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Describe proposed activity/use: The proposed project is to construct a 24,000 square foot manufacturing building, with future expansion to 40,000 square feet.

Describe existing conditions/use (vacant land?): The existing parcel is currently undeveloped

Utility information

City water? yes x no ; How far is City water from the site?

City sewer? yes x no ; How far is City sewer from the site?

If City water, what are the estimated total daily needs? unknown gallons per day

If City water, is it proposed for anything other than domestic purposes? yes ____ no x

If City sewer, do you plan to discharge anything other than domestic waste? yes ____ no x

Where will stormwater be discharged? The Stormwater will be treated in either infiltration basins or a gravel wetlands

Building information

Type of building(s): Steel framed, Slab on Grade

Building height: 22' Finished floor elevation: 277.5'

Other information

parking spaces: existing: _____ total proposed: ⁶⁹ _____; Are there pertinent covenants? _____

Number of cubic yards of earth being removed from the site ⁰_____

Number of existing employees: 15; number of proposed employees total: 40

Check any that are proposed: variance ____; special exception ____; conditional use ____

Wetlands: Is any fill proposed? ____; area to be filled: ____; buffer impact? ____

Proposed <u>post-development</u> disposition of site (should total 100%)		
	Square footage	% overall site
Building footprint(s) – give for each building	Proposed 24,000 sq ft Future 40,000	7.6% or 5.1%
Parking and vehicle circulation	55,750 sf	17.7%
Planted/landscaped areas (excluding drainage)	35,050 sf	11.1%
Natural/undisturbed areas (excluding wetlands)	108,900 sf	34.5%
Wetlands	4,400 sf	1.4%
Other – drainage structures, outside storage, etc.	71,275	22.6%

Comments

Please feel free to add any comments, additional information, or requests for waivers here:

LDI will be leasing the property from the City of Rochester. At the end of their 5-year lease they will be purchasing both the property and building for a pre-arranged price

Submission of application

This application must be signed by the property owner, applicant/developer (if different from property owner), and/or the agent.

I/we) hereby submit this Site Plan application to the City of Rochester Planning Board pursuant to the City of Rochester Site Plan Regulations and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant/developer (if different from property owner)/as agent, I attest that I am duly authorized to act in this capacity.

Signature of property owner: Bla in Cox

Date: 12-11-2019

Signature of applicant/developer: Mr. J. I. Cohen

Date: 12/11/2019

Signature of agent: _____

Date: _____

Authorization to enter subject property

I hereby authorize members of the Rochester Planning Board, Zoning Board of Adjustment, Conservation Commission, Planning Department, and other pertinent City departments, boards and agencies to enter my property for the purpose of evaluating this application including performing any appropriate inspections during the application phase, review phase, post-approval phase, construction phase, and occupancy phase. This authorization applies specifically to those particular individuals legitimately involved in evaluating, reviewing, or inspecting this specific application/project. It is understood that these individuals must use all reasonable care, courtesy, and diligence when entering the property.

Signature of property owner: Bla in Cox

Date: 12-11-2019



City of Rochester, New Hampshire
Office of Economic & Community Development
33 Wakefield Street, Rochester, NH 03867
(603) 335-7522, www.RochesterEDC.com

December 11, 2019

Seth Creighton, Chief Planner
Department of Planning and Development
31 Wakefield Street
Rochester, NH 03867

RE: Non-Residential Site Plan Application; REDC – Map 243, Lot 34

Dear Mr. Creighton,

On behalf of the City of Rochester, Rochester Economic Development Commission (REDC), and LDI Solutions Inc. (LDI), we hereby submit plans and nonresidential site plan application for a proposed 40,000 sf manufacturing facility to be built in two phases. The proposed facility will be constructed on one parcel located at 145 Airport Drive, within the Granite State Business Park.

The property is currently owned by the City of Rochester and will be developed by the REDC for LDI. LDI will purchase the property and building at the end of its 5-year lease with REDC. The parcel is currently undeveloped.

The facility will be occupied by LDI, who will be relocating from their current location in Portsmouth, New Hampshire, on or before the expiration of their current lease in December of 2021.

LDI manufactures "Green" upholstery for healthcare and commercial customers. They currently employ 15 full-time employees with plans to expand to 40 in the near future.

The proposed building and parking lot will be constructed in two distinctive phases. The first phase will be the construction of a 100 foot by 240 foot building (24,000 sf) and parking for 49 vehicles. The second phase will be a building addition of 16,000 sf with an additional 20 parking places. At completion, the building will be 40,000 sf with a 28 foot by 28 foot loading dock in the rear.

Access to the proposed facility will have two driveway entrances off Airport Drive. The access road will loop around the proposed building to the loading dock in the rear. The parking lot will be constructed between the proposed building and Airport Drive. Due to the existing topography, the parking lot and building will be constructed about 10 feet



City of Rochester, New Hampshire
Office of Economic & Community Development
33 Wakefield Street, Rochester, NH 03867
(603) 335-7522, www.RochesterEDC.com

below the Airport Drive level.

The steel-framed building will be constructed on a concrete slab and will be a maximum of 22 feet tall in the front and 18 feet tall in the rear. The site will be modestly landscaped consistent with the other business locations within the business park. Two small dumpsters will be placed on the back side of the loading dock, which will be screened from view off Airport Drive. LED lighting will be pole mounted for the parking lot and access drives. Wall mounted LED light fixtures will illuminate the rear of the building for security and the loading dock area.

All of the storm water generated by the proposed building and pavement will be captured in a closed drainage system consisting of curbing, catch basins and drain pipes. The runoff will be directed towards a gravel wetlands basin to be constructed at the toe of the grade at the rear of the site. An infiltration basin will be constructed to the west of the proposed development to promote recharge to the groundwater that will help offset the proposed rates prior to discharging the runoff into a swale located adjacent to the railroad tracks.

