BE CARRIED DOWN TO ELEVATIONS INDICATED.

2. IF LEGE IS FOUND ABOVE INDICATED BEARING ELEVATIONS, IT SHALL BE REMOVED TO AT LEAST 24 INCHES BELOW FINISH EXTERIOR GRADE, AND LEVELLED TO A SLOPE OF NOT MORE THAN 3 IN 12

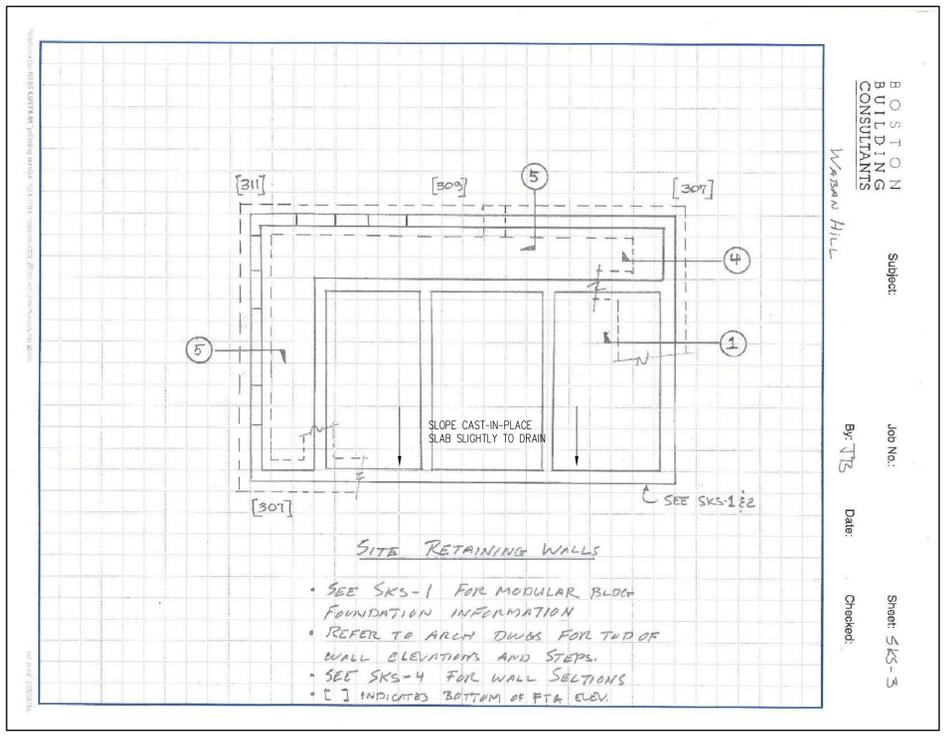
3. DRILL AND EMBED #8 DOWELS AT 18" ON CENTER, EMBEDDED 10" IN EPOXY ADHESIVE.

4. PRIOR TO LEGE REMOVAL, ENGAGE A PROFESSIONAL LAND SURVEYOR TO SURVEY ANY EXPOSED LEGE, TO ESTABLISH QUANTITIES TO BE REMOVED.

5. SEE SPECIFICATION FOR UNIT PRICES SECTION 012200

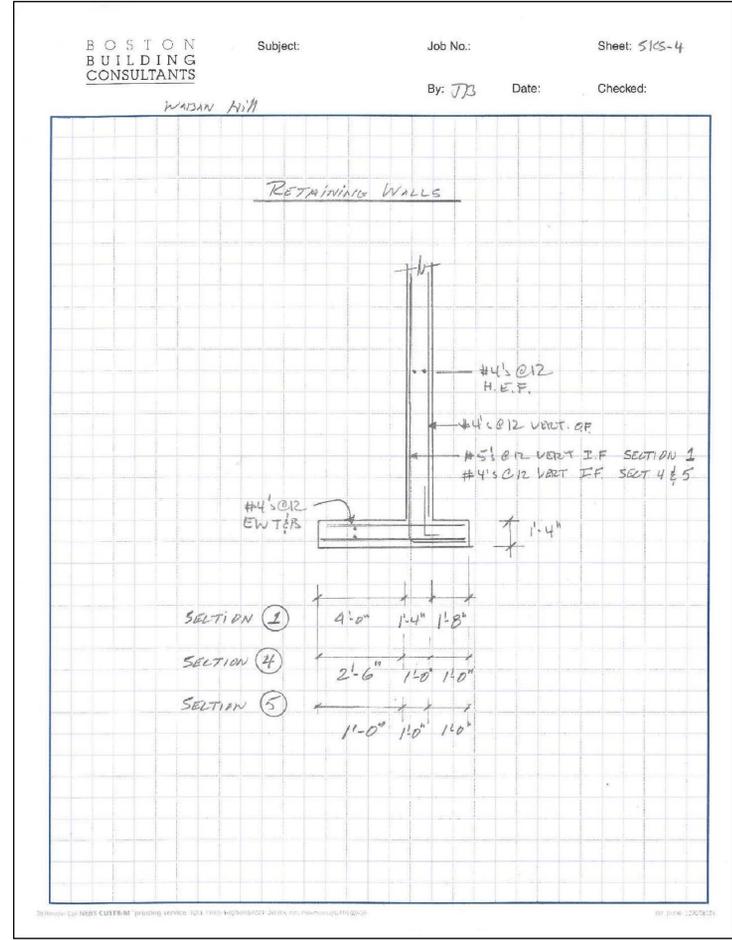


1 SKS-1 - FOUNDATION PLAN SKETCH NOT TO SCALE

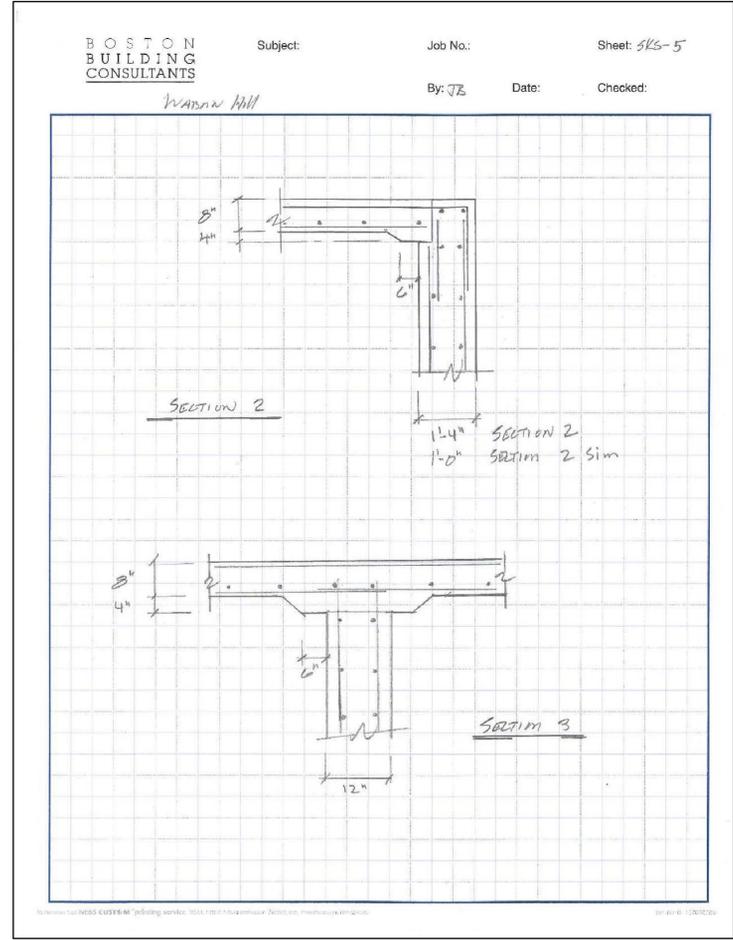


3 SKS-3 - SITE RETAINING WALLS PLAN SKETCH NOT TO SCALE

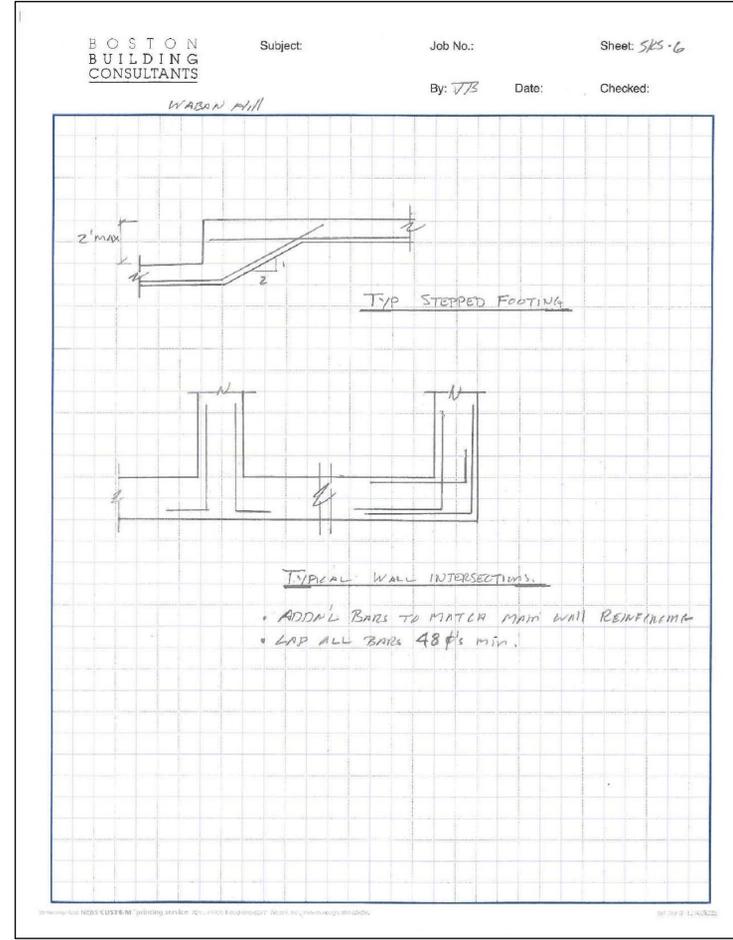
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 427 WATERTOWN STREET
 SUITE 102
 NEWTON, MA 02458



1 SKS-4 - RETAINING WALL SECTION SKETCH
 NOT TO SCALE

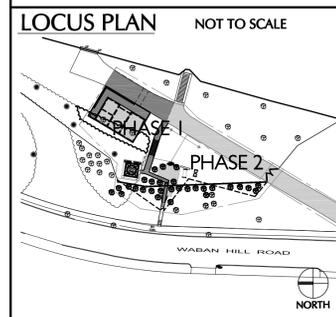


2 SKS-5 - SECTION DETAIL SKETCH
 NOT TO SCALE



3 SKS-6 - STRUCTURAL SKETCHES
 NOT TO SCALE

1. THE CONTRACTOR AND SUB-CONTRACTORS ARE REQUIRED TO INSPECT THE SITE AND CONTRACT DOCUMENTS PRIOR TO PROVIDING BID PRICES.
2. THE DRAWINGS ARE MERELY REPRESENTATIONAL AND DO NOT FREE THE CONTRACTOR OR SUB-CONTRACTORS FROM THE REQUIREMENT OF PERFORMING NORMALLY REQUIRED TASKS TO PERFORM A SAFE, CODE-COMPLYING AND COMPLETE PROJECT.
3. FIELD MEASUREMENTS: THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS PRIOR TO FABRICATION AND INSTALLATION OF WORK AND SHALL ASSUME COMPLETE RESPONSIBILITY FOR ACCURACY OF SAME. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR CHECKING THE DIMENSIONS ON THE DRAWINGS AND NOTIFYING THE ARCHITECT OF ANY DISCREPANCIES WHICH ARE FOUND. NO MATERIALS SHALL BE ORDERED OR FABRICATED BASED ON DIMENSIONS SHOWN ON THE DRAWINGS. ALL DIMENSIONS MUST BE VERIFIED. NO DRAWINGS SHALL BE SCALED.
4. THE CONTRACTOR SHALL LAY OUT ALL NEW WALLS BY CHALK FOR ARCHITECT APPROVAL PRIOR TO THE CONSTRUCTION OF ANY WALLS, TYPICAL.



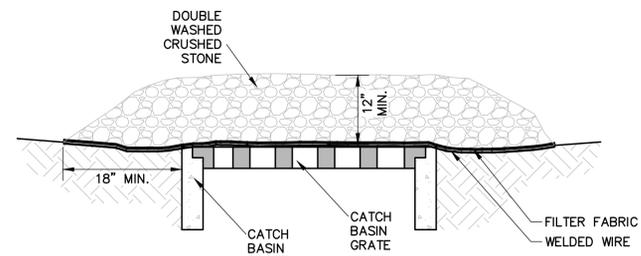
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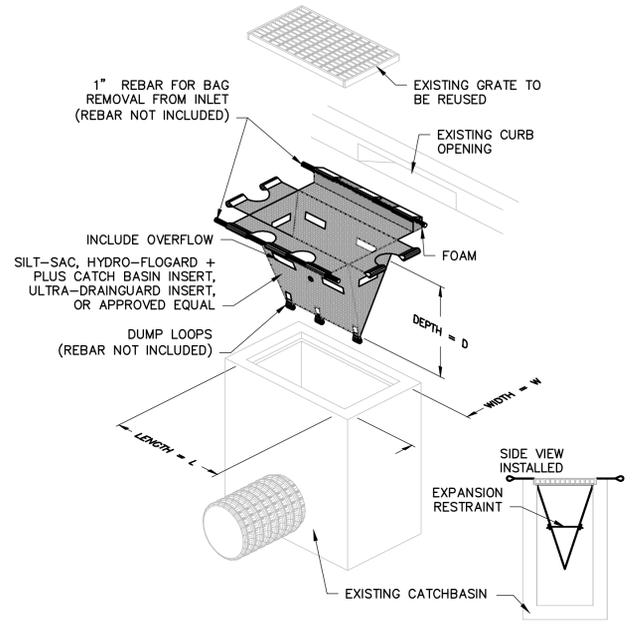
FOUNDATION, FOOTING AND RETAINING WALL STRUCTURAL SKETCHES

S-2



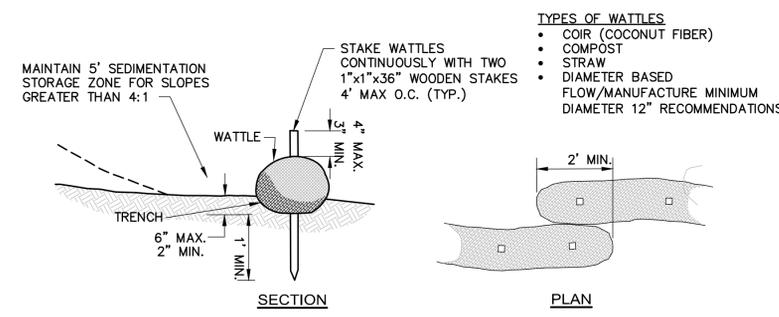
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS. THIS METHOD NOT ACCEPTABLE IN ACTIVE TRAFFIC AREAS.

INLET PROTECTION ①
CATCH BASIN W/ GRAVEL
NOT TO SCALE



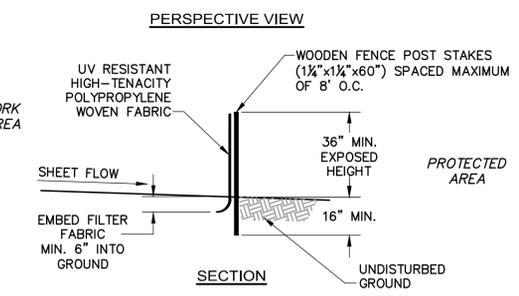
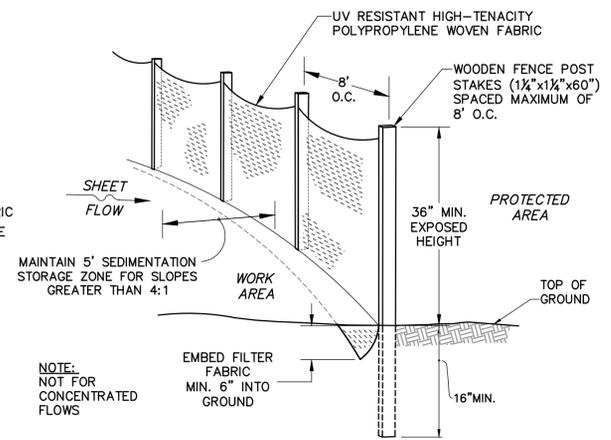
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS SHEET, OVERLAND OR CONCENTRATED FLOWS (NOT GREATER THAN 1 CFS). THE METHOD CAN DRAIN FLAT AREA TO STEEP SLOPES. INLET CAPACITY WILL BE DECREASED WITH THIS METHOD AND THE CONTRACTOR SHALL EXPECT PONDING DURING HIGH FLOW EVENTS.

INLET PROTECTION ②
CATCH BASIN W/ SILTATION SACK
NOT TO SCALE

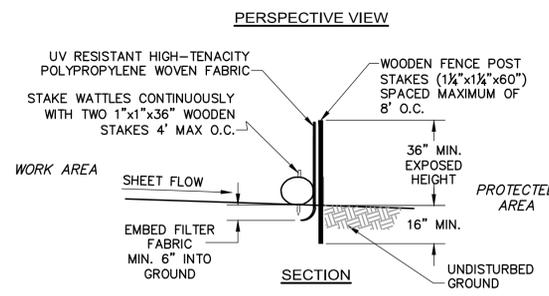
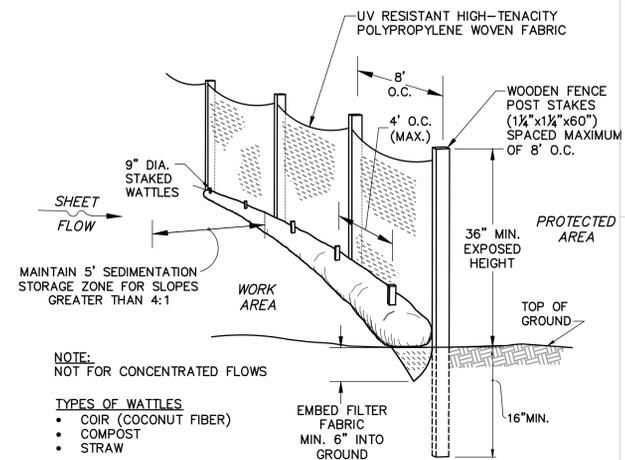


WATTLES - SLOPE PROTECTION FOR SLOPES LESS THAN 10:1
NOT TO SCALE

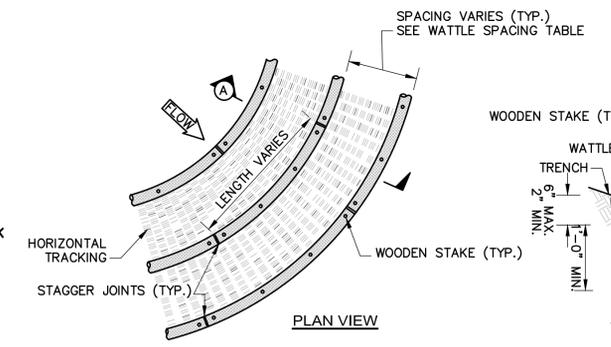
- TYPES OF WATTLES**
- COIR (COCONUT FIBER)
 - COMPOST
 - STRAW
 - DIAMETER BASED FLOW/MANUFACTURE MINIMUM DIAMETER 12" RECOMMENDATIONS



PERIMETER PROTECTION BARRIER ①
SILT FENCE DETAIL
NOT TO SCALE



PERIMETER PROTECTION BARRIER ②
SILT FENCE DETAIL WITH WATTLES
NOT TO SCALE

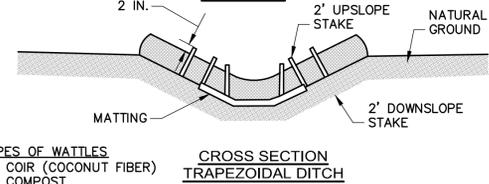
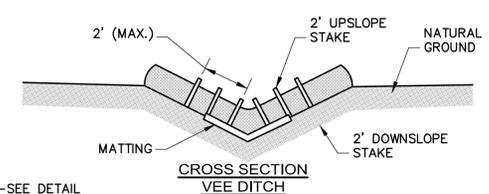
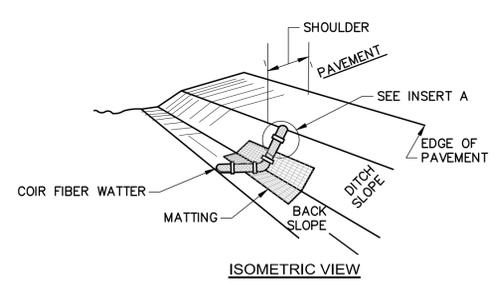


| WATTLE SPACING TABLE | |
|----------------------|--------------|
| SLOPE | MAX. SPACING |
| 1:1 | 10'-0" |
| 2:1 | 20'-0" |
| 3:1 | 30'-0" |
| 4:1 | 40'-0" |

WATTLE SLOPE PROTECTION NOTES:

1. SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
2. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE
3. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
4. ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

EROSION CONTROL BARRIER ③
WATTLES - STEEP SLOPE PROTECTION
NOT TO SCALE



- TYPES OF WATTLES**
- COIR (COCONUT FIBER)
 - COMPOST
 - STRAW

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- Land Surveying
- Transportation Engineering
- Sustainable Site Consulting
- Planning
- GIS

1. THE CONTRACTOR AND SUB-CONTRACTORS ARE REQUIRED TO INSPECT THE SITE AND CONTRACT DOCUMENTS AND TO NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES IN THE DOCUMENTS PRIOR TO PROVIDING BID PRICES.
2. THE DRAWINGS ARE HEREBY REPRESENTED AS NOT BEING THE PROPERTY OF THE ARCHITECT AND DO NOT FREE THE CONTRACTOR OR SUB-CONTRACTORS FROM THE REQUIREMENT OF PERFORMING NORMALLY REQUIRED TASKS TO PERFORM A SAFE, CODE-COMPLYING AND COMPLETE PROJECT.
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4. THE CONTRACTOR SHALL LAY OUT ALL NEW WALLS BY CHALK FOR ARCHITECT APPROVAL PRIOR TO THE CONSTRUCTION OF ANY WALLS. TYPICAL.

LOCUS PLAN



WABAN HILL COMM. TOWER EQUIPMENT BUILDING

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EROSION & SEDIMENTATION CONTROL DETAILS

-1.2

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PROJECT ARCHITECT

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LOCUS PLAN

WABAN HILL COMM. TOWER EQUIPMENT BUILDING

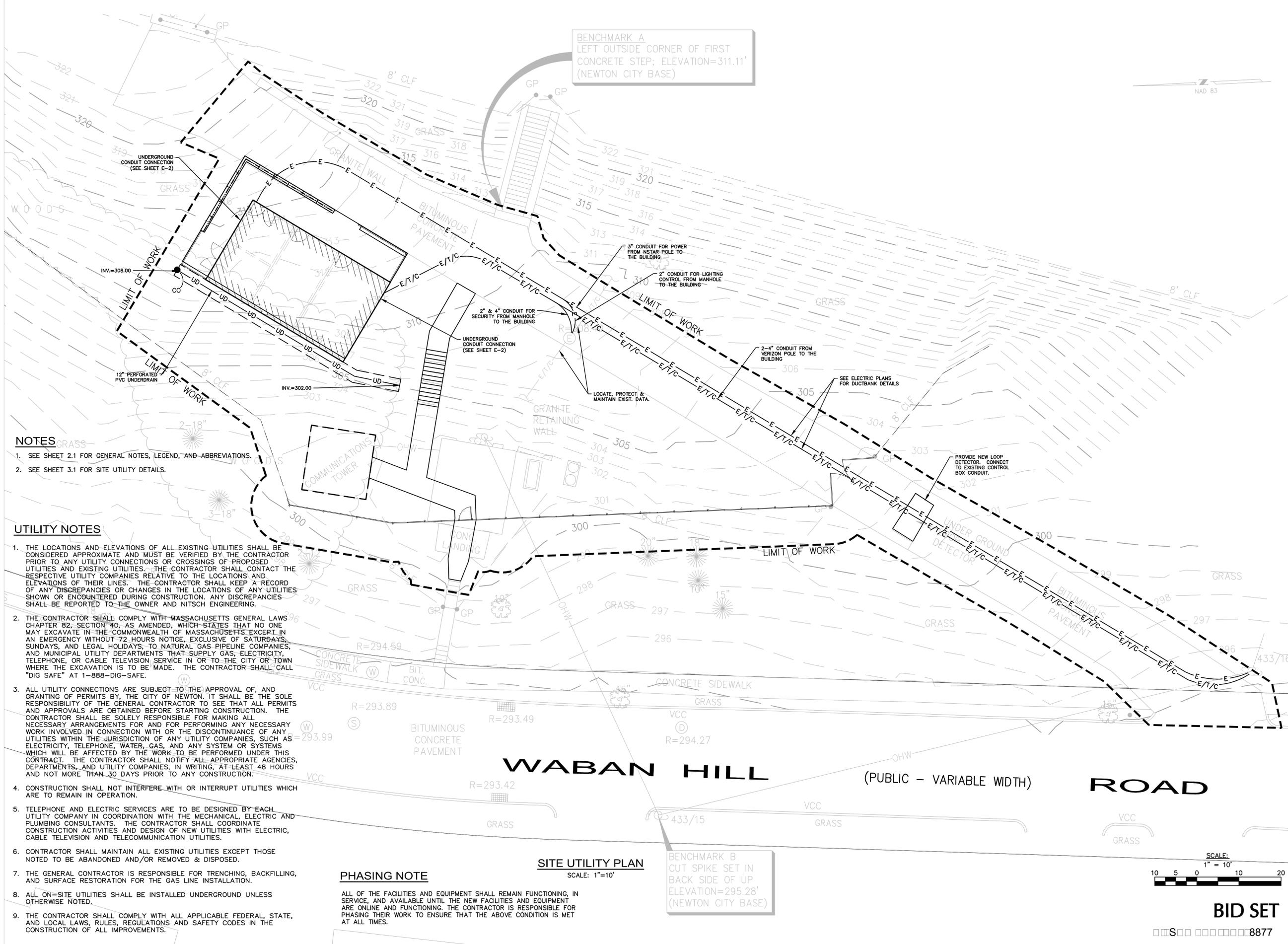
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SITE UTILITY PLAN

-2.2



- NOTES**
1. SEE SHEET 2.1 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
 2. SEE SHEET 3.1 FOR SITE UTILITY DETAILS.

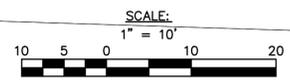
- UTILITY NOTES**
1. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY UTILITY CONNECTIONS OR CROSSINGS OF PROPOSED UTILITIES AND EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND NITSCH ENGINEERING.
 2. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE IN OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
 3. ALL UTILITY CONNECTIONS ARE SUBJECT TO THE APPROVAL OF, AND GRANTING OF PERMITS BY, THE CITY OF NEWTON. IT SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO SEE THAT ALL PERMITS AND APPROVALS ARE OBTAINED BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAKING ALL NECESSARY ARRANGEMENTS FOR AND FOR PERFORMING ANY NECESSARY WORK INVOLVED IN CONNECTION WITH OR THE DISCONTINUANCE OF ANY UTILITIES WITHIN THE JURISDICTION OF ANY UTILITY COMPANIES, SUCH AS ELECTRICITY, TELEPHONE, WATER, GAS, AND ANY SYSTEM OR SYSTEMS WHICH WILL BE AFFECTED BY THE WORK TO BE PERFORMED UNDER THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES, DEPARTMENTS, AND UTILITY COMPANIES, IN WRITING, AT LEAST 48 HOURS AND NOT MORE THAN 30 DAYS PRIOR TO ANY CONSTRUCTION.
 4. CONSTRUCTION SHALL NOT INTERFERE WITH OR INTERRUPT UTILITIES WHICH ARE TO REMAIN IN OPERATION.
 5. TELEPHONE AND ELECTRIC SERVICES ARE TO BE DESIGNED BY EACH UTILITY COMPANY IN COORDINATION WITH THE MECHANICAL, ELECTRIC AND PLUMBING CONSULTANTS. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES AND DESIGN OF NEW UTILITIES WITH ELECTRIC, CABLE TELEVISION AND TELECOMMUNICATION UTILITIES.
 6. CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED AND/OR REMOVED & DISPOSED.
 7. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR TRENCHING, BACKFILLING, AND SURFACE RESTORATION FOR THE GAS LINE INSTALLATION.
 8. ALL ON-SITE UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
 9. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.

PHASING NOTE

ALL OF THE FACILITIES AND EQUIPMENT SHALL REMAIN FUNCTIONING, IN SERVICE, AND AVAILABLE UNTIL THE NEW FACILITIES AND EQUIPMENT ARE ONLINE AND FUNCTIONING. THE CONTRACTOR IS RESPONSIBLE FOR PHASING THEIR WORK TO ENSURE THAT THE ABOVE CONDITION IS MET AT ALL TIMES.

SITE UTILITY PLAN
SCALE: 1"=10'

BENCHMARK B
CUT SPIKE SET IN
BACK SIDE OF UP
ELEVATION=295.28'
(NEWTON CITY BASE)



BID SET

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2. THE DRAWINGS ARE HEREBY REPRESENTED AS NOT BEING THE CONTRACTOR OR SUB-CONTRACTORS FROM THE REQUIREMENT OF PERFORMING NORMALLY REQUIRED TASKS TO PERFORM A SAFE, CODE-COMPLYING AND COMPLETE PROJECT.

3. FIELD MEASUREMENTS: THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS PRIOR TO FABRICATION AND INSTALLATION OF WORK AND SHALL ASSUME COMPLETE RESPONSIBILITY FOR ACCURACY OF SAME. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR CHECKING THE DIMENSIONS ON THE DRAWINGS AND NOTIFYING THE ARCHITECT OF ANY DISCREPANCIES WHICH THE FIELDS. NO MATERIALS SHALL BE ORDERED OR FABRICATED BASED ON DIMENSIONS SHOWN ON THE DRAWINGS. ALL DIMENSIONS MUST BE VERIFIED. NO DRAWINGS SHALL BE SCALED.

4. THE CONTRACTOR SHALL LAY OUT ALL NEW WALLS BY CHALK FOR ARCHITECT APPROVAL PRIOR TO THE CONSTRUCTION OF ANY WALLS. TYPICAL.

LOCUS PLAN



WABAN HILL COMM. TOWER EQUIPMENT BUILDING

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SITE GRADING PLAN

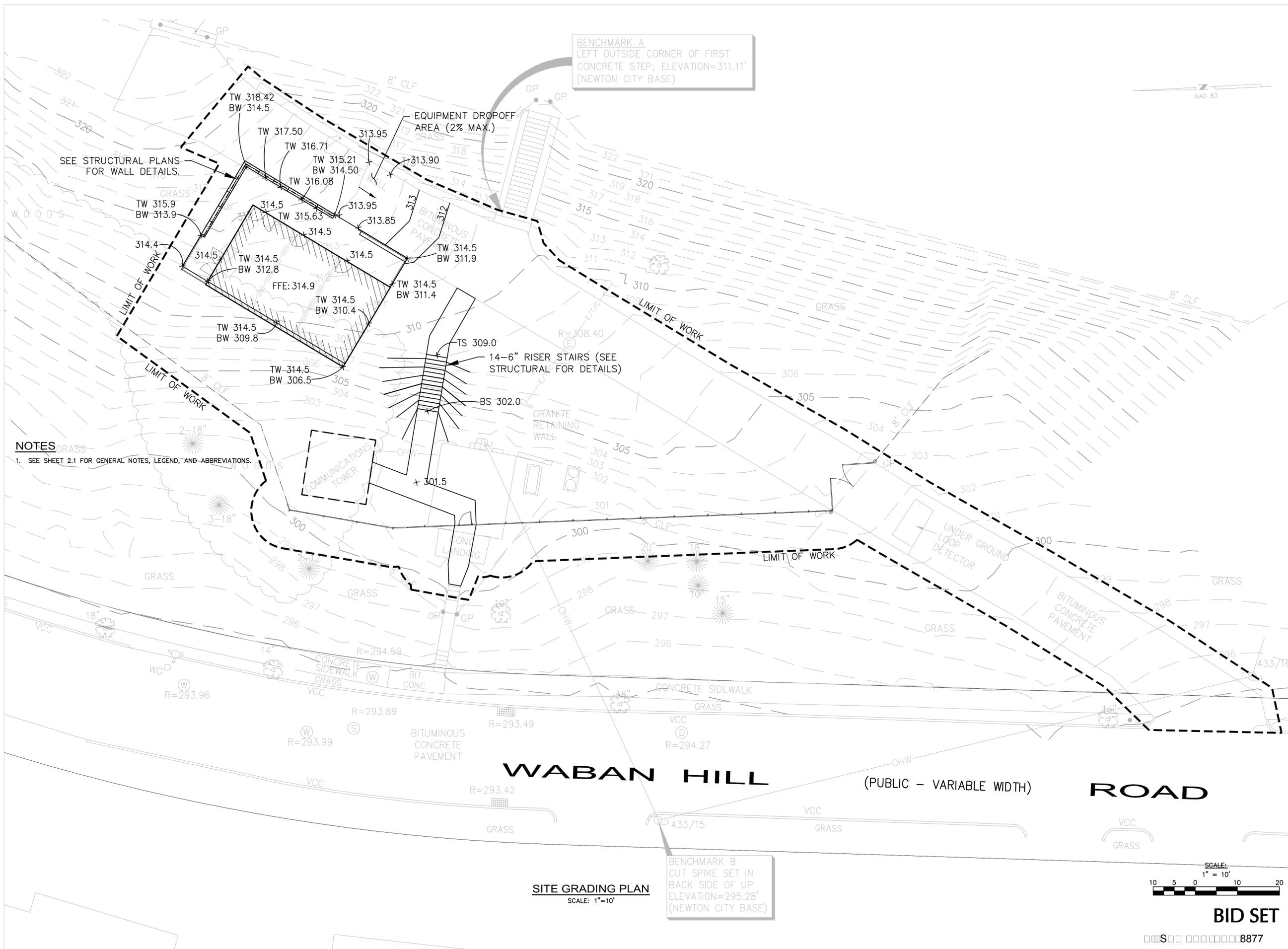
SCALE: 1" = 10'

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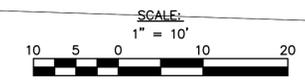
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BENCHMARK A
LEFT OUTSIDE CORNER OF FIRST CONCRETE STEP; ELEVATION=311.11' (NEWTON CITY BASE)

BENCHMARK B
CUT SPIKE SET IN BACK SIDE OF UP ELEVATION=295.28' (NEWTON CITY BASE)

SITE GRADING PLAN
SCALE: 1"=10'



NOTES

1. SEE SHEET 2.1 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

SEE STRUCTURAL PLANS FOR WALL DETAILS.