The proposed building will be tied into the municipal water system located on Airport Drive and municipal sewer line located along the easterly property line with Map 243, lot 33. The water and sewage uses will be domestic with no manufacturing water usage or waste. Other utilities, such as power, telephone, and cable will be installed from existing utilities located within the Airport Drive right of way or the 15 foot utility easement along the frontage.

Due to the size of the development, the proposed project will require an Alteration of Terrain permit from the New Hampshire Department of Environmental Services. Although there were some wetlands delineated along the westerly property line with lot 36 and a small isolated pocket near the railroad tracks, there will be no impacts to the wetlands which would require a permit from the state. Other state and federal permits will include a Construction General Permit with the EPA for disturbance of more than an acre and an Obstruction Evaluation with the Federal Aviation Administration for a permanent structure within close proximity of the Skyhaven Airport.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Scala", written over a horizontal line.

Michael Scala
Director Economic Development
City of Rochester, New Hampshire

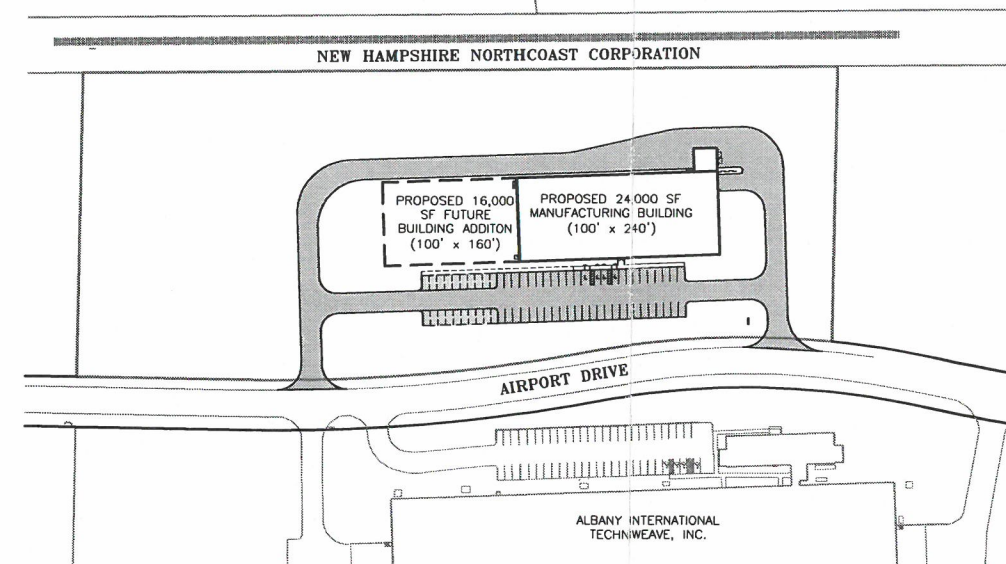
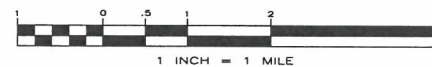
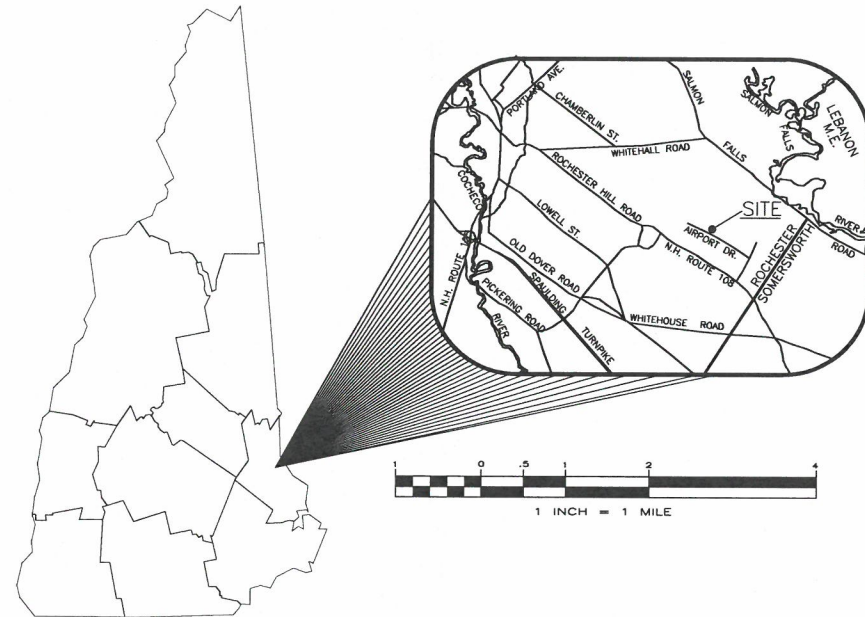
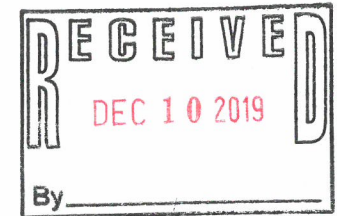


PROPOSED MANUFACTURING FACILITY

FOR

CITY OF ROCHESTER

145 AIRPORT DRIVE
ROCHESTER, N.H. 03867
DECEMBER 2019



OVERALL SITE
1" = 100'



CIVIL ENGINEERS

NORWAY PLAINS ASSOCIATES, INC.
2 CONTINENTAL BOULEVARD
ROCHESTER, NEW HAMPSHIRE 03867
(603) 335-3948

LANDSCAPING ARCHITECTS

WOODBURN & COMPANY LANDSCAPE ARCHITECTURE, LLC
103 KENT PLACE
NEWMARKET, NEW HAMPSHIRE 03857
(603) 659-5949

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

OWNER OF RECORD

CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NEW HAMPSHIRE 03867
(603) 335-7500

APPLICANT

CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NEW HAMPSHIRE 03867
(603) 335-7500