PROJECT ARCHITECT

GOLDMAN REINDORF ARCHITECTS INC.

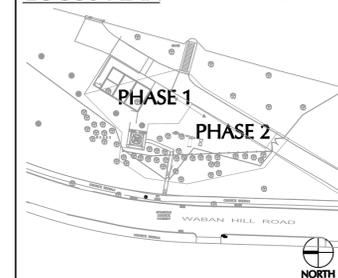
427 WATERTOWN STREET SUITE 102 NEWTON, MA 02458



88 Black Falcon Ave., Suite 210 Boston, MA 02210 (617) 210-1600 www.wspgroup.com/usa

- 1. THE CONTRACTOR AND SUB-CONTRACTORS ARE REQUIRED TO INSPECT THE SITE AND CONTRACT DOCUMENTS AND TO NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES IN THE DOCUMENTS PRIOR TO PROVIDING BID PROPOSALS.
2. THE DRAWINGS ARE MERELY REPRESENTATIONAL AND DO NOT FREE THE CONTRACTOR OR SUB-CONTRACTORS FROM THE REQUIREMENT OF PERFORMING NORMALLY REQUIRED TASKS TO VERIFY A SAFE, CODE-COMPLYING AND COMPLETE PROJECT.
3. FIELD MEASUREMENTS: THE CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS PRIOR TO FABRICATION AND INSTALLATION OF WORK AND SHALL ASSUME COMPLETE RESPONSIBILITY FOR ACCURACY OF SAME. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR CHECKING THE DIMENSIONS ON THE DRAWINGS AND NOTIFYING THE ARCHITECT OF ANY DISCREPANCIES WHICH ARE FOUND. NO MATERIALS SHALL BE ORDERED OR FABRICATED BASED ON DIMENSIONS SHOWN ON THE DRAWINGS. ALL DIMENSIONS MUST BE VERIFIED. NO DRAWINGS SHALL BE SCALED.
4. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES IN THE DRAWINGS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE CONSTRUCTION OF ANY WALLS, TYPICAL.

LOCUS PLAN NOT TO SCALE



WABAN HILL COMM. TOWER EQUIPMENT BUILDING

Table with 2 columns: REVISION/DATE, CHECKED BY: -

DATE: 10-03-14

MECHANICAL SPECIFICATIONS

M2

BID SET

1.1 SUMMARY

- A. GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACKCHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION AS REQUIRED TO PERFORM WORK IN ACCORDANCE WITH ALL LEGAL REQUIREMENTS AND WITH THE CONTRACT DOCUMENTS.
B. THE WORK SHALL INCLUDE THE FOLLOWING INCLUDING THE LISTED STANDARDS AND ALL THAT ARE SHOWN ON THE DRAWINGS, COORDINATE ALL REQUIREMENTS WITH THE GENERAL CONTRACTOR:
1. SHOP DRAWING SUBMITTALS
2. CUTTING AND PATCHING
3. SLEEVES AND PENETRATIONS
4. VALVE TAGS
5. EQUIPMENT AND PIPING IDENTIFICATION
6. RECORD DOCUMENTS
7. SYSTEMS START-UPS
8. FIRE WATCH
9. SCAFFOLDING, HOISTING, RIGGING AND STAGING
10. ACCESS PANELS; ACCESS TO CONCEALED MECHANICAL AND CONTROL DEVICES.
11. VIBRATION ISOLATION AND SEISMIC RESTRAINTS FOR ALL CEILING AND FLOOR HUNG EQUIPMENTS.
12. TESTING, ADJUSTING AND BALANCING
13. UNDERWRITERS LABORATORIES (UL) OR FIELD PROVIDED ETL FOR NON-UL LISTED EQUIPMENT.
14. NATIONAL FIRE PROTECTION ASSOCIATION
15. 780 CMR MASSACHUSETTS STATE BUILDING CODE.
16. INTERNATIONAL BUILDING CODE 2009 - IBC
17. INTERNATIONAL MECHANICAL CODE 2009
18. NFPA 96-2008 VENTILATION CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS.
19. SUBSTITUTIONS SHALL NOT BE ALLOWED. REFER TO SCHEDULES FOR REQUIRED EQUIPMENT.
C. PROTECTION: USE ALL MEANS NECESSARY TO PROTECT AND COVER MATERIALS WHILE STORED, DURING SHIPPING, AND BEFORE, DURING AND AFTER INSTALLATION AND TO PROTECT INSTALLED WORK AND MATERIALS OF ALL TRADES, IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENT NECESSARY TO THE APPROVAL OF THE ARCHITECT AT NO CHANGE IN CONTRACT SUM.
D. PROVIDE LOW VOC MASTICS, SEALANTS AND TAPES IN COMPLIANCE WITH SOUTH COAST AQMD RULE #1168 VOC LIMITS.

1.2 SUBMITTALS

- A. COPIES OF FAXED PAGES ARE UNACCEPTABLE. SUBMITTAL COVER SHEET: PROVIDE A COMPLETED COVER SHEET WITH EACH SUBMITTAL PACKAGE INDICATING THE INFORMATION AS FOLLOWS: CONTRACTOR'S REVIEW, REVIEW, STAMP AND CERTIFY EACH SUBMITTAL PRIOR TO SUBMISSION TO THE ARCHITECT. REQUIRED REVIEW TIME: A MINIMUM PERIOD OF FIVE WORKING DAYS, EXCLUSIVE OF TRANSMITTAL TIME, WILL BE REQUIRED IN THE ENGINEER'S OFFICE EACH TIME SHOP DRAWINGS. SUBMIT ALL SHOP DRAWINGS WITHIN 2 WEEKS (10 WORKING DAYS) OF SIGNING CONTRACT.
1. PROJECT AND DATE
2. CONTRACTOR AND LOG #ID
3. DESCRIPTION
4. EQUIPMENT IDENTIFICATION AND TAG NO.
5. NAME, ADDRESS, AND PHONE NUMBER OF SUPPLIER.
6. ARE ALL SPECIFIED OR SCHEDULED ITEMS INCLUDED AND EXACTLY MATCH SCHEDULED/SPECIFIED ITEMS?
7. IS THIS ITEM A SUBSTITUTION?
8. ARE DEVIATIONS CLEARLY IDENTIFIED?
9. DOES EQUIPMENT FIT SPACE SHOWN ON CONSTRUCTION DOCUMENTS, COORDINATION DRAWINGS, AND ACTUAL FIELD CONDITIONS?
10. HAS SUPPORT, ERECTION, WEIGHTS, AND INSTALLATION BEEN COORDINATED WITH ALL TRADES?
11. DOES THE PROPOSED INSTALLATION VOID WARRANTIES OR VIOLATE UL OR CODE REQUIREMENTS?
12. DOES THIS MATERIAL/EQUIPMENT ADD EXPENSE TO ANY OTHER TRADE OR PROJECT COSTS?
13. DOES EQUIPMENT REQUIRE INTERFACE WITH OTHER TRADES? LIST SECTIONS AND SPECIFICS REQUIRING COORDINATION?
14. IS CONTROL INTERFACE COORDINATED?
15. LIST ELECTRICAL CHARACTERISTICS (V/F/PH)
16. HORSEPOWER: EQUAL OR LESS.
17. EFFICIENCY: EQUAL OR GREATER.
18. CAPACITIES: EQUAL OR GREATER.
19. SPACE/CLEARANCES: EQUAL OR GREATER.
20. STORAGE AND RECOVERY: EQUAL OR GREATER.
21. WARRANTY: EQUAL OR BETTER.
22. WEIGHT: EQUAL OR LESS.
23. NOISE: EQUAL OR QUIETER.

1.3 PROJECT CONDITIONS

- A. COMPLY WITH GENERAL CONDITIONS, VISIT THE SITE PRIOR TO SUBMISSION OF BIDS AND EXAMINE EXISTING CONDITIONS TO BE FAMILIAR WITH THE RELATED IMPLICATIONS TO THE WORK OF THE MECHANICAL AND ELECTRICAL SECTIONS, CONTRACT DOCUMENTS, THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW EVERY FITTING AND COMPONENT AND SHALL BE USED IN CONJUNCTION WITH THE SPECIFIED REQUIREMENTS TO PROVIDE COMPLETE AND FULLY FUNCTIONAL SYSTEMS FOR THE INTENDED USE. REVIEW THE COMPLETE SET OF CONTRACT DOCUMENTS AND BE FAMILIAR WITH THE SPACE REQUIREMENTS AND WORK OF OTHER SECTIONS. THOROUGHLY REVIEW BUILDING SECTIONS, ARCHITECTURAL DETAILS, SPACE AVAILABILITY PHASING REQUIREMENTS AND MECHANICAL AND ELECTRICAL DRAWINGS FOR A COMPLETE UNDERSTANDING OF THE SCOPE AND COORDINATION REQUIREMENTS OF THE MECHANICAL AND ELECTRICAL SECTIONS. PIPE SIZING NOTATIONS: PIPE SIZING NOTATIONS RUN ALL THE PIPE FROM THE LARGER SIZES TO THE SMALLER SIZE. SECTIONS OF PIPE, WHICH ARE NOT SPECIFICALLY IDENTIFIED WITH A PIPE SIZE, ARE THE CONTINUATION OF THE PREVIOUS LARGER PIPE SIZE INDICATION. PIPE SIZE CHANGE ONLY WHERE INDICATED BY A NOTATION CHANGE. EXISTING CONDITIONS: THE EXISTING CONDITIONS INDICATED ON THE CONTRACT DRAWINGS ARE TAKEN PRIMARILY FROM EXISTING RECORDS PROVIDED BY THE OWNER AND DO NOT NECESSARILY INDICATE ACTUAL AS-BUILT CONDITIONS. PREPARATION WORK OF THE MECHANICAL SECTIONS INCLUDES THE VERIFICATION OF EXISTING CONDITIONS BEFORE THE START OF RELATED INSTALLATION WORK.
B. INSTALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURERS LATEST PRINTED INSTALLATION INSTRUCTIONS AND THE PRODUCT MRL LISTING REQUIREMENTS. INSTALL PIPING STRAIGHT, PLUMB, INSTALL MECHANICAL AND ELECTRICAL SYSTEMS AS HIGH AS POSSIBLE. PIPE SHALL BE FREE FROM SCALE AND DIRT. PROTECT OPEN ENDED PIPE. ALL PIPING SHALL BE REAMED FREE OF BURRS. LOCATE VALVES FOR EASY ACCESS AND OPERATION. PIPING CONNECTIONS TO COILS AND EQUIPMENT SHALL BE MADE WITH OFF-SETS PROVIDED WITH ISOLATION VALVES, UNIONS OF FLANGES ARRANGED SO THAT EQUIPMENT CAN BE SERVICED OR REMOVED WITHOUT DISMANTLING. PROVIDE FOR EXPANSION AND CONTRACTION IN ALL PIPING SYSTEMS TO PREVENT UNDESIRED STRAINS ON PIPING OR EQUIPMENTS. REPLACE OR REPAIR DAMAGED COMPONENTS, THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CUT PIPE ACCURATELY AND WORK INTO PLACE WITHOUT SPRINGING OR FORGING, AND PROPERLY CLEARING WINDOWS, DOORS, AND OTHER OPENINGS. MAKE CHANGES IN DIRECTIONS WITH FITTINGS, MAKE CHANGES IN MAIN SIZES WITH ECCENTRIC REDUCING FITTINGS. INSTALL WATER SUPPLY AND RETURN PIPING WITH STRAIGHT SIZE OF ECCENTRIC FITTINGS AT TOP OF THE PIPE. RUN PIPING CONCEALED ABOVE CEILINGS AND WITHIN FURRED SPACES. INSTALL EQUIPMENT AND COMPONENTS TO MINIMIZE NOISE AND VIBRATION TRANSMISSION TO THE STRUCTURE. PROVIDE VIBRATION ISOLATORS AND FLEXIBLE CONNECTORS FOR ALL VIBRATING EQUIPMENT. LOCATE PIPING AND EQUIPMENT TO MAINTAIN AT LEAST 18 INCHES CLEAR IN FRONT OF ACCESS PANELS AND DOORS. PROVIDE SUFFICIENT SHING, JOINTS, BALL JOINTS, EXPANSION LOOPS, AND DEVICES NECESSARY FOR A FLEXIBLE PIPING SYSTEM. SUPPORT PIPING INDEPENDENTLY AT EQUIPMENT, SO THAT WEIGHT OF PIPING WILL NOT BE SUPPORTED BY THE EQUIPMENT. PIPE THE DRAINS FROM PUMP GLANDS, DRIP PANS, RELIEF VALVES, AIR VENTS AND SIMILAR LOCATIONS, TO SPILL THROUGH AN AIR GAP INTO A FLOOR DRAIN. SECURELY BOLT AND SEISMICALLY RESTRAIN ALL EQUIPMENT, ISOLATORS, HANGERS, AND SIMILAR ITEMS IN PLACE. PROVIDE COMPLETE DIELECTRIC ISOLATION BETWEEN FERROUS AND NON-FERROUS METALS.

1.4 WARRANTY

- A. UPON COMPLETION OF THE WORK AND AS A CONDITION OF ITS ACCEPTANCE AND FINAL PAYMENT, DELIVER TWO COPIES OF A WRITTEN WARRANTY AGREEING TO REPLACE THE WORK WHICH FALLS DUE TO DEFECTIVE MATERIALS OR WORKMANSHIP WITHIN ONE YEAR AFTER DATE OF SUBSTANTIAL COMPLETION AS THAT DATE IS DETERMINED IN ACCORDANCE WITH THE GENERAL CONDITIONS. FAILURE DUE TO DEFECTIVE MATERIALS OR WORKMANSHIP OR INCOMPLETE MISSED ITEMS IS DEEMED TO INCLUDE, BUT IS NOT TO BE LIMITED TO, FAILURES IN OPERATING COMPONENT OR COMPONENTS, LEAKAGE FROM PIPING SYSTEM AND CODE VIOLATIONS. REPLACE MATERIAL AND EQUIPMENT THAT REQUIRE EXCESSIVE SERVICE DURING WARRANTY PERIOD AS DEFINED AND AS DIRECTED BY ARCHITECT. WARRANTY SHALL INCLUDE 24-HOUR SERVICE OF COMPLETE SYSTEM DURING WARRANTY PERIOD AT NO COST TO OWNER.

1.5 MANUALS AND INSTRUCTIONS

- A. OPERATION AND MAINTENANCE MANUALS (HARD COPIES AND ELECTRONIC COPIES); BIND MANUALS IN HARDCOVER, THREE-RING BINDERS, AND PROVIDE IDENTIFIED DIVIDERS WITH TABS BY SECTION. INDICATE APPROPRIATE MODEL NUMBERS IN MANUFACTURERS' BROCHURES AND CROSS OUT NON-APPLICABLE INFORMATION. REVIEW THE MANUALS WITH THE OWNER'S MAINTENANCE PERSONNEL AND ADD ADDITIONAL MAINTENANCE DATA SHEETS AND INFORMATION AS DIRECTED BY THE OWNER'S REPRESENTATIVES. COPIES OF FAXED PAGES ARE UNACCEPTABLE.
1. OBTAIN AT TIME OF PURCHASE OF EQUIPMENT, SIX COPIES OF OPERATION, LUBRICATION AND MAINTENANCE MANUALS FOR ALL ITEMS. ASSEMBLE LITERATURE IN COORDINATED MANUALS WITH ADDITIONAL INFORMATION DESCRIBING COMBINED OPERATION OF FIELD-ASSEMBLED UNITS, INCLUDING AS-BUILT WIRING DIAGRAMS. MANUALS SHALL CONTAIN NAMES AND ADDRESSES OF MANUFACTURERS AND LOCAL REPRESENTATIVES WHO STOCK OR FURNISH REPAIR PARTS FOR ITEMS OR EQUIPMENT. MANUALS SHALL INCLUDE ALL INSTRUCTIONS FOR PREVENTIVE MAINTENANCE AND REPAIRING OF EQUIPMENT. TABLE OF CONTENTS EMERGENCY INSTRUCTIONS WITH 24-HOUR PHONE NUMBER TO CONTACT A RESPONSIBLE INDIVIDUAL FOR EACH SECTION OF WORK. SUBCONTRACTORS WARRANTIES, NAME AND TELEPHONE NUMBER OF LOCAL REPRESENTATIVE AND SUPPLIER MANUFACTURERS' MAINTENANCE PROCEDURES, EXPLODED DRAWINGS AND PARTS LISTS, TROUBLESHOOTING CHECKLISTS WITH POTENTIAL PROBLEMS AND POSSIBLE CAUSES, SCHEMATIC WIRING DIAGRAMS, RECORD DRAWINGS, VALVE TAG CHARTS, EQUIPMENT WARRANTIES AND GUARANTEES, SEQUENCE OF OPERATIONS AND SYSTEMS DESCRIPTIONS SPECIFIED IN OTHER SECTIONS.
2. ELECTRONIC COPIES OF THE O & M MANUALS SHALL BE PROVIDED ON A CD IN ADOBE ACROBAT FORMAT WITH EACH SECTION (EQUIPMENT) BOOK MARKED AND INDEXED IN THE TABLE OF CONTENTS.
3. INSTRUCTION SEMINARS: PERFORM SYSTEMS INSTRUCTION SEMINARS AND WALK-THROUGH WITH THE OWNER'S DESIGNATED REPRESENTATIVES AFTER PREPARATION, REVIEW AND APPROVAL.

1.6 PACKAGE AC UNIT

- A. GENERAL - FURNISH AND INSTALL A SELF-CONTAINED, VERTICAL, EXTERIOR WALL MOUNT, THROUGH-THE-WALL AIR CONDITIONER TO BE MANUFACTURED BY BARD MANUFACTURING COMPANY, INC. (OR APPROVED EQUAL). THE UNIT SHALL BE APPROVED AND LISTED BY INTERTEK ETL LISTED ETL USC. UNIT SHALL BE FACTORY ASSEMBLED, PRE-CHARGED, PRE-WIRED, TESTED AND READY TO OPERATE. UNIT PERFORMANCE SHALL BE CERTIFIED IN ACCORDANCE WITH THE AIR CONDITIONING HEATING AND REFRIGERATION INSTITUTE (AHRI) STANDARD 350-2003 FOR SINGLE PACKAGE VERTICAL UNITS. UNIT EFFICIENCY SHALL BE SPECIFIED BY EER. CAPACITIES SHALL BE AS INDICATED ON DRAWINGS AND UNITS.
B. CONSTRUCTION - CONSTRUCTION SHALL BE A SINGLE, ENCLOSED, WEATHERPROOF CASING CONSTRUCTED OF 20-GAUGE GALVANIZED STEEL, STAINLESS STEEL OR ALUMINUM. UNIT BASE IS CONSTRUCTED OF 16-GAUGE GALVANIZED STEEL FOR PAINTED AND ALUMINUM CABINETS, STAINLESS STEEL FOR STAINLESS CABINETS. EACH EXTERIOR CASING PANEL TO BE BONDZERIZED AND FINISHED WITH BAKED-ON EXTERIOR POLYESTER ENAMEL PAINT PRIOR TO ASSEMBLY. THE BAKED-ON CURED PAINT FINISH SHALL PASS THE INDUSTRY RUB TEST WITH A MINIMUM OF 72 RUBS PER (METHYL ETHYL KETONE) OR STANDARD RUB TEST OF A MINIMUM OF 100 RUBS USING TOLUENE. COOLING SECTION SHALL BE FULLY INSULATED WITH 1-INCH FIBERGLASS TO PREVENT SWEATING AND TO MUFFLE SOUNDS. OPENINGS SHALL BE PROVIDED FOR POWER CONNECTIONS. ACCESS OPENINGS APPROPRIATE FOR OUTSIDE STRUCTURE TO ALL FAN MOTORS AND COMPRESSOR FOR MAKING REPAIRS AND FOR REMOVING INTERNAL COMPONENTS WITHOUT REMOVING UNIT FROM ITS PERMANENT INSTALLATION. FRESH AIR INTAKE AND OUTDOOR COIL SHALL BE PROTECTED FROM INTRUSIONS BY A STURDY METAL GRATING WITH LESS THAN 1/4 INCH OPENINGS.
C. DRAIN PAN - DRAIN PAN SHALL BE CONSTRUCTED OF 20-GAUGE GALVANIZED STEEL, BONDZERIZED AND FINISHED WITH BAKED-ON EXTERIOR POLYESTER ENAMEL PAINT.
D. INSULATION - INSULATION SHALL BE FOIL FACED FOR EASE OF CLEANING.
E. MOUNTING BRACKETS - FULL-LENGTH SIDE MOUNTING BRACKETS SHALL BE AN INTEGRAL PART OF THE CABINET. BOTTOM MOUNTING BRACKET SHALL BE PROVIDED.
F. REFRIGERATION SYSTEM - ALL MODELS SHALL USE A HIGH EFFICIENCY SCROLL COMPRESSOR. THE COMPRESSOR SHALL BE COVERED BY A 5-YEAR PARTS WARRANTY. THE REFRIGERATION CIRCUIT SHALL BE EQUIPPED WITH FACTORY INSTALLED HIGH AND LOW PRESSURE CONTROLS AND LIQUID LINE FILTER DRYER. THE REFRIGERATION CONTROL SHALL BE A FACTORY INSTALLED CAPILLARY TUBE. COMPRESSOR SHALL BE MOUNTED ON RUBBER GROMMETS. UNIT SHALL BE PROVIDED WITH R-410A (HFC) NON-OZONE DEPLETING REFRIGERANT.
G. CONDENSER FAN MOTOR - THE CONDENSER FAN, MOTOR AND SHROUD SHALL BE OF SLIDE OUT CONFIGURATION FOR EASY ACCESS.
H. INDOOR BLOWER MOTOR - THE INDOOR BLOWER MOTOR SHALL BE TWIN WHEELS WITH FORWARD CURVE BLADES. MOTOR SHALL BE HIGH EFFICIENCY PSC TYPE.

1.7 CABINET ELECTRIC HEATERS

- A. PROVIDE ELECTRIC CABINET HEATERS WHERE SHOWN ON DRAWINGS AND ON SCHEDULES. CABINET HEATERS SHALL BE FACTORY ASSEMBLED FOR FIELD INSTALLATION. CABINETS SHALL BE 1/2 INCH STEEL WITH CORROSION RESISTANT FINISH. COLOR SELECTION SHALL BE BY ARCHITECT.
B. HEATING COILS SHALL BE SINGLE TERMINAL END LONG LIFE ELECTRIC FIN TUBE WITH BRAZED HELICAL COILED FINS.
C. PROVIDE CABINET HEATERS WITH AUTOMATIC RESET THERMAL OVERLOAD PROTECTOR.
D. PROVIDE INTEGRAL THERMOSTATS.
E. FILTERS SHALL BE DISPOSABLE.
F. CABINET HEATERS SHALL BE BY RAYWALL, Q MARK, BRASCH OR TRANE.

#455-14

11/13/2015

DRAFT FOR DISCUSSION – STAND ALONE STORMWATER FEE

1. **ADD** a new section to Division 1 of Article IV DRAINS of Chapter 20 as follows:

Section 29-120 Stormwater use charge

(a) Every owner of property in the city shall pay a charge for use of public main drains and stormwater facilities which shall be based on the following annual rates. Such charge shall be billed quarterly:

- 1. 1-4 family dwellings \$ 75.00
- 2. All other properties:

| <u>Square feet of impervious surface area</u> | <u>Annual rate</u> |
|---|--------------------|
| 0 – 4, 999 | \$ 250.00 |
| 5, 000 – 9, 999 | \$ 500.00 |
| 10, 000 – 14, 999 | \$ 1,000.00 |
| 15, 000 – 24, 999 | \$ 1,250.00 |
| 25, 000 – 49, 999 | \$ 1,500.00 |
| 50, 000 – 90, 999 | \$ 2,000.00 |
| 100,000 and greater | \$ 2,500.00 |

(b) Property owners that are certified as eligible for the water discount program described in section 29-36(b) shall also be eligible for a discount of thirty percent (30%) off the stormwater use charge.

(c) The provisions of sections 20-80 (d) through (f) pertaining to billing and liens shall apply to stormwater use charges.

(d) The commissioner of public works may establish a stormwater use charge credit policy and may grant credits of up to ___% to be applied against the stormwater use charge for properties that have on-site functioning stormwater management systems or other measures to reduce or mitigate that property’s use of public main drains and stormwater facilities.

(e) The commissioner of public works may establish policies and may promulgate rules and regulations necessary to implement this section.

2. **Delete** all references to “stormwater” contained in Sec. 20-80 as follows:

Sec. 29-80. Sewer ~~/Stormwater~~-use charge.

~~(a) Estates whose building sewers discharge directly or indirectly into public sewers of the city shall pay a charge for the use of main drains and stormwater facilities.~~

~~—(b) Stormwater flat fees:~~

~~(1) Such stormwater use bill shall be issued on an annual basis.~~

~~a) For properties the principal use of which is residential—\$75.00~~

~~b) For all other properties—\$200.00~~

(~~e~~a) Estates whose building sewers discharge directly or indirectly into public sewers of the city, shall pay a charge for the use of sewage works in proportion to water consumption except that a charge for the use sewage works shall not be made for water consumption registered on or attributable to outdoor meters installed at residential properties in accordance with section 29-24 of this chapter.

1) Sewer rates

A charge for the use of sewer, which charge shall be made in proportion to water consumption, based on the water meter reading, or estimated water meter reading, excluding outdoor meters for the same property, for the prior quarterly billing period shall be made at the following schedule of rates or prices (effective July 1, 2015). Such sewer bill shall be issued on a quarterly basis:

Nine dollars and twenty-five cents (\$9.25) per hundred cubic feet for consumption from 0 to 10 hundred cubic feet;

Nine dollars and seventy-five cents (\$9.75) per hundred cubic feet for consumption from 11 to 25 hundred cubic feet;

Eleven dollars and 50 cents (\$11.50) per hundred cubic feet for consumption from 26 to 60 hundred cubic feet;

Thirteen dollars and twenty-five cents (\$13.25) per hundred cubic feet for consumption above 60 hundred cubic feet.”

(2) Multi-dwelling properties

a) For purposes of this subsection, the term Single Meter/Multi-Residence shall have the following meaning: A building, buildings, or part of a building which i) is used for residential use only, ii) contains more than one dwelling unit, and iii) receives water delivered through a single service pipe and meter. The term dwelling unit shall have the meaning set out in the definition that appears in section 30-1.

b) For a Single Meter/Multi-Residence property, the applicable price or rate for use of sewer shall be determined by dividing the consumption by the number of dwelling units within such

property.

(3) Where water is supplied by the city through a meter that is not in good working order, the commissioner shall use any reasonable, fair, and appropriate method to determine the quantity of water consumed and shall issue the sewer use bill on that basis.

(eb) Such charges shall be reduced by a discount of thirty percent (30%) for those dwellings which are owned and inhabited by any person who is certified as eligible for the water discount program described in section 29-36(b). Whenever the board of assessors determines that a person is eligible for such water discount program, such board shall also determine said person to be eligible for a discount from the sewer/~~stormwater~~ use charges pursuant to this section, which certification shall continue for the same term as such person's certification for the water discount program; and said board shall forthwith so notify the Water and Sewer Division. Upon receipt of such notice, the Water and Sewer Division shall take the steps necessary to so reduce the bills issued for the ~~use of sewer/stormwater~~ use.

(ec) All bills issued under this section, properly numbered for identification, shall be made out in the office of the commissioner. Such bills, together with a warrant for their collection, shall be delivered to the comptroller of accounts for forwarding to the city collector-treasurer as soon as made out, and the city collector-treasurer shall thereupon assume responsibility for such collection. Bills shall be due and payable thirty (30) days from their issuance.

(ed) All charges shall constitute a lien upon the land connected with the public sewer from the time of assessment and shall continue for the same period and under the same conditions as a lien established under General Laws, Chapter 80.

(fe) If a bill for sewer use becomes a lien, it shall bear interest at the rate provided by law from thirty (30) days after the date of billing until it is committed as part of a tax.

(gf) The occupant of any building shall be liable for the payment of the sewer use charge for such building, and the owner shall also be liable.

(hg) Except where the properties served are owned, occupied and operated by one owner and not sublet to various tenants, the rates for each meter shall be figured independently of all other meters. In multiple tenant properties served by one meter, the rates shall be based upon water usage recorded from said meter billed to the owner accordingly.

(ih) The commissioner is authorized to make abatements and rebates of charges when disproportionate to the service rendered. The commissioner shall certify to the comptroller of accounts the amounts of abatements and rebates for forwarding to the city collector-treasurer. (Rev. Ords. 1973, § 18-18; Rev. Ords. 1979, § 29-64; Ord. No. R-153, 6-17-81; Ord. No. T-28, 6-5-89; Ord. No. T-77, 3-5-90; Ord. No. T-78, 3-5-90; Ord. No. U-5, 4-26-94; Ord. No. V-76, 5-1-96; Ord. No. V-124, 7-14-97; Ord. No. v-180, 6-15-98; Ord. No. V-123, 5-17-99; Ord. No. V-308, 6-19-00, Ord. No. W-47, 6-20-01; Ord. No. X-22, 7-8-02; Ord. No. X-56, 6-18-03; Ord. No. X-95, 06-21-04; Ord. No. X-98, 07-12-04; Ord. No. X-212, 05-24-06; Ord. X-220, 6-19-06; Ord. Y-22, 06-04-07; Ord. No. Z-29' 06-02-08; Ord. No. Z-49, 05-18-09; Ord. No. Z-56, 12-07-09; Ord. No. Z-64, 05-17-10; Ord. No Z-88, 5-23-11; Ord. No. Z-110, 05-07-12; Ord. No. A-23, 05-20-13; Ord. No. A-39, 05-05-14; Ord. No. A-52, 12-15-14; Ord. No. A-59, 05-04-15)

Historical note—Ord. Nos. T-77 and T-78 permitted certain estates with garden sprinkler meters to be billed on a water use basis only for water consumed prior to 12-30-90.



SETTI D. WARREN
MAYOR

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Office of the Mayor

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E-mail: swarren@newtonma.gov
David A. Olson, CMC
Newton, MA 02459
Newton, MA 02459

August 31, 2015

Honorable Board of Aldermen
Newton City Hall
1000 Commonwealth Avenue
Newton, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Board docket for consideration a request to authorize the appropriation of \$2,000,000 and authorize a general obligation borrowing of an equal amount for repairs to the Elliot Street Bridge. The bridge is co-owned by the Town of Needham (known as the Central Avenue Bridge) and the City of Newton. Both communities have hired BETA Group, Inc., to design the repairs. The design is about 50% complete.

Cost estimate for Elliot St Bridge reconstruction is \$4 million, to be shared equally between Needham and Newton. The bridge must be closed during reconstruction (4 to 6 months). A temporary bridge built to either side of the existing bridge is not feasible, as Needham has no land, only DCR park land which falls under Chap 97 (which cannot be taken for construction).

A replacement bridge, made of pre-stressed concrete arches with a stone fascia was considered. However preliminary estimates are 2 to 3 times the cost of rehabilitation of the existing bridge.

Thank you for your consideration of this matter.

Very truly yours,

Setti D. Warren
Mayor

1000 Commonwealth Avenue Newton, Massachusetts 02459

www.newtonma.gov



DEDICATED TO COMMUNITY EXCELLENCE

City of Newton



DEPARTMENT OF PUBLIC WORKS

OFFICE OF THE COMMISSIONER

1000 Commonwealth Avenue
Newton Centre, MA 02459-1449Setti D. Warren
Mayor

August 27, 2015

To: Maureen Lemieux, Chief of Staff and Chief Financial Officer

From: Jim McGonagle Commissioner

Subject: Docket Request for Elliot Street Bridge Repairs

I respectfully request a docket item be submitted for an authorization to obligate \$2,000,000 for repairs to the Elliot Street Bridge. The bridge is co-owned by the Town of Needham (known as the Central Avenue Bridge) and the City of Newton. Both communities have hired BETA Group, Inc., to design the repairs. The design is about 50% complete.

Mass DOT provides inspection reports regarding the structural condition of the bridge, and they report the following:

- Severely deteriorated open joints in the arch stones,
- Field stone severely deteriorating, which supports the stone arches,
- Severe differential settlement between "old" section and "newer" section of bridge,
- Many other minor structural issues
- Inspection rating decreased by Mass DOT from a 5 (fair) to a 4 (poor).
- Load rating decreased by Mass DOT from 20 Ton to 15 Ton.
- Fire Chiefs from both communities will not drive fire apparatus over the bridge.

Cost estimate for Elliot St Bridge reconstruction is \$4 million, to be shared equally between Needham and Newton. The bridge must be closed during reconstruction (4 to 6 months). A temporary bridge built to either side of the existing bridge is not feasible, as Needham has no land, only DCR park land which falls under Chap 97 (which cannot be taken for construction).

A replacement bridge, made of pre-stressed concrete arches with a stone fascia (to satisfy the Mass Historic Commission) was considered. However preliminary estimates are 2 to 3 times the cost of rehabilitation of the existing bridge.

Town of Needham has obligated funds for this project via their Town Meeting. DPW has previously included this project in the FY 2016 CIP. We would propose moving this up to the spring 2016 bond issue.

Please docket this item for consideration by the Board of Aldermen. Our consulting engineers will be available to discuss the technical aspects of the bridge reconstruction, as well as the logistics of closing the bridge during construction.

cc: David Wilkinson, Comptroller
Louis M. Taverna, City Engineer
Shane L. Mark, Operations Director
Richard Pishkin DPW Business Manager

Telephone: 617-796-1011 • Fax: 617-796-1050 • dturocy@newtonma.gov

ELLIOT STREET BRIDGE SUMMARY

The Central Avenue/Elliot Street Bridge, originally constructed prior to 1844, is a three-span stone masonry arch. In 1897, the bridge was widened by twelve feet on the upstream (southern) side for the Boston & Newton Street Railway. A sidewalk was built on new concrete piers on the downstream side in about 1970. In 1991, the downstream sidewalk was reconstructed and an upstream sidewalk was added. The bridge's 80-foot long roadway consists of one lane in each direction, and the total structure width, including sidewalks, ranges from approximately 46'-9" to 48'-9".

The arch is historically named Cook's Bridge and is listed as a contributing element to the Newton Upper Falls Historic District on both the United States Department of the Interior's National Register of Historic Places and the Massachusetts Historic Commission's State Register of Historic Places.

The stones of the bridge arches have shifted and cracked, resulting in reduced load capacity. The most recent load rating was performed in November 2000, and reduced loads are posted at each approach.