STATE AND FEDERAL PERMITS:
STATE OF NEW HAMPSHIRE PERMIT NUMBERS:
NHDES ALTERATION OF TERRAIN: AOT-1001
NHDES WETLANDS PERMIT: NOT REQUIRED
NHDES DAM PERMIT: NOT REQUIRED
NHDES SUBDIVISION PERMIT: NOT REQUIRED
NHDES SUBSURFACE SYSTEMS PERMIT: NOT REQUIRED
NHDES WASTEWATER PERMIT: D2015-1002
NHDOT DRIVEWAY/ENTRANCE PERMIT: NOT REQUIRED

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES):
NPDES PERMITS ARE ONLY REQUIRED FOR PROJECTS MEETING THE DISTURBED AREA CRITERIA BELOW AND HAVING A POINT SOURCE STORMWATER DISCHARGE FROM THE SITE TO AN ADJACENT WETLAND OR WATER BODY (I.E. CULVERT, SWALE, ETC. OUTLETING TO A WETLAND, CREEK, STREAM OR RIVER).

NPDES PERMIT: **REQUIRED**

NPDES PERMITS CONSIST OF A NOTICE OF INTENT (NOI) FILED WITH THE ENVIRONMENTAL PROTECTION AGENCY AT LEAST 14 DAYS PRIOR TO CONSTRUCTION COMMENCING AND A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BEING PREPARED, KEPT ON SITE AND FOLLOWED BY THE CONTRACTOR.

FOR STATUS OF THIS PERMIT, CONTACT THE PROJECT GENERAL CONTRACTOR.

FINAL APPROVAL BY
ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

SHEET INDEX

	COVER	
SHEET E-1	EXISTING FEATURES PLAN	1" = 40'
SHEET C-1	OVERALL SITE PLAN	1" = 60'
SHEET C-2	SITE LAYOUT PLAN	1" = 40'
SHEET C-3	GRADING AND DRAINAGE PLAN	1" = 40'
SHEET C-4	UTILITY PLAN	1" = 40'
SHEET C-5	EROSION AND SEDIMENTATION CONTROL PLAN	1" = 40'
SHEET C-6	CONSTRUCTION DETAILS	AS SHOWN
SHEET C-7	DRAINAGE DETAILS	AS SHOWN
SHEET C-8	GRAVEL WETLANDS BASIN DETAILS	AS SHOWN
SHEET C-9	TEMPORARY EROSION AND SEDIMENTATION CONTROL DETAILS	AS SHOWN
SHEET C-10	PERMANENT EROSION AND SEDIMENTATION CONTROL DETAILS	AS SHOWN
SHEET C-11	UTILITY DETAILS	AS SHOWN
SHEET C-12	SEWER DETAILS	AS SHOWN
SHEET C-13	GUARDRAIL DETAILS	AS SHOWN
SHEET L-1	LANDSCAPING PLAN AND DETAILS	1" = 40'
SHEET L-2	LIGHTING PLAN AND DETAILS	1" = 40'

FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275\SP-1
F.B. NO. SDR-TJR

LAND SURVEYORS

SEPTIC DESIGNERS

CIVIL ENGINEERS

TRANSPORTATION PLANNERS

LEGEND

- PROPERTY LINE
- LIMITS OF JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- EXISTING STONEWALLS
- EXISTING RAILROAD TRACKS
- EXISTING CONTOUR LINE
- EXISTING DRAIN LINE
- EXISTING OVERHEAD WIRES
- EXISTING UNDERGROUND ELECTRIC WIRES
- EXISTING UNDERGROUND UTILITY WIRES
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING SEWER FORCE MAIN
- EXISTING GAS PIPE
- EXISTING UTILITY POLE
- EXISTING CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING MONUMENT
- EXISTING HYDRANT
- EXISTING WATER GATE OR SHUT-OFF VALVE
- EXISTING LIGHT POLE
- EXISTING TEST PIT LOCATION & NUMBER
- EXISTING BORING OR LEDGE TESTPIT LOCATION
- EXISTING WETLANDS

TEST PIT DATA

Test pits were dug, observed and recorded on 26 August and September 4, 2015 by David J. Altan CSS #13 and CWS #16.

TP 1 8/26/15

3-5' 10y3/5 sandy loam, granular, friable
5-36" 10y5/6 sandy loam, granular, friable
36-60" 7.5y6/2 sandy loam, blocky, firm, redox features
60" ledge refilled

TP 2 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-26" 10y5/6 sandy loam, granular, friable
26-35" 10y6/2 sandy loam, blocky, firm, redox features
35-72" 10y6/2 sandy loam, blocky, firm, redox features

TP 3 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-24" 7.5y6/2 sandy loam, granular, friable
24-48" 10y4/2 sandy loam, blocky, firm, redox features
48-60" variable ledge depth

TP 4 8/26/15

0-3" 10y3/3 sandy loam, granular, friable
3-25" 10y5/6 sandy loam, granular, friable
25-48" 10y6/2 sandy loam, blocky, firm, redox features
48-60" 10y6/2 sandy loam, blocky, firm, redox features

TP 5 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 6 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 7 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 8 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 9 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 10 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 11 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 12 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 13 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 14 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 15 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 16 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 17 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 18 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 19 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 20 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 21 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 22 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 23 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 24 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 25 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 26 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 27 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 28 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 29 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TP 30 8/26/15

0-4" 10y3/3 sandy loam, granular, friable
4-30" 10y5/6 sandy loam, granular, friable
30-72" 10y6/2 sandy loam, blocky, firm, redox features
72-108" 10y6/2 sandy loam, blocky, firm, redox features

TAX MAP 239 - LOT 26
NH NORTHCOAST CORP
PO BOX 429
OSSISPEE, NH 03864
(BOOK 1706 - PAGE 532)

TAX MAP 241 - LOT 21
LINDA SARGENT AND
MARTHA J. FOWLER
671 SALMON FALLS ROAD
ROCHESTER, NH 03867
(BOOK 2003 - PAGE 684)