The proposed rehabilitation program will restore the bridge to allow it to support statutory truck loads and will include, but not be limited to, the following activities:

- The masonry arches will be repaired by removing and replacing the soil-gravel fill over the arches with reinforced concrete.
- The foundations will be strengthened by coring concrete-filled mini-piles through the existing stone piers and abutments down to ledge.
- The north spandrel wall will be removed and reconstructed by cutting the original stones and using them as a veneer on the wall of the new concrete arch infill.
- Amenities, including ornamental lighting, railings, and benches, will be added to the bridge.

The bridge will be closed to traffic during construction. Two simultaneous detour routes are planned:

- The southern route will detour eastbound traffic from Central Ave in Needham south onto Gould St, east onto Highland Ave, continuing east onto Needham St in Newton, north onto Oak St, and west onto Chestnut St to Elliot St. Westbound traffic will use the detour in reverse.
- The northern route will detour eastbound traffic from Central Ave in Needham north onto Cedar St, continuing north on Cedar St into Wellesley, east onto Route 9, continuing east on Route 9 into Newton, south onto Ellis St, and south onto Chestnut St to Elliot St. Westbound traffic will use the detour route in reverse except that traffic in Newton will go from Chestnut St directly to Route 9, bypassing Ellis St.
- Westbound truck traffic must use the southern detour route because of a low clearance bridge at the intersection of Chestnut St and Route 9 in Newton.

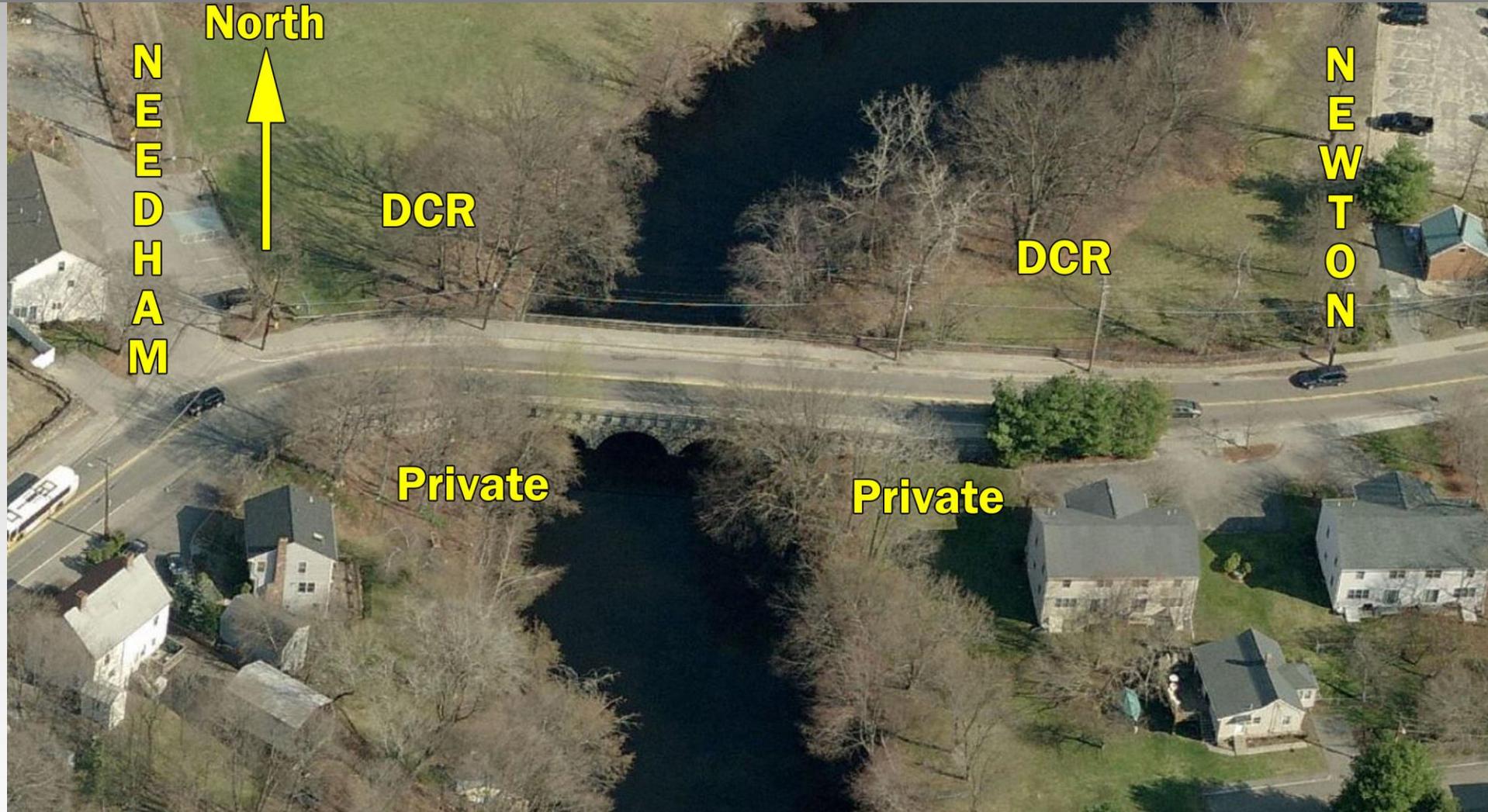
Rehabilitation of Central Avenue / Elliot Street Bridge



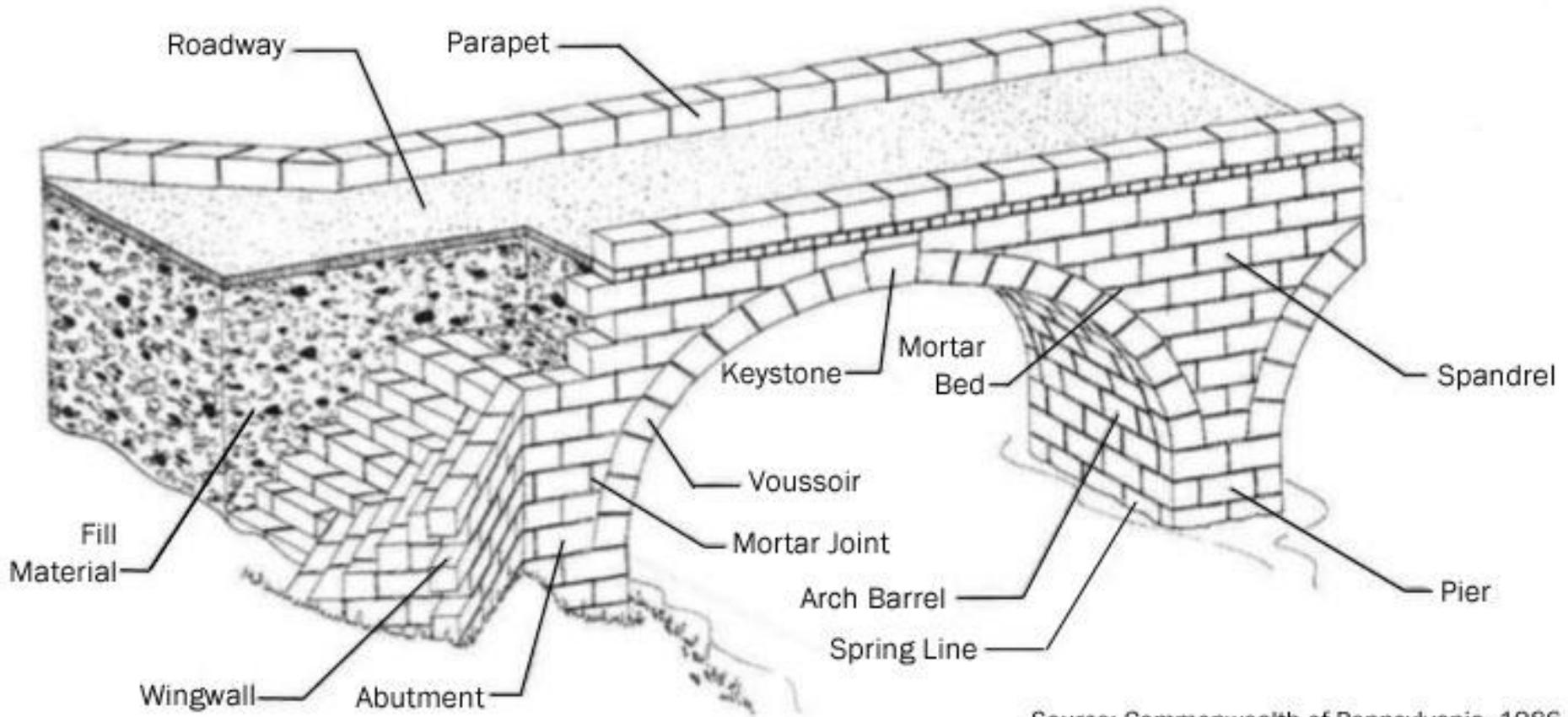
October 29, 2015



Overview

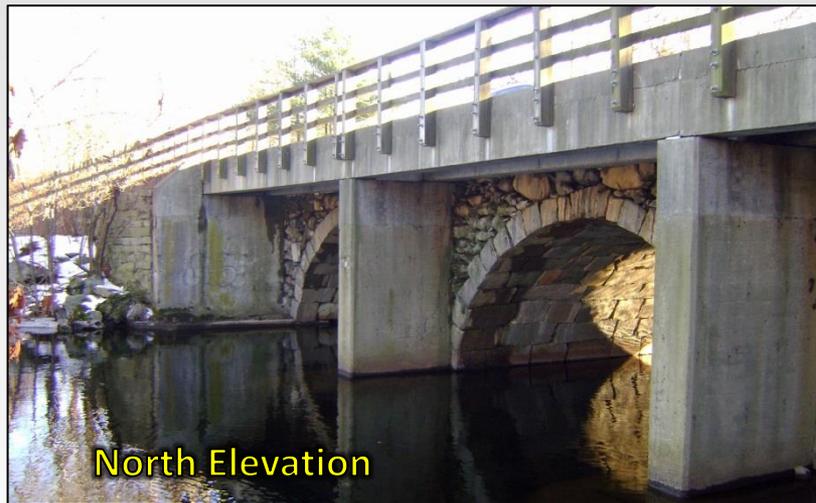


Arch Bridge Construction



Source: Commonwealth of Pennsylvania, 1986

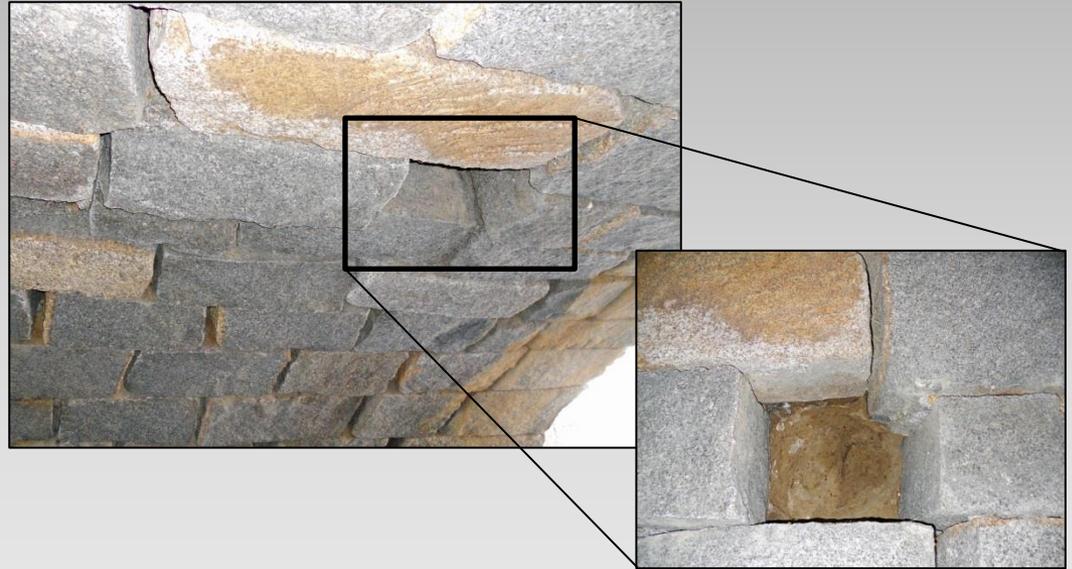
History



Cook's Bridge

- Newton Upper Falls Historic District Contributing Element
- Unknown Construction Date
- 1844: First Repair Records
- 1897: Widened from 25 ft to 40 ft
- 1970: North Sidewalk and Piers
- 1991: Roadway & Sidewalk Replaced, South Sidewalk Added

Deficiencies



Arch Barrel

- Deteriorated Stones along Spring Line
- Movement of Stones
- Large Gaps Between Stones
- Main Stones Fallen Out
- Reduced Load Capacity by MassDOT

Deficiencies



North Spandrel Wall

- Loose Stones Throughout
- Moveable by Hand
- Large Voids Behind Stones
- Soft/Breakable Stones



Northwest Wingwall

- Bulging Stone Wall
- Increased Fill and Loads from Sidewalk

Proposed Rehabilitation



Project Goals

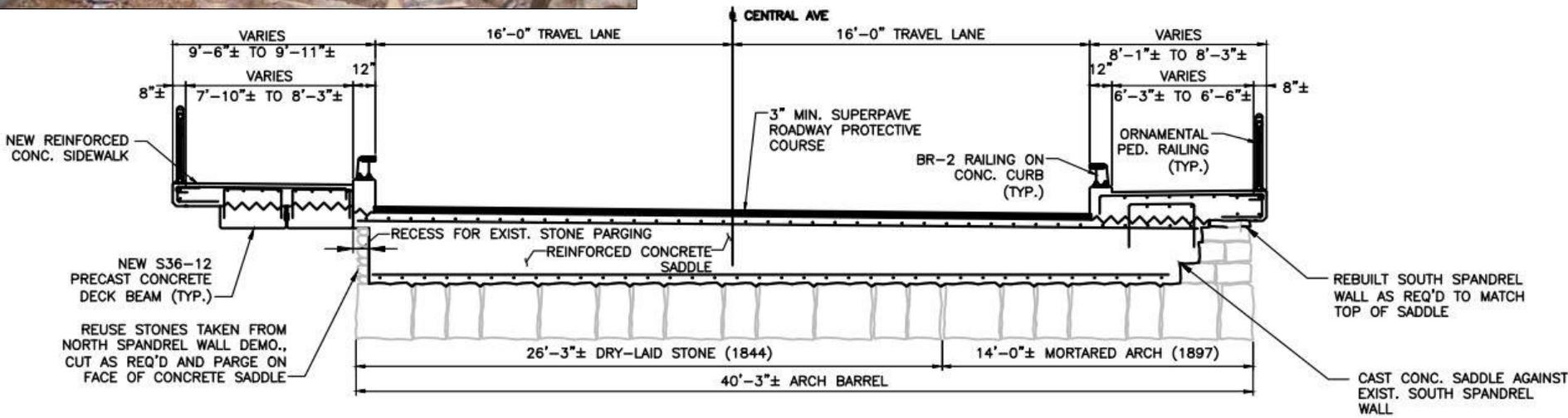
- Restore Load Capacity
- Stop Movement of Stones
- Repair Voids
- Stop Water Infiltration/Loss of Fill
- Long Term Fix (75+ Year Service Life)
- Comply with Section 106 of Historic Preservation Act

Proposed Rehabilitation

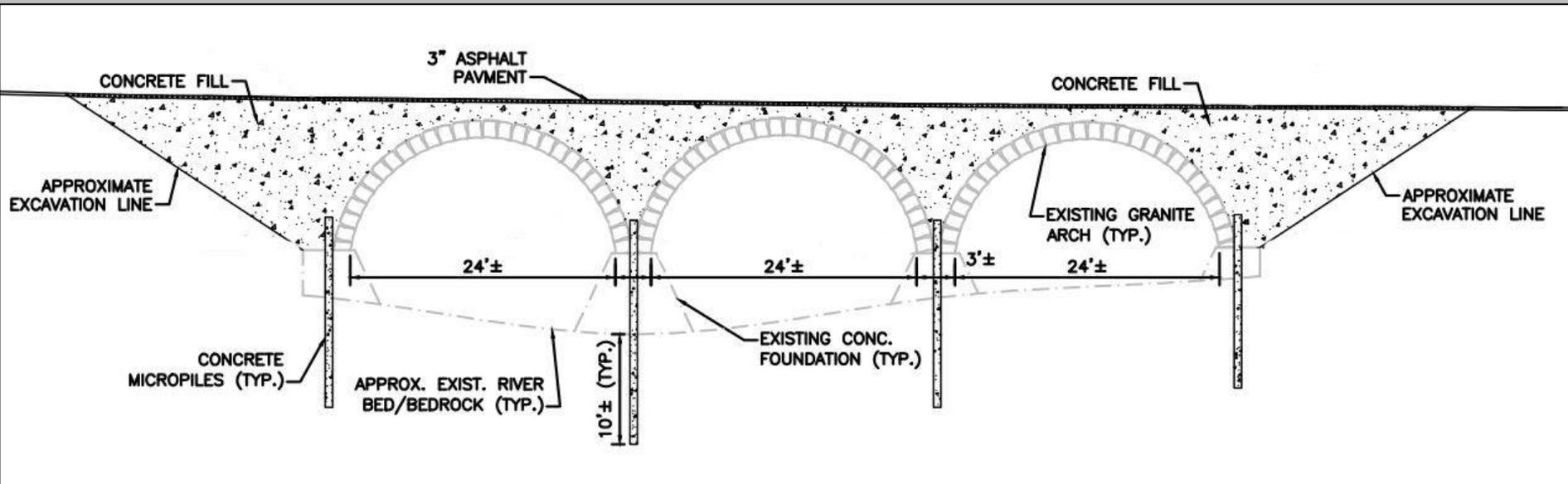
Concrete Arch Saddle

- Remove Gravel Fill and Replace with Reinforced Concrete
- Remove North Spandrel Wall / Reuse Stones as Veneer