NEW HAMPSHIRE NORTHCOAST CORPORATION



TAX MAP 242 - LOT 5
CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NH 03866
(BOOK 3963 - PAGE 25)

GENERAL SITE PLAN NOTES

1. THIS PARCEL IS LOCATED IN THE GRANITE STATE BUSINESS PARK AND IN THE INDUSTRIAL (IND) ZONE.
2. TOTAL PARCEL AREA:
MAP 243 - LOT 34: 315,374 SQUARE FEET OR 7.24 ACRES.
3. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING FEATURES ON THESE LOTS.
4. ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
5. THESE PLANS SHOW ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY (08-04-15 TO 08-06-15). THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THESE PLANS, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
6. DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:
GENERAL INDUSTRIAL (GI) ZONE:
MINIMUM LOT SIZE (WITH WATER AND SEWER) = 20,000 SF
MINIMUM LOT FRONTAGE = 100 FEET
MINIMUM YARD SETBACKS:
FRONT = 25'
SIDE = 20'
REAR = 25'
MAXIMUM LOT COVERAGE = 75%
MAXIMUM BUILDING HEIGHT = 55'
7. ORIENTATION: HORIZONTAL AND VERTICAL DATUMS - CITY OF ROCHESTER GIS.
8. SOIL TYPES ARE PER SITE SPECIFIC SOIL SURVEY REPORT BY ROUNDT POND SOIL SURVEY DATED AUGUST 26, 2015.
29 - WOODBRIDGE SERIES SOILS.
656 - RODGEBURY SERIES SOILS.
9. JURISDICTIONAL WETLANDS WERE DELINEATED BY B.H. KEITH ASSOCIATES ON JULY 31, 2015.
10. PARCEL IS NOT LOCATED WITHIN ZONE A (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #33017502160.
11. FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF ROCHESTER PLANNING DEPARTMENT, 33 WAKEFIELD ST., ROCHESTER, NH 03867 (603) 335-1338.
12. THIS PARCEL IS SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE FRONTAGE AND A 30 FOOT UTILITY EASEMENT ALONG THE REAR PROPERTY LINES. IT IS ALSO SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE EASTERN PROPERTY LINE, AS DEPICTED.

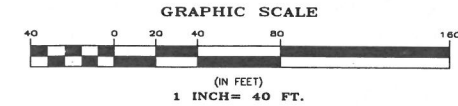
JURISDICTIONAL WETLANDS MAPPING NOTES:

1. STATE AND FEDERAL JURISDICTIONAL WETLANDS WERE DELINEATED BY N.H. CERTIFIED WETLAND SCIENTIST, BARRY H. KEITH, ON JULY 31, 2015 AND LOCATED BY NORWAY PLAINS ASSOCIATES, INC. IN AUGUST 2015. WETLAND DELINEATION AND CLASSIFICATIONS WERE CONDUCTED USING METHODS AND IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
A. N.H. CODE OF ADMINISTRATIVE RULES (ENV-WT 301.01) WITH THE TECHNIQUES OUTLINED IN THE 1987 "U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, TECHNICAL REPORT Y-87-1."
B. U.S. ARMY CORPS OF ENGINEERS, 2009, "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHEASTERN AND NORTHWESTERN REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY ERDC/EL TR-09-19."
C. U.S. ARMY CORPS OF ENGINEERS, 2012, "NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST REGION, U.S. ARMY CORPS OF ENGINEERS RESEARCH AND DEVELOPMENT CENTER, ENVIRONMENTAL LABORATORY."
D. N.H. CODE OF ADMINISTRATIVE RULES (ENV-WT 301.02) WITH THE U.S. FISH AND WILDLIFE SERVICE MANUAL FWS/OBS-79/31 ENTITLED CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES, COWARDIN ET AL., 1979.
E. NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE, 2004, 3RD ED., "FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND," NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION, LOWELL, MA.
F. U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, 2010, "FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 7.0," L.M. VASILAS, G.W. HURT, AND C.V. NOBLE (EDS.), USDA, NRCS, IN COOPERATION WITH THE NATIONAL TECHNICAL COMMITTEE FOR HYDRIC SOILS.
2. WETLANDS CLASSIFICATIONS FOUND ON SITE ARE AS FOLLOWS:
PEM/SSIE - PALUSTRINE PERSISTENT EMERGENT AND SCRUB-SHURB BROADLEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED, POORLY DRAINED.
PF01E - PALUSTRINE FORESTED BROADLEAVED DECIDUOUS, SEASONALLY FLOODED/SATURATED, POORLY DRAINED.
R3UBH - RIVERINE UPPER PERENNIAL UNCONSOLIDATED BOTTOM, PERMANENTLY FLOODED.

TAX MAP 243, LOT 34
OWNER OF RECORD:
CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NH 03867
BOOK 4705, PAGE 254

EXISTING FEATURES PLAN
TAX MAP 243, LOTS 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: 1" = 40' DECEMBER 2019



FINAL APPROVAL BY
ROCHESTER PLANNING BOARD
CERTIFIED BY: _____ DATE: _____

FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275/SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

LAND SURVEYORS - SEPTIC SYSTEM DESIGNERS

CIVIL ENGINEERS - TRANSPORTATION PLANNERS

LEGEND

- PROPERTY LINE
- JURISDICTIONAL WETLANDS
- EXISTING TREE LINE
- PROPOSED BUILDING
- PROPOSED PAVEMENT

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

TAX MAP 241 - LOT 21
LINDA SARGENT AND MARTHA J. FOWLER
671 SALMON FALLS ROAD
ROCHESTER, NH 03867
(BOOK 2003 - PAGE 684)

TAX MAP 242 - LOT 5
CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NH 03866
(BOOK 3963 - PAGE 25)

TAX MAP 238 - LOT 26
NH NORTHCOAST CORP
PO BOX 429
OSSISPEE, NH 03864
(BOOK 1706 - PAGE 532)

TAX MAP 243 - LOT 33
CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NH 03866
(BOOK 3963 - PAGE 25)