Photo: New York Department of Transportation, 2010



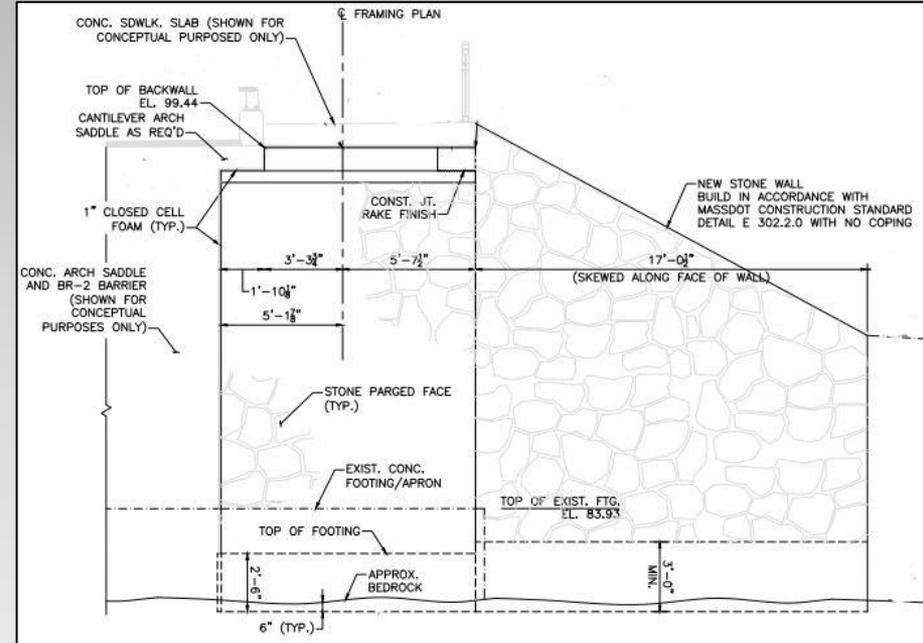
Proposed Rehabilitation



Concrete Filled Micropiles

- Drilled Through Existing Piers and Abutments
- Supports Arch Saddle
- Relieves Deteriorated Stones at Spring Line

Proposed Rehabilitation



Northwest Wingwall

- Replace Wall
- Concrete Wall with Stone Veneer
- Reuse Original Stones

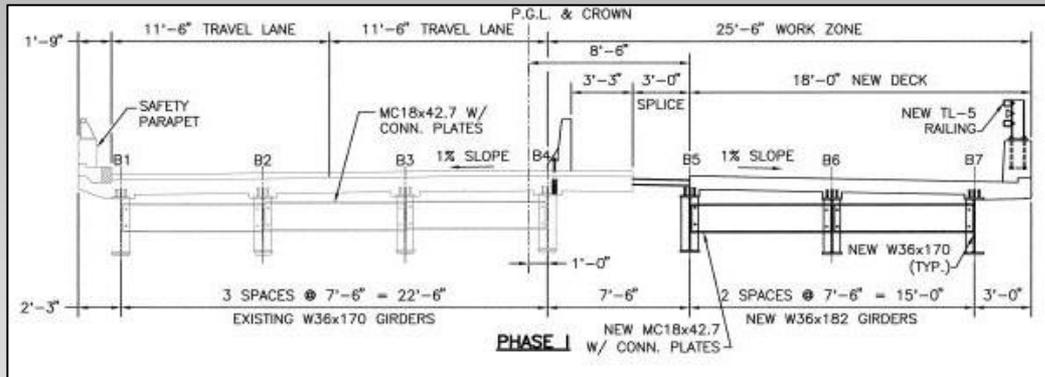
Pedestrian Amenities

Pedestrian Amenities

- Wider Sidewalks
- Ornamental Railings
- Vehicle Railing at Curb
- Benches
- Ornamental Lighting
- Banners
- Interpretive Panel
- Removal of Aerial Wires



Why Must Bridge Be Closed?



Conventional Bridge

- Concrete Deck on Beams
- Beams Support Strip of Deck
- Cut Deck without Impacting Adjacent Section



Stone Arch Bridge

- Fill Cannot be Excavated Vertically Without Temporary Sheeting
 - Not Possible on Bridge
- Unloaded Sections of Arch would be Vulnerable to Unbalanced Loads and Vibrations from Traffic

Photo: Washington County DPW, Maryland, 2009

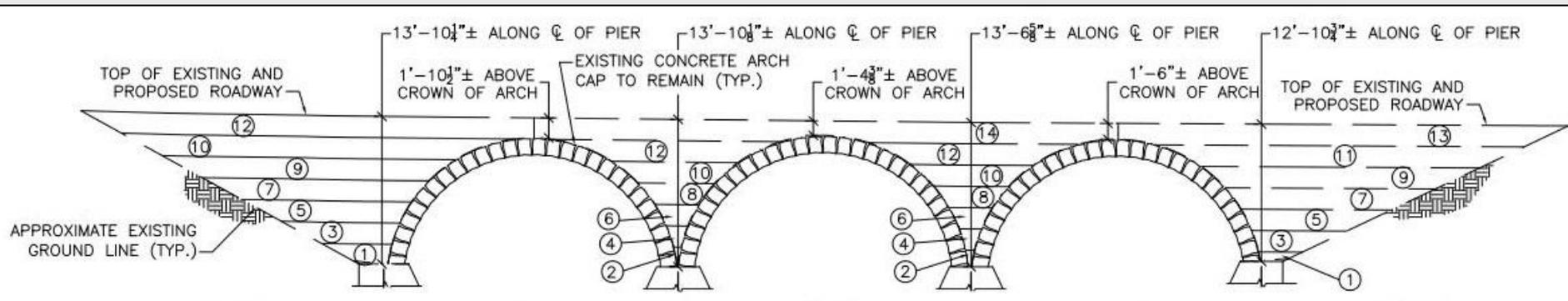
Closure Period

Bridge Closure

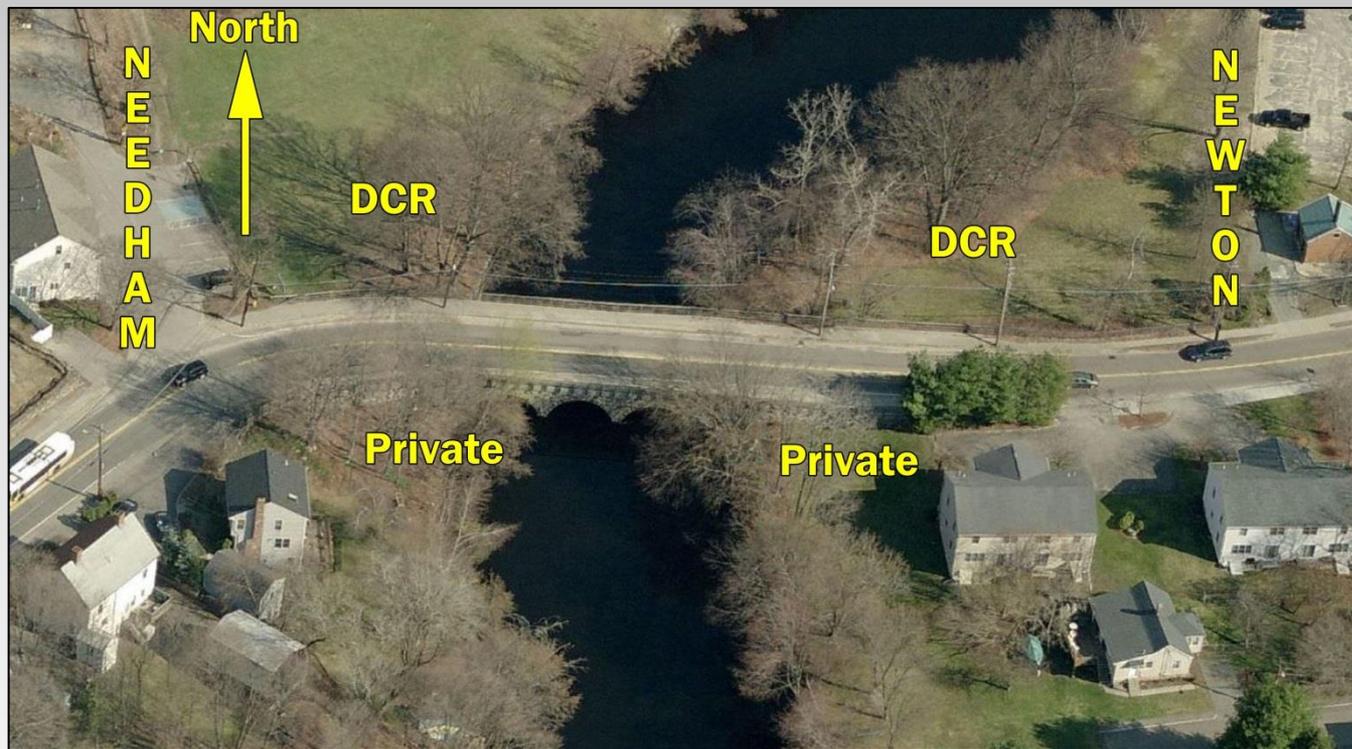
- Anticipated July to Dec. 2016
 - Preliminary Analysis
 - Detailed Analysis to Come
- Delicate Excavation and Concrete Pour Sequences
- Concrete Cure Times
- Utility Coordination

Efforts to Minimize Closure

- Don't Close Until Prep Work Finished & Contractor Ready
- Reopen ASAP
- Reduced Lanes Before & After
- Incentive/Disincentive Clauses
 - Use of Extended Work Shifts
 - Preliminary Analysis Indicates Approx 1.5 Month Reduction



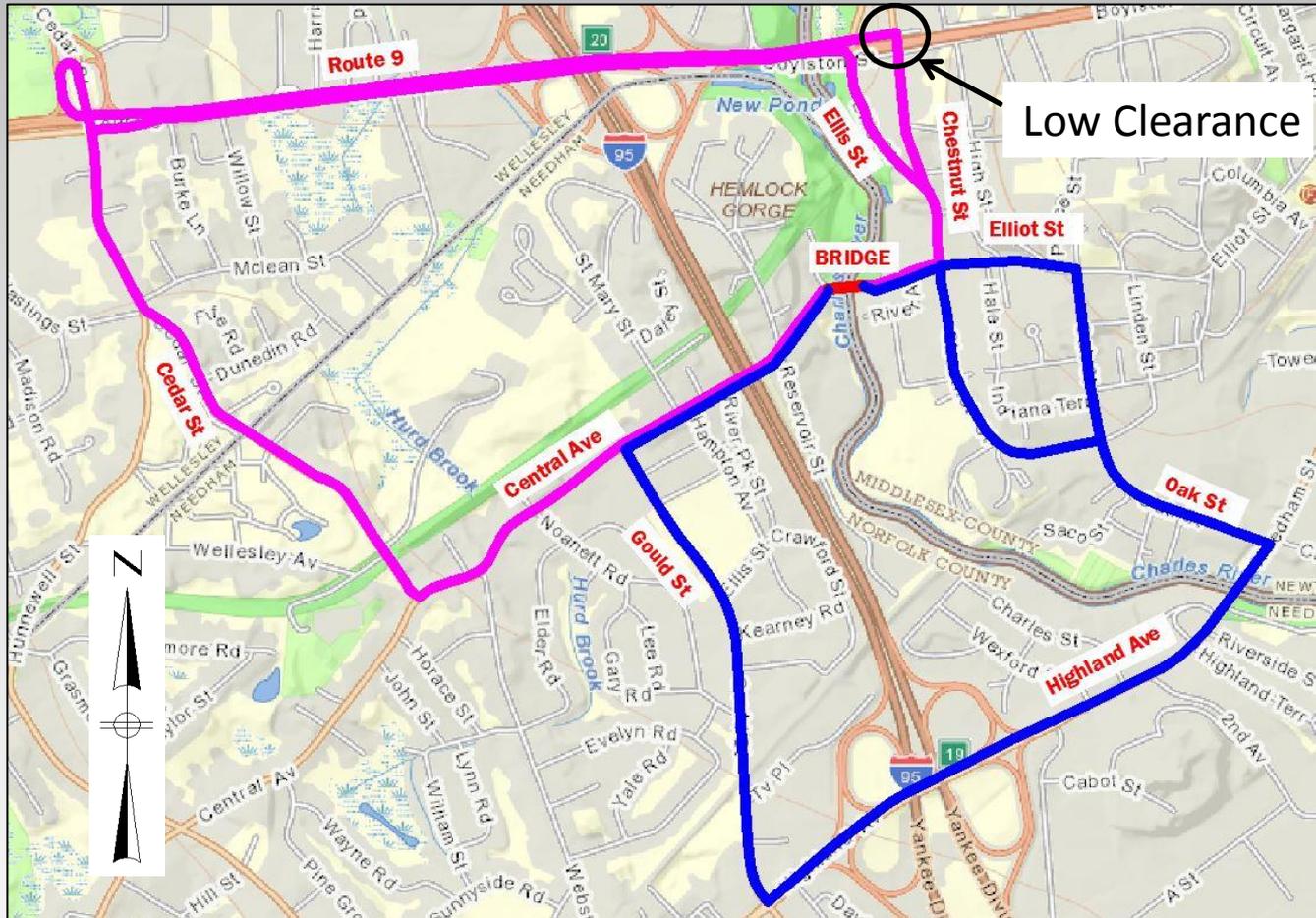
Why Not a Bypass Bridge?



Issues

- No Right-of-Way
- Environmental Impacts
- Historical Impacts
- Utility Impacts
- Schedule
- Cost

Detour Route



Detour

- Two Routes
- Northern (Pink):
Cedar, Route 9,
Ellis/Chestnut
- Southern (Blue):
Gould, Highland,
Oak/Chestnut
- Westbound Trucks
Must Use Southern
(Blue) Due to Low
Clearance at
Chestnut/Route 9

Why This Rehabilitation Method?

Meets Project Goals

- ✓ Restores Load Capacity
- ✓ Stops Movement of Stones
- ✓ Repairs Voids
- ✓ Stops Water Infiltration/Loss of Fill
- ✓ Long Term Fix (75+ Year Service Life)
- ✓ Complies with Section 106 of Historic Preservation Act

Investigated Alternatives

- ⊘ Bridge over Existing
- ⊘ Bridge within Confines of Spandrels
- ⊘ Slab-On-Grade
- ⊘ ARCHTEC Reinforcing
- ⊘ Rock Bolt Reinforcing
- ⊘ Lightweight Fill
- ⊘ Complete Replacement

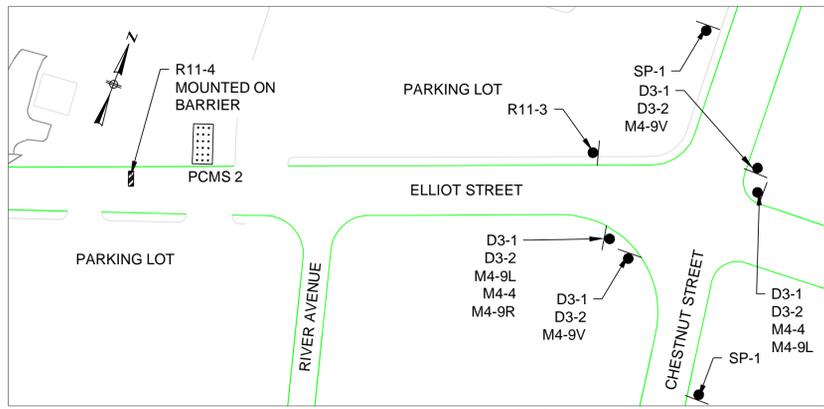
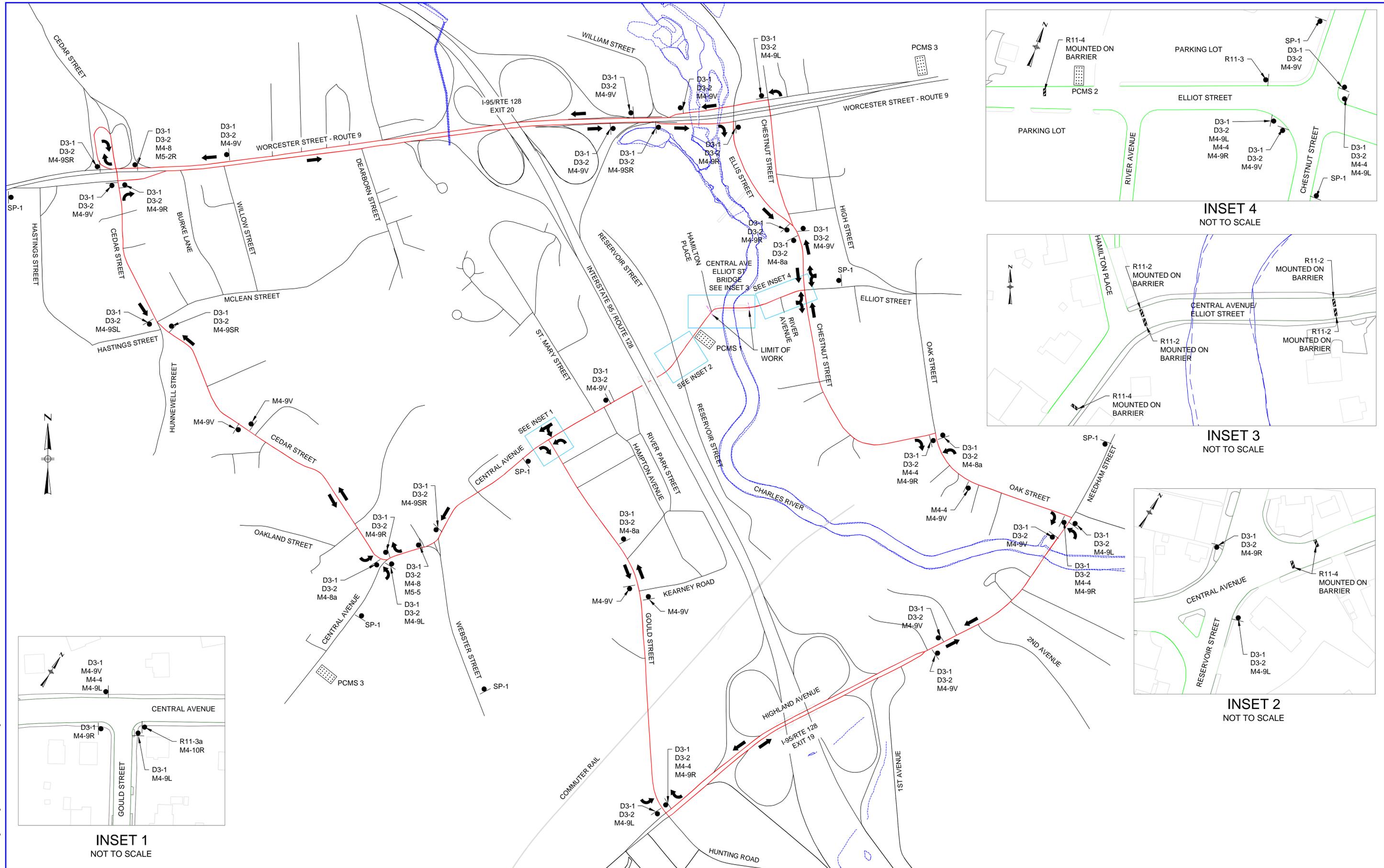
What if Nothing is Done?