TAX MAP 243 - LOT 24
ALBANY ENGINEERED
COMPOSITES, INC.
PO BOX 1907
ALBANY, NY 12201
(BOOK 3792 - PAGE 530)

TAX MAP 243 - LOT 21
ALBANY INTERNATIONAL
TECHWEAVE, INC
PO BOX 1907
ALBANY, NY 12201
(BOOK 3489 - PAGE 527)

TAX MAP 243 - LOT 36
SPECTEX REALTY LLC
1 PROGRESS DRIVE
DOVER, NH 03820
(BOOK 3440 - PAGE 680)

CITY OF ROCHESTER
MIS COORDINATES
N 286580.77
E 1182257.13

- GENERAL SITE PLAN NOTES**
- THIS PARCEL IS LOCATED IN THE GRANITE STATE BUSINESS PARK AND IN THE INDUSTRIAL (IND) ZONE.
 - TOTAL PARCEL AREA:
MAP 243 - LOT 34: 315,374 SQUARE FEET OR 7.24 ACRES.
 - THE PURPOSE OF THIS PLAN IS TO DEPICT A PROPOSED 24,000 SQUARE FOOT MANUFACTURING BUILDING WITH FUTURE 16,000 FOOT ADDITION AND ASSOCIATED PARKING AND LOADING AREAS.
 - ALL EXISTING UTILITIES LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATION PRIOR TO ANY WORK BEING PERFORMED.
 - THESE PLANS SHOW ONLY THOSE FEATURES THAT WERE VISIBLE APPARENT ON THE DATE OF THE SURVEY (08-04-15 TO 08-06-15). THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THESE PLANS, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.
 - DIMENSIONAL REGULATIONS PER ZONING ORDINANCE:
GENERAL INDUSTRIAL (GI) ZONE:
MINIMUM LOT SIZE (WITH WATER AND SEWER) = 20,000 SF
MINIMUM LOT FRONTAGE = 100 FEET
MINIMUM YARD SETBACKS:
FRONT = 25'
SIDE = 20'
REAR = 25'
MAXIMUM LOT COVERAGE = 75%
MAXIMUM BUILDING HEIGHT = 35'
ORIENTATION: HORIZONTAL AND VERTICAL DATUMS - CITY OF ROCHESTER GIS.
 - SOIL TYPES ARE PER SITE SPECIFIC SOIL SURVEY REPORT BY ROUND POND SOIL SURVEY DATED AUGUST 26, 2015.
29 - WOODBRIDGE SANDY LOAM, 3 TO 8 PERCENT SLOPES.
 - JURISDICTIONAL WETLANDS WERE DELINEATED BY B.H. KEITH ASSOCIATES ON JULY 31, 2015.
 - PARCEL IS NOT LOCATED WITHIN ZONE A (100YR FLOOD) AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY MAP, COMMUNITY #33017502160, (BOOK 335-1338).
 - FOR MORE INFORMATION ABOUT THIS SITE PLAN, CONTACT THE CITY OF ROCHESTER PLANNING DEPARTMENT, 33 WAKEFIELD ST., ROCHESTER, NH 03867.
 - THIS PARCEL IS SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE FRONTAGE AND A 30 FOOT UTILITY EASEMENT ALONG THE REAR PROPERTY LINES. IT IS ALSO SUBJECT TO A 15 FOOT UTILITY EASEMENT ALONG THE EASTERN PROPERTY LINE, AS DEPICTED.
 - PARKING REQUIREMENTS (SITE PLAN REGULATIONS SECTION 10(D)(2)):

INDUSTRIAL USE	SPACES PER 1,000 GROSS SQUARE FEET PLUS 3 SPACES PER 1,000 GROSS SQUARE FEET OF OFFICES OR RETAIL SALES:
40,000 SF GFA X 1 SPACE / 1,000 SF GFA =	40 SPACES
PLUS:	
4,610 SF OFFICE SPACE X 3 SPACES / 1,000 SF =	14 SPACES
TOTAL REQUIRED SPACES =	54 SPACES
TOTAL PROVIDED SPACES =	69 SPACES
 - ACCESSIBLE PARKING (SITE PLAN REGULATIONS SECTION 10(D)(2)):

THE SPACES ARE PART OF THE TOTAL ABOVE:	ACCESSIBLE PARKING SPACES =	51 TO 75 =	3 SPACES
TOTAL PROVIDED SPACES =	51 TO 75 =	4 SPACES	
 - THIS DEVELOPMENT MUST BE IN COMPLIANCE WITH ALL APPLICABLE LAW - INCLUDING ALL PERTINENT PROVISIONS OF THE CITY OF ROCHESTER SITE PLAN REGULATIONS - UNLESS OTHERWISE WAIVED.
 - THE APPLICANT SHALL OBTAIN A STORMWATER MANAGEMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT (UNLESS DETERMINED TO BE UNNECESSARY BY THE CITY ENGINEER) AND FOLLOW THE REQUIREMENTS OF THE CITY ORDINANCE CHAPTER 50. THE PERMITTEE SHALL PREPARE A WRITTEN PLAN FOR MANAGING STORMWATER THAT ENTERS THE CONSTRUCTION SITE AND SHALL PRESENT IT TO THE INSPECTION ENGINEER AT THE PRE-CONSTRUCTION MEETING. THE PERMITTEE SHALL FOLLOW BEST MANAGEMENT PRACTICES TO PREVENT EROSION IN AREAS WHERE SOIL HAS BEEN DISTURBED.
 - ACCESS INTO THE SITE FOR FIRE APPARATUS MUST BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROCESS. THIS IS THE SOLE RESPONSIBILITY OF THE APPLICANT/DEVELOPER TO MAINTAIN THIS ACCESS. PLEASE CONTACT THE FIRE DEPARTMENT AT 330-7182 WITH ANY QUESTIONS ABOUT ACCESS REQUIREMENTS.
 - SNOW SHALL NOT BE PILED IN SUCH A MANNER AS TO BLOCK THE VISIBILITY OF THE VEHICLES ON AIRPORT DRIVE AND ALL EXCESS SNOW SHALL BE REMOVED FROM THE SITE.
 - ALL OUTSIDE CONSTRUCTION ACTIVITY RELATED TO THE DEVELOPMENT OF THIS SITE IS RESTRICTED TO THE HOURS OF 7:00 A.M. TO 6:00 P.M. MONDAY THROUGH FRIDAY AND 8:00 A.M. TO 6:00 P.M. SATURDAY.
 - ALL UTILITIES MUST BE UNDERGROUND, INCLUDING UTILITIES EXTENDED ONTO THE SITE FROM EXISTING POLES NEAR THE SITE. HOWEVER, IF THE ONLY POLE NEARBY IS ACROSS THE STREET, ONE ADDITIONAL POLE MAY BE PLACED ON/NEAR THE PROPERTY TO ALLOW FOR OVERHEAD EXTENSION OF WIRES ACROSS THE STREET. UTILITIES EXTENDING FROM ANY SUCH NEW POLE MUST BE UNDERGROUND. THE APPLICANT MAY WORK WITH THE CITY STAFF AS APPROPRIATE TO ADDRESS THIS REQUIREMENT.
 - THE CODE ENFORCEMENT OFFICER ADMINISTERS THE CITY OF ROCHESTER SIGN ORDINANCE. SIGNAGE SUBMITTED AS PART OF THIS SITE PLAN PACKAGE IS STILL SUBJECT TO HIS REVIEW TO ENSURE COMPLIANCE WITH THAT ORDINANCE AND OTHER APPLICABLE CODES, INDEPENDENT FROM THIS SITE PLAN REVIEW. IN ADDITION, IF ANY SIGNIFICANT CHANGE OR EXPANSION IS PROPOSED TO THE DESIGN OF THE APPROVED FREESTANDING SIGN OR TO THE OVERALL ADVERTISING SIGNAGE FOR THE SITE (NOT INCLUDING ACCESSORY SIGNAGE, SUCH AS HANDICAP PARKING SIGNS), THE PROPOSED SIGN DESIGNS MUST BE PRESENTED TO THE PLANNING BOARD FOR REVIEW PRIOR TO ISSUANCE OF THOSE SIGN PERMITS. A SIGN PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION OF ANY SIGNS ON SITE.
 - ALL ELEMENTS SHOWN ON THE APPROVED SITE PLAN MUST BE PROPERLY COMPLETED PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY, UNLESS APPROPRIATE SURETY IS PLACED WITH THE PLANNING DEPARTMENT.
 - NOTE THAT THIS APPROVAL IS FOR THE SITE PLAN ONLY. LIFE SAFETY CODE AND BUILDING CODE REVIEW WILL BE REQUIRED AS PART OF THE BUILDING PERMIT PROCESS WHEN THE CONSTRUCTION PLANS ARE SUBMITTED. VARIOUS REQUIREMENTS REGARDING THE BUILDING DESIGN POSSIBLY INCLUDING A SPRINKLER SYSTEM - MAY BE SPECIFIED AT THAT TIME.
 - THE SEWER IMPACT CONTRIBUTION MUST BE PAID IN FULL, TO THE CODE ENFORCEMENT DEPARTMENT, PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY. THE SEWER IMPACT IS A ONE TIME PAYMENT OF \$2.00 PER GALLON FOR AVERAGE DAILY FLOW.
 - THIS PROJECT PROPOSED TO DISTURB OVER ONE ACRE OF EXISTING GROUND COVER AND MEETS OTHER SPECIFIC REQUIREMENTS RELATED TO PERMIT CRITERIA FOR EPA NPDES COMPLIANCE. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPMENT AND IMPLEMENTATION OF A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), SUBMISSION OF A NOTICE OF INTENT (NOI) TO EPA, INSPECTIONS AND MAINTENANCE OF SEDIMENT CONTROL MEASURES, DOCUMENTATION OF MAINTENANCE ACTIVITIES, AND SUBMISSION OF A NOTICE OF TERMINATION (NOT) TO EPA. THE CONTRACTOR IS ALSO RESPONSIBLE TO COMPLY WITH ANY OR ALL OTHER ASPECTS OF THE CURRENT FEDERAL, STATE AND LOCAL STORM WATER OR NPDES REGULATIONS OR REQUIREMENTS.
 - THE CONTRACTOR MUST SUBMIT A FAF FORM 7480-1 A MINIMUM OF 60-DAYS PRIOR TO THE START OF CONSTRUCTION TO ENSURE THAT IT WILL NOT NEGATIVELY IMPACT FLIGHTS IN AND AROUND SKYHAVEN AIRPORT. THE APPLICATION MUST INCLUDE ANY CRANES THAT MIGHT BE USED.

TAX MAP 243, LOT 34
OWNER OF RECORD:
CITY OF ROCHESTER
31 WAKEFIELD STREET
ROCHESTER, NH 03867
BOOK 3963, PAGE 25

OVERALL SITE PLAN
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: 1" = 60' DECEMBER 2019
GRAPHIC SCALE
0 30 60 120 240
(IN FEET)
1 INCH = 60 FEET

FINAL APPROVAL BY
ROCHESTER PLANNING BOARD

CERTIFIED BY: _____ DATE: _____

LOCATION MAP
NOT TO SCALE

FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275/SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