Future Concerns

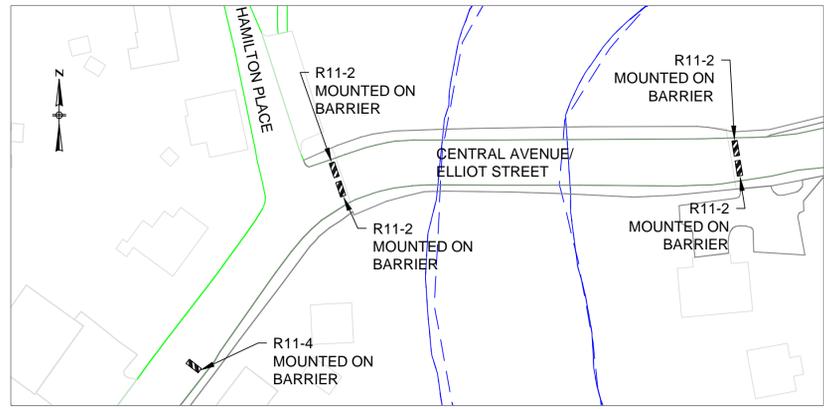
- Continued Movement of Stones
- Loss of Stones and Deterioration
- Reduced Load Rating / Potential Truck Exclusion
- Liability to Town/City
- Sudden Failure
- Potential for Longer Closure and More Expensive Replacement

Conclusion

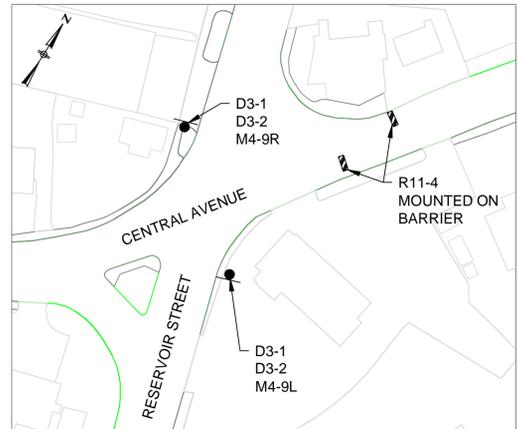
Questions?



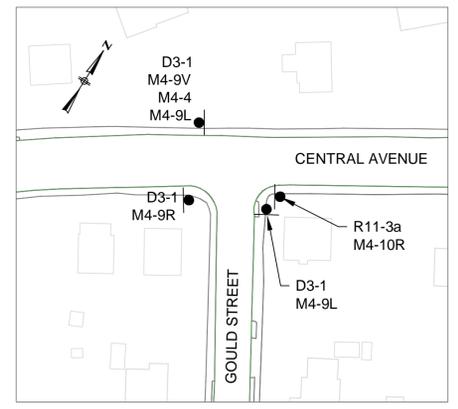
INSET 4
NOT TO SCALE



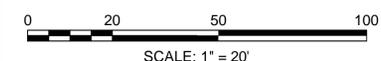
INSET 3
NOT TO SCALE



INSET 2
NOT TO SCALE



INSET 1
NOT TO SCALE



**CENTRAL AVENUE/ELLIOT STREET
OVER CHARLES RIVER
DETOUR PLAN
NEEDHAM/NEWTON, MASSACHUSETTS**

ISSUE DATE August 24, 2015
SHEET 14 OF 24

O:\5000a\5000 - Needham - Elliot St Bridge\Drawing Files\Plan Set\5000 DETOUR.dwg

| NUMBER | DATE | MADE BY | CHECKED BY | DESCRIPTION |
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| PREPARED BY: | |
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UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION



Looking East Toward Newton



Looking North



Looking South



Looking West Toward Needham



SETTI D. WARREN
MAYOR

City of Newton, Massachusetts
Office of the Mayor

#324-15

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(617) 796-1089

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swarren@newtonma.gov

November 9, 2015

Honorable Board of Aldermen
Newton City Hall
1000 Commonwealth Avenue
Newton, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Board docket for consideration a request to authorize the appropriation of \$400,000 and authorize a general obligation borrowing of an equal amount for the replacement of a Combination Sewer Cleaner for the Utilities Division. The new vehicle will allow the Utilities division to continue daily operation and maintenance on the wastewater/storm water collection system, and will have the added advantage of performing hydro-excavation in confined areas when performing repairs on the public infrastructure. Additionally, the current vehicle has accumulated repair costs of \$230,607 that have surpassed the initial purchase cost of the vehicle.

Thank you for your consideration of this matter.

Very truly yours,

Setti D. Warren
Mayor

RECEIVED
NOVEMBER 9, 2015
2015 NOV - 9 PM 3:43
DAVID A. O'CONNOR, CLERK
NEWTON, MA 02459



City of Newton



DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449

Setti D. Warren
Mayor

October 29, 2015

To: Maureen Lemieux, Chief of Staff and Chief Financial Officer
From: James McGonagle, Commissioner of Public Works
Subject: Request for Sewer Bond Borrowing Authorization,
\$400,000 for Combination Sewer Cleaner Vehicle

I respectfully request authorization to borrow up to \$400,000 for the purchase of a Combination Sewer Cleaner vehicle to replace the Utilities Division's existing 2003 sewer Cleaner vehicle (Vactor). This funding would allow Public Works/Utilities Division to continue daily operation and maintenance on the wastewater/storm water collection system. The proposed Combination Sewer Cleaner will have the added advantage to perform hydro-excavation in confined areas when performing repairs on the public infrastructure. To date Public Works/Utilities Division has accumulated \$230,607 in repairs to the 2003 Sewer Cleaner which is approximately \$10,000 greater than the purchase of the vehicle.

Please docket this request with the City Clerk's office for consideration by the Honorable Board of Aldermen.

cc: Theodore Jerdee, Acting Director of Utilities
Richard Pishkin, DPW Budget Director

SPECIFICATIONS - COMBINATION SEWER CLEANER

PD4290H/1000 (827 at 18")

COMPLY, Indicate: Yes or No

GENERAL

Yes No

The machine is capable of removing stones, grit, grease, sludge and other debris from sanitary sewer and/or storm drain lines by the flushing action of high-pressure water. The high-pressure sewer cleaner operates independent of the vacuum system.

The machine includes an air conveying vacuum system to provide for the simultaneous removal of the debris flushed to the manhole by the high-pressure water system or for the removal of debris from sewers, sumps, catch basins, digesters, wet wells, bar screens, etc.

The machine is capable of being operated by one man, with all operating controls for high-pressure water pump, hose reel, and vacuum, located at the front of the machine for safety.

DEBRIS BODY

Yes No

Debris storage body has a minimum usable liquid capacity of 9 cubic yards. The debris body shall be round for maximum strength and constructed of 3/16 inch ASTM A242 Corten "A" steel for enhanced corrosion resistance.

The rear door shall be dished and flanged for maximum strength, full opening, hinged at the top with low profile and adjustable style hinges.

There shall be a 6" diameter liquid drain valve, "knife valve type" and screen weldment inside for removing excess liquids. Drain will have 10 feet of 6 inch lay flat hose.

The rear door shall be supplied with a debris deflector shield located inside the debris tank that encompasses 75 percent of the rear door. The debris deflector shield shall deflect material from rear door, and aid in draining off excess liquids.

A rear door safety prop shall be provided. For ease of maintenance there shall be no hydraulic components located inside the debris body or rear door.

The debris body has five (5) externally mounted door locks that lock hydraulically. One manual T bolt is installed for operator safety. Rear door is opened and closed hydraulically. The hydraulic locks shall be operated by one (1) sequential control.

Dual steel weldments with stainless steel screen 8" x 28" each providing up to 1200 square inches of added filtration for the vacuum system shall be provided inside the debris tank. These weldments shall be removable and require no cutting or welding.

A double acting power up/power down hydraulic scissors lift mechanism will be provided to raise body to a minimum 60 degree angle. The scissors lift mechanism shall be designed to support a minimum of 24 inches of the debris tank width to provide stability and when dumping on uneven ground. The lift capacity of hydraulic scissors lift cylinder is 56,000 lbs.

Dump controls are located on curbside mid-ship of the unit, well forward of the dumping area for operator safety. A manual override system is provided in case of system failure.

The debris body has a five year warranty. A copy of manufacturer's warranty statement shall be enclosed with bid. If pro-rated so state: _____

An internal polyethylene float device with external indicator is supplied to show when body is loaded to capacity.

AUTOMATIC VACUUM BREAKER

Yes No

The automatic vacuum breaker assembly is located inside the body.

The automatic vacuum breaker assembly shall be controlled by an electric over hydraulic circuit. The entire system shall be replaceable via a bolt on assembly. The assembly shall consist of a 12" inlet and two 8" ports that

provide air flow to the vacuum system.

A full indication activates an automatic vacuum breaker shut down system that completely shuts down 100 percent of the airflow to the vacuum system to prevent overfilling and wastewater discharge into the atmosphere.

The vacuum breaker system is automatically activated (closed) when the parking brake system is released to eliminate carryover during transit.

The system is controlled/activated, at the front hose reel control station. This enables the operator to pick up large debris with boom and place debris on the road surface. This system can be used for safety in the event suction must be shut off in case of an emergency.

POSITIVE DISPLACEMENT BLOWER

Yes No

A lobe type positive displacement blower shall be provided capable of 6000 CFM's and 18" of Hg. with cyclone separator. Control of the blower regarding start, stop and the rate of vacuum suction is performed from the front of the truck. A vacuum suction breaker disconnect switch is provided to enable operator to pick up large debris with boom and place debris on road surface. The vacuum system shall operate independent of the high-pressure water system.

The compressor is driven by the chassis engine via a closed loop hydrostatic system using a variable high volume piston pump and motor. The high volume displacement pump shall provide the same vacuum performance at 30% lower engine rpm. The lower operating rpm shall reduce fuel consumption by as much as 40%. This system shall include a heat exchanger for extreme ambient conditions and to maintain the pump suction oil temp at 160 deg. F. max. The heat exchanger shall be protected by a 30-micron filter and cold weather by pass valve. Hydrostatic loop filtration shall be accomplished by a 10 Beta micron return filter and a 10-micron Absolute (no bypass) charge filter.

The blower is protected by (2) two 3" diameter vacuum relief valves. The system incorporates an air/water separator and a sound silencer to separate material before it enters blower and to ensure quiet operation.

A means of starting, stopping and varying the vacuum suction from operator station at the front of the machine is provided.

The blower is mounted on a frame independent of the water tank.

Unit must be capable of vacuuming under water without air induction. A manometer/vacuum test may be required to demonstrate the system performance.

The positive displacement blower has a 12-month non-prorated warranty.

VACUUM PICK UP HOSE

Yes No

Shall be front loading, attached at the front of the machine in order to provide ease of positioning the machine over the manhole, as well as afford maximum safety for the operator.

The 8" will be mounted on a boom that will provide a minimum of 18' vertical lift utilizing dual hydraulic cylinder and 230 degree of boom rotation powered hydraulically for non-interrupted smooth movement. Boom to have a lift capacity of 500 lbs. at the front bumper.

The boom will be powered by an electric over hydraulic system: up/down by dual lift cylinders. The right/left movements shall be hydraulic via worm gear rotation.

The boom shall hydraulically telescope a minimum of 10 ft. forward from the operator's station. The height of the boom shall not change while the boom is being telescoped. A manual override system shall be provided for right/left, and up/down functions in case of system failure.

A state-of-the-art Omnibus electronic control system with electronic joystick, and color monitor, will be supplied mounted on the hose reel. The system performs numerous functions for boom, auxiliary engine (if supplied), hose reel, and vehicle control, etc. which are electronically monitored on screen. A wireless remote control will be provided for Boom, Vacuum Breaker, Chassis Throttle, and Debris Body functions. A manual override system shall be provided for right/left, and up/down functions in case of system failure.

A boom coverage chart shall be provided stating the square feet the boom covers.

8 inch diameter pipe extensions with clamps will be provided and carried on the truck as follows:

- 1 6-1/2' Catch Basin Nozzle
- 2 6' Aluminum Pipe Extension
- 3 5' Aluminum Pipe Extension
- 1 3' Aluminum Pipe Extension
- 1 4' aluminum pipe

WATER SUPPLY

Yes No

The water tanks shall have a minimum usable capacity of 1000 U.S. gallons.

The water tanks shall be constructed of non-corrosive, non-metallic, durable, cross-linked polyethylene to eliminate rust, corrosion, and stress cracking.

The water tanks shall be mounted at and below the truck frame level to provide a low center of gravity for truck stability.

A 2-1/2 inch diameter x 25 feet long hydrant hose with hydrant wrench is supplied on the unit.

An anti-siphon fill device is installed on the unit.

Inspection ports shall be provided to fill or to add chemicals to the water system.

A sight gauge to indicate water level is located within sight of the operator station.

The water tanks are protected by a minimum of 11 gauge steel plating mounted below the water tanks for protection against road hazards when unit travels over the road, off the road or to landfills.

The water tanks carry a ten year replacement warranty.

AUXILIARY ENGINE (WATER PUMP DRIVE ENGINE)

Yes No

The auxiliary engine used to drive the water pump is a liquid cooled, wastegate, turbo charged, after cooled, common rail, diesel powered, and 10 cylinder heavy-duty industrial engine.

The engine shall have a minimum cubic inch displacement of 415 CID and rated at 222 BHP at 2400 RPM. The engine shall contain integrated liners, one piece cast cylinder head and an electronic speed governor.

An electronic digital diagnostic and fault monitoring panel shall be mounted on the driver's side of the unit and be able to display various engine operation conditions including but not limited to engine rpm, hours, percentage engine load, coolant temperature, oil pressure, current and stored engine faults and current fuel consumption. A standard integrated safety shutdown system will be provided in the engine ECU and will shut the engine down in the event of low oil pressure or excessive coolant temperature. The ignition system start stop switch will be located at the operator's station. The auxiliary engine shall be shrouded and have a hinged door on the driver's side of the unit. The engine oil dipstick, oil filter, fuel filters, and air filters are accessed from the ground level on the driver's side of the unit.

HIGH-PRESSURE WATER PUMP

Yes No

The high pressure water pump shall be rated to deliver smooth continuous pressure and flow through the entire flow range of the pump. The high pressure shall have smooth continuous flow for both the high pressure system and the hand gun system.

A continuous duty flow of 50 GPM and 3000 PSI shall be provided.

High-pressure relief valves are provided for both the high-pressure system and hand gun system.

The water pump operates independently of the vacuum system and is powered by the auxiliary engine via clutch less, direct dual power band drive system.

The high-pressure water pump drive system carries a five year replacement warranty.

Warranty excludes the drive engine, i.e. auxiliary engine.

The water pump is capable of running dry.

Controls for starting and stopping the water pump and to vary the flow and pressure shall be at the front hose reel operator's station.

The high-pressure water pump is equipped with a cold weather drain valve. The valve allows the operator to completely drain the high-pressure pump.