C-1

LAND SURVEYORS

SEPTIC SYSTEM DESIGNERS

CIVIL ENGINEERS

TRANSPORTATION PLANNERS

LEGEND

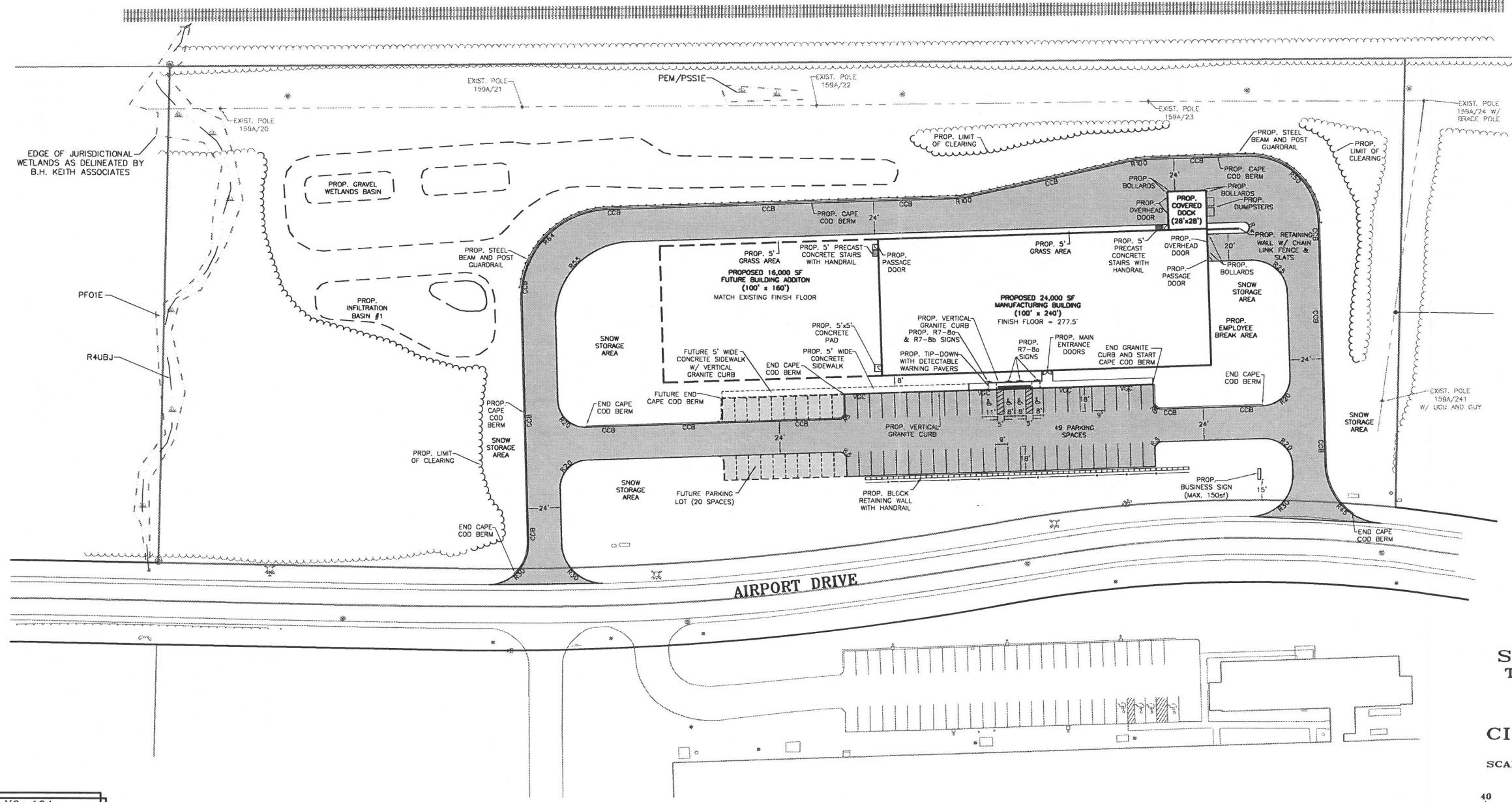
PROPERTY LINE	PROPOSED DETECTABLE WARNING PAVERS
JURISDICTIONAL WETLANDS	PROPOSED SIGNS
EXISTING TREE LINE	VERTICAL GRANITE CURB
EXISTING OVERHEAD WIRES	BITUMINOUS CAPE COD BERM CURB
EXISTING HYDRANT	PAVEMENT RADIUS (20')
EXISTING WATER GATE OR SHUT-OFF VALVE	PROPOSED STANDARD PARKING SPACES (9' x 18')
EXISTING UTILITY POLE	PROPOSED VAN ACCESSIBLE PARKING SPACES (11' x 18' WITH 5' x 18' ACCESS ISLE)
EXISTING SEWER MAN HOLE	PROPOSED ACCESSIBLE PARKING SPACES (8' x 18' WITH 5' x 18' ACCESS ISLE)
EXISTING CATCH BASIN	PROPOSED PAVEMENT
EXISTING LIGHT POLES	
PROPOSED BUILDING	
PROPOSED PAVEMENT	
PROPOSED PAVEMENT WITH CURBING	
PROPOSED TREE LINE	
PROPOSED CHAINLINK FENCE	
PROPOSED GUARDRAIL	
PROPOSED BLOCK RETAINING WALL	



CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

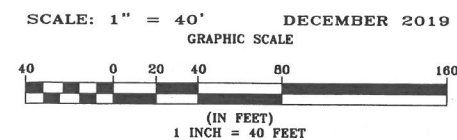


NEW HAMPSHIRE NORTHCOAST CORPORATION



- GENERAL CONSTRUCTION NOTES:
- ALL DETECTABLE WARNING PAVERS SHALL BE CAST IN PLACE ARMOR-TILE TACTILE SYSTEM, YELLOW IN COLOR, OR APPROVED EQUAL.
 - ALL TIP-DOWNS SHALL HAVE VERTICAL GRANITE CURB (FLUSH) ACROSS THE TRANSITIONS.