HOSE REEL ASSEMBLY

Yes No

The hose reel assembly is mounted on the front of the vehicle. The hose reel shall have a minimum of 30" inside diameter with a capacity of 600' x 1" hose. The hose reel is hydraulically powered in both directions by means of a double chain and sprocket drive. The controls for operating the motor have a flow control device to regulate the rotational speed of the reel in both directions. All hydraulic hoses are behind a steel housing to protect operator from hydraulic oil if a hose fails. The hydraulic motor, chain, and sprockets have a protective cover or are mounted on the radiator side of the hose reel for operator safety. The hose reel articulates 180 degrees to the driver's side allowing operator to work in any position through this arc. This allows greater flexibility in truck placement for manholes located in tough areas and provides greater safety to the operator. Reel extends beyond the width of unit for greater flexibility for positioning reel over offset manholes, catch basins, etc. A hydraulically controlled outrigger leg is supplied that comes in contact with the ground at any one position. A warning light is located in the cab to warn the operator that the outrigger leg is not in its transported position prior to moving the unit. A manual bypass system for the hose reel assembly is provided to manually pull the reel assembly away from its transported position. This feature allows operator to check fluids without starting engines.

JET HOSE

Yes No

600' x 3/4" jet rodder hose will be supplied rated for 3000 PSI working pressure and 7500 PSI burst pressure.

A heavy duty hose guide with 25' of nylon rope will be provided.

Nozzles shall be hardened steel with replaceable ceramic orifices as follows: 1) Chisel head penetrator & 1) standard sanitary.

- 1 30 GPM nozzle, spare
- 1 Aluminum storm nozzle
- 1 Brass flusher nozzle

MANHOLE CLEANING WATER SYSTEM (HAND GUN)

Yes No

The high-pressure pump and independent water tank assembly supplied shall be used for manhole cleaning. A smooth continuous flow of 20 GPM and pressure of 600 PSI shall be provided for ease of operation. A hand gun pressure relief valve set at 600 PSI shall be provided. One full functioning hand gun with on/off hand control, replaceable nozzle tip, 12 inch extension, adjustable spray and 25' x 1/2" hose will be provided.

The hand gun will attach to the system via a quick couple connection at the curbside of the unit. To avoid being coiled at the operator's station a hand gun holder will be provided at the front bumper.

HYDRAULIC SYSTEM AND LUBRICATION

Yes No

The hydraulic system has a 55-gallon capacity.

The hydraulic system shall incorporate a main shut off valve in case of hydraulic failure.

The hydraulic system shall incorporate hydraulic pressure relief valves and pressure gauges for ease of trouble shooting and maintenance.

The unit is equipped on the passenger side, mid-section of the module, a permanent weatherproof white vinyl lubrication chart that points out lubrication points on the module and specifies what type of lubrication and hydraulic fluids are required. The chart also specifies the frequency of each lubrication point.

Remote plumbed grease fittings are provided for the vacuum compressor, boom rotation, and water pump drive areas.

ACCESSORIES
 Yes No

A minimum twelve (12) month manufacturer's guarantee on the unit will be provided.

- 2 35" x 14" x 24" side mounted tool boxes will be provided.
- 1 Debris body power flush out system
- 1 Rear splash shield, door flange mounted
- 1 Rubber pad on standard deflector
- 1 Artic Winter Recirculating System for rodder hose includes plumbing to upper water tanks.
- 1 Air purge system
- 1 2 1/2" water tank drain gate valve assembly
- 1 Variable flow valve
- 1 Lazy Susan style, deck mounted pipe rack, holds 5 pipe
- 1 Folding pipe rack holds 3 pieces of pipe, tank mounted, curbside
- 1 Storage box behind cab, 16" x 42" x 96"
- 1 Long handle storage / PVC (2) mounted in storage box under shelf.
- 1 6-Way Pendant Control Station
- 1 Back up camera with color monitor, rear camera head.
- 1 Hydro Excavation package: 50' retractable handgun hose reel with 50' of 1/2" of high pressure hose, HP/Quick disconnect, heavy duty HP unloader valve, main control ball valve, 7/2" x 1/2" Sch. 80 Lance w/Quick disconnect, Single Fwd. Spray Nozzle, Horizontal Hand.
- 1 Cone storage rack
- 1 Rear mounted tow hooks
- 1 Auxiliary engine remote oil drain
- 1 Dual roller level wind guide ilo single
- 1 10' leader hose
- 1 Water pump remote oil drain
- 1 John Deere 4 Cylinder Diesel Option 140 HP @ 2400 RPM 275 CID in lieu of gas auxiliary engine.

LIGHTING
 Yes No

The entire module electrical system is vapor sealed to eliminate moisture damage.

All wiring is color-coded, labeled and run in sealed terminal enclosures.

All module circuits are protected by circuit breakers.

Clearance lights and reflectors are furnished in accordance with D.O.T. requirements.

- 1 LED strobe light with limb guard, rear debris tank door mounted
- 1 4 LED strobes - (2) front bumper, (2) rear bumper
- 1 LED arrow board, rear debris tank door mounted
- 1 Hand held spot light - LED

PAINT
 Yes No

Unit paint surface is shot blasted, primed and sanded prior to paint.

Unit to be painted Medium Blue with DuPont Imron 5000 polyurethane paint.

Unit shall have reflective white side and boom stripes and rear door chevrons

Chassis shall be painted manufacturers standard white.

TRAINING AND MANUALS
 Yes No

Operator training will be conducted by a factory-trained representative for a minimum of one day at the time of delivery. 3 copies of the operating and maintenance manual for the sewer cleaner module shall be provided upon unit delivery. An operational video will be provided with the unit.

CHASSIS SPECIFICATIONS

GENERAL SUMMARY

114SD 4X2 AUTO

GVWR: 43000 LBS, FRONT: 20000 LBS, REAR: 23000 LBS

WB: 252" CA: 168.5" AF: 75"

ENGINE, DIESEL: CUM ISL 370 HP @ 2000RPM, 2100 GOV RPM, 1250 LB/FT @ 1400RPM

TRANSMISSION, AUTOMATIC: ALLISON 3000 RDS WITH PTO PROVISION

AXLE, FRONT NON-DRIVING: DETROIT DA-F-20.0-5 20000 LBS FL1 71.0 KPI/3.74
DROP SINGLE FRONT AXLE

AXLE, REAR, SINGLE: RS-23-160 23000-LB CAPACITY, RATIO 5.63

ELECTRONIC PARAMETERS

GOVERNOR: PTO GOVERNOR RAMP RATE – 200 RPM PER SECOND

ENGINE EQUIPMENT

CUMMINS ISL 370 HP @ 2000RPM, 2100 GOV RPM, 1250 LB/FT @ 1400RPM

AIR COMPRESSOR: CUMMINS TURBOCHARGED 18.7 CFM WITH INTERNAL SAFETY VALVE

EXHAUST SYSTEM: SINGLE, VERTICL TAILPIPE & GUARD

MUFFLER/TAILPIPE: AFTERTREATMENT, UNDER STEP MOUNTED

SWITCH, EXHAUST: CUMMINS EXHAUST BRAKE INTEGRAL WITH VARIABLE GEOMETRY TURBO WITH ON/OFF DASH SWITCH

JUMP START: POSITIVE AND NEGATIVE POSTS LOCATED ON FRAME NEXT TO STARTER

ALTERNATOR: DR 12V 160 AMP 28-SI QUADRAMOUNT PAD WITH REMOTE BATTERY VOLT SENSE

BATTERY SYSTEM: (2) ALLIANCE MODEL 1231, GROUP 31, 12 VOLT MAINTENANCE FREE 2250 CCA THREADED STUD BATTERIES

BATTERY BOX WITH COVER: NON-POLISHED

FUEL FILTER: CUMMINS SPIN ON TYPE

FUEL FILTER/ WATER SEPARATOR: ALLIANCE WITH PRIMER PUMP

OIL FILTER, ENGINE: COMBINATION FULL FLOW/BYPASS

FAN DRIVES: HORTON 2-SPEED DRIVEMASTER POLAR EXTREME FAN DRIVE

RADIATOR: 1300 SQ" ALUMINUM

ANTI-FREEZE: ANTIFREEZE TO -34F, NOAT EXTENDED LIFE COOLANT

HOSE CLAMPS, RADIATOR HOSES: GATES BLUE STRIPE OR EQUIVALENT, CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES

AIR CLEANER: DONALDSON, SIDE OF HOOD AIR INTAKE WITH FIREWALL

STARTING MOTOR: DELCO 38MT HD 12V WITH INTEGRATED MAGNETIC SWITCH

TRANSMISSION EQUIPMENT

ALLISON 3000RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION

TRANSMISSION OIL PAN: MAGNETIC

TRANSMISSION SHIFT CONTROL: PUSH BUTTON, ELECTRONIC, DASH MOUNTED

ALLISON VOCATIONAL PACKAGE 223 – AVAILABLE ON 3000/4000 PRODUCT FAMILIES WITH VOCATIONAL MODELS RDS, HS, MH, AND TRV

SHIFT CONTROL PARAMETERS: PRIMARY AND SECONDARY – LOWEST GEAR 1, START GEAR 1, HIGHEST GEAR 6

PTO EFFECTS, ENGINE FRONT: MOUNTED RH SIDE OF MAIN TRANSMISSION

WIRING, CHASSIS: VEHICLE INTERFACE WIRING WITH BODY BUILDER
CONNECTOR MOUNTED BACK OF CAB

FRONT AXLE AND EQUIPMENT

DETROIT DA-F-20.0-5 20000 LBS FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE

BRAKES, FRONT, AIR-CAM: MERITOR 16.5X6 Q+ CAST SPIDER CAM

SLACK ADJUSTERS, AUTOMATIC: MERITOR, FRONT

DUST SHIELDS: FRONT BRAKE

STEERING GEAR: TRW THP-60 WITH RCH45 AUXILIARY GEAR

POWER STEERING: 4 QUART POWER STEERING RESERVOIR

FRONT SUSPENSION

SUSPENSION, FRONT: 20000LBS CAPACITY, WITH SHOCK ABSORBERS

SPRING PINS: GRAPHITE BRONZE BUSHINGS WITH SEALS

REAR AXLE AND EQUIPMENT

AXLE, REAR, SINGLE: RS-23-160 23000 LBS CAPACITY, RATIO 5.63

REAR AXLE DRAIN PLUG: MAGNETIC FOR SINGLE REAR AXLE

DUST SHIELDS: REAR BRAKE

SLACK ADJUSTERS, AUTOMATIC: MERITOR, REAR

BRAKE CHAMBERS, REAR AXLE: HALDEX GOLDSEAL LONGSTROKE 1-DRIVE
AXLE SPRING PARKING CHAMBERS

BRAKES, REAR, AIR-CAM: MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES,
DOUBLE ANCHOR, FABRICATED SHOES

REAR SUSPENSION

SUSPENSION, RR, SPRING-2.25" AXLE SPACER

SUSPENSION, REAR, SINGLE: 30000 LBS CAPACITY, STANDARD U-BOLT PAD,
FORE/AFT CONTROL RODS

BRAKE SYSTEM

BRAKE SYSTEM: WABCO 4S/4M ABS WITHOUT TRACTION CONTROL

BRAKE LINES: REINFORCED NYLON, FABRIC BRAID, AND WIRE BRAID CHASSIS AIRLINES

DRAIN VALVES: STANDARD BRAKE SYSTEM VALVES

PARKING BRAKE VALVE: FOR TRUCK, STANDARD

AIR BRAKE, ABS: {WABCO ANTILOCK BRAKE SYSTEM}

AIR DRYER: BW AD-IP WITH HEATER

AIR DRYER LOCATION: MOUNTED OUTBOARD ON RH RAIL BACK OF CAB, MAXIMUM 20" BACK OF CAB PROTRUSION

FUEL TANKS

FUEL TANK: 100 GALLON, ALUMINUM-LH, 25" DIAM., PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS

FUEL FILTER/WATER SEPARATOR: ALLIANCE, WITH PRIMER PUMP

TIRES

TIRE, FRONT: MICHELIN XZY-3 425/65R22.5 20 PLY RADIAL

TIRE, REAR: MICHELIN XDE M/S 11R22.5 14 PLY RADIAL

WHEELS

WHEELS, FRONT: ALCOA LVL ONE 82462X22.5X12.25 10-HUB PILOT 4.68 INSET 10-HAND ALUMINUM DISC, WITH PRE-SET BEARING IRON FRONT HUBS

WHEELS, REAR: ALCOA LVL ONE 88367X22.5X8.25 10-HUB PILOT ALUMINUM DISC, WITH PRE-SET BEARING IRON REAR HUBS

CAB EXTERIOR

GLASS: ALL WINDOWS TINTED

GRAB HANDLE: LH AND RH SIDES

GRILLE: STATIONARY, BLACK FINISH

FRONT END: FIBERGLASS HOOD

HEADLIGHTS: INTEGRAL HEADLIGHT/MARKER ASSEMBLY

HORN: SINGLE, ELECTRIC

PARKING LIGHT: INTEGRAL WITH LED STOP/TAIL/TURN/BACKUP LIGHTS

RUNNING LIGHT: DAYTIME – LOW BEAM ONLY

STOP, TURN, TAIL & B/U LIGHTS: GROTE #54332, GROMMET MOUNTED WITH SEPARATE GROTE #62401 LED BACKUP LIGHTS

MIRRORS: DUAL WEST COAST MOLDED-IN COLOR, DOOR MOUNTED, LH AND RH 8" MOLDED-IN COLOR CONVEX MIRRORS MOUNTED UNDER PRIMARY MIRRORS

CAB INTERIOR

CAB: CONVENTIONAL, OPAL GRAY VINYL

ARM RESTS: LH AND RH INTEGRAL DOOR PANEL

CLEARANCE/MARKER LIGHTS: LED AERODYNAMIC MARKER LIGHTS

CUP HOLDERS: (2) CUP HOLDERS LH AND RH DASH

DOMelight: 3-WAY SWITCH ACTIVATED BY LH AND RH DOORS

CIGAR LIGHTER: WITH ASH TRAY, DASH MOUNTED

SEAT, DRIVER: BASIC HIGH BACK AIR SUSPENSION SEAT WITH MECHANICAL LUMBAR AND INTEGRATED CUSHION EXTENSION

- SEAT BELT: 3-POINT FIXED D-RING RETRACTOR

SEAT, PASSENGER: BASIC HIGH BACK NON-SUSPENSION SEAT

- SEAT BELT: 3-POINT FIXED D-RING RETRACTOR

AIR CONDITIONER: HEATER AND DEFROSTER

- CLAMPS, HEATER: STANDARD HEATER PLUMBING

HVAC: STANDARD HVAC DUCTING

CONSOLE, OVERHEAD: FORWARD ROOF MOUNTED CONSOLE WITH UPPER STORAGE COMPARTMENTS WITHOUT NETTING

DOOR TRIM PANELS: MOLDED PLASTIC DRIVER AND PASSENGER DOOR PANELS

FLOOR COVERING: BLACK MATS WITH SINGLE INSULATION

INSTURMNET PANEL: MOLDED PLASTIC, GRAY DRIVER AND CENTER

STORAGE POCKET: IN DASH STORAGE BIN

SUN VISOR: DRIVER AND PASSENGER INTERIOR SUN VISORS

STEERING COLUMN: FIXED

STEERING WHEEL: 4 SPOKE 18" DIAM

ELECTRICAL SYSTEM: 12 VOLT NEGATIVE GROUND SYSTEM

INSTRUMENTS AND CONTROLS

INSTRUMENT PANEL: GRAY DRIVER AND CENTER

HAZARD SWITCH: INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS

HEADLIGHT DIMMER: INTEGRAL WITH SELF-CANCELLING TURN SIGNAL HANDLE

STARTER SWITCH: ELECTRIC KEY OPERATED

TURN SIGNAL SWITCH: SELF-CANCELLING FOR TRUCKS

TURN SIGNALS, FRONT: INTEGRAL ELECTRONIC FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS

WINDSHIELD WIPER, SWITCH: INTEGRAL WITH TURN SIGNAL HANDLE

WINDSHIELD WIPER: SINGLE ELECTRIC MOTOR WITH DELAY

RADIO: AM/FM/WB RADIO WITH FRONT AUXILIARY INPUT, DASH MOUNTED

- SPEAKERS: (2) SPEAKERS IN CAB
- ANTENNA: AM/FM MOUNTED ON FORWARD LH ROOF

CRUISE CONTROL: ELECTRONIC WITH SWITCHES IN LH SWITCH PANEL

ENGINE SHUTDOWN: IGNITION CONTROLLED ENGINE STOP WITH CONTROL MOUNTED AT FIREWALL

GAUGE, AIR PRESSURE: LOW AIR PRESSURE LIGHT AND BUZZER

GAUGE CLUSTER: 2" ELECTRIC FUEL GAUGE, ELECTRIC ENGINE OIL PRESSURE GAUGE, ELECTRONIC 3000 RPM TACHOMETER, DIGITAL VOLTAGE DISPLAY

ODOMETER DISPLAY: TRIP/HOUR/DIAGNOSTIC/VOLTAGE /26 WARNING LAMPS

COLOR AND DESIGN

PAINT SCHEMATIC: L0006EB WHITE ELITE

PAINT TYPE: HIGH SOLIDS POLYURETHANE CHASSIS PAINT

OTHER FACTORY CHARGES

EXTENDED WARRANTY: TOWING EXTENDED/ROADSIDE SERVICE WARRANTY, 2 YEAR/ UNLIMITED MILES/KM, \$550 CAP

FEDERAL EMISSIONS: 2013 OBD/2010 EPA/CARB/GHG14 ESCALATOR