SITE LAYOUT PLAN
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
 PREPARED FOR:
CITY OF ROCHESTER



FILE NO. 104
 PLAN NO. C-3013
 DWG NO. 19275\SP-1
 F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

LEGEND

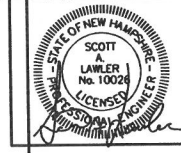
- PROPERTY LINE
 --- JURISDICTIONAL WETLANDS
 --- EXISTING TREE LINE
 --- EXISTING DRAIN LINE
 --- 232' EXISTING CONTOUR LINE
 --- EXISTING CATCH BASIN
 --- EXISTING TEST PIT
 --- E234.1' EXISTING SPOT GRADE
 --- P234.25' PROPOSED SPOT GRADE
 --- --- PROPOSED TREE LINE
 --- --- PROPOSED DRAIN LINE
 --- 232' PROPOSED CONTOUR LINE
 --- PROPOSED CATCH BASIN
 --- PROPOSED DRAIN MANHOLE
 --- PROPOSED FLARED END SECTION (FES)
 --- CORRUGATED POLYETHYLENE PIPE
 --- CATCH BASIN
 --- AREA DRAIN
 --- TOP OF WALL
 --- TOP OF CURB
 --- BASE OF CURB
 --- PROPOSED OUTLET PROTECTION

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



DRAINAGE STRUCTURES

- EXIST. CB #1
 RIM = 287.5'
 INV. OUT = 284.3'
 EXIST. CB #2
 RIM = 286.9'
 INV. IN = 283.5'
 INV. OUT = 283.3'
 EXIST. CB #3
 RIM = 286.7'
 INV. IN = 282.6'
 INV. OUT = 282.4'
 EXIST. CB #4
 RIM = 284.9'
 INV. IN = 280.6'
 INV. OUT = 280.4'
 EXIST. CB #5
 RIM = 286.6'
 INV. IN = 281.8'
 INV. OUT = 280.7'



PROPOSED DRAINAGE STRUCTURES

- | | |
|--|---|
| 1. PROP. FES #1
RIM = 275.5' (#1)
INV. IN = 267.8' (#10)
INV. IN = 269.7' (#11)
INV. OUT = 267.7' (#12)
SUMP = 263.7' | 2. PROP. CB #7
RIM = 274.0'
INV. IN = 267.8' (#10)
INV. IN = 269.7' (#11)
INV. OUT = 267.7' (#12)
SUMP = 263.7' |
| 3. PROP. CB #1
RIM = 276.6'
INV. IN = 273.1' (#1)
INV. OUT = 273.0' (#2)
SUMP = 270.0' | 4. PROP. FES #4
RIM = 275.5' (#12)
INV. IN = 267.5' (#12) |
| 5. PROP. CB #2
RIM = 275.8'
INV. IN = 272.6' (#2)
INV. OUT = 272.3' (#3)
SUMP = 269.3' | 6. PROP. OUTLET #1
RIM = 275.0'
INV. IN = 273.0' (#13)
SUMP = 270.0' |
| 7. PROP. FES #2
RIM = 274.5' (#4)
INV. IN = 271.2' (#3)
INV. IN = 271.5' (#4)
INV. OUT = 270.9' (#5)
SUMP = 267.9' | 8. PROP. CB #8
RIM = 279.6'
INV. IN = 272.7' (#13)
INV. OUT = 272.5' (#14)
SUMP = 269.5' |
| 9. PROP. CB #3
RIM = 275.7'
INV. IN = 271.2' (#3)
INV. IN = 271.5' (#4)
INV. OUT = 270.9' (#5)
SUMP = 267.9' | 10. PROP. FES #5
RIM = 273.5' (#15)
INV. IN = 273.5' (#15) |
| 11. PROP. CB #4
RIM = 280.4'
INV. IN = 270.2' (#5)
INV. OUT = 270.1' (#6)
SUMP = 267.1' | 12. PROP. OUTLET #3
RIM = 276.3'
INV. IN = 272.1' (#14)
INV. IN = 272.4' (#15)
INV. OUT = 271.8' (#17)
SUMP = 267.8' |
| 13. PROP. FES #3
RIM = 274.5' (#7)
INV. IN = 269.7' (#6)
INV. IN = 272.8' (#7)
SUMP = 266.8' | 14. PROP. OUTLET #4
RIM = 269.0'
INV. IN = 262.33' (UNDERDRAIN)
INV. OUT = 265.0' (18)
SUMP = 261.3' |
| 15. PROP. CB #5
RIM = 276.3'
INV. IN = 269.7' (#6)
INV. IN = 272.8' (#7)
SUMP = 266.8' | 16. PROP. CB #6
RIM = 273.1'
INV. IN = 269.0' (#8)
INV. IN = 269.6' (#9)
SUMP = 265.7' |
| 17. PROP. FES #6
RIM = 274.5' (#7)
INV. IN = 269.7' (#6)
INV. IN = 272.8' (#7)
SUMP = 266.8' | 18. PROP. FES #7
RIM = 273.1'
INV. IN = 269.0' (#8)
INV. IN = 269.6' (#9)
SUMP = 265.7' |

* INSTALL OIL & FLOATING DEBRIS TRAP (ELIMINATOR OR APPROVED EQUAL) ON OUTLET PIPE.

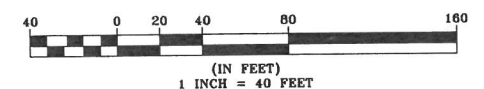
PROPOSED DRAINAGE PIPES

- | | |
|--|---|
| 2. PROP. PIPE #1
12" CPP
L = 32' | 19. PROP. PIPE #10
24" CPP
L = 150' |
| 4. PROP. PIPE #2
12" CPP
L = 87' | 20. PROP. PIPE #11
12" CPP
L = 162' |
| 6. PROP. PIPE #3
15" CPP
L = 222' | 21. PROP. PIPE #12
24" CPP
L = 50' |
| 8. PROP. PIPE #4
12" CPP
L = 28' | 22. PROP. PIPE #13
12" CPP
L = 34' |
| 10. PROP. PIPE #5
18" CPP
L = 130' | 23. PROP. PIPE #14
15" CPP
L = 80' |
| 12. PROP. PIPE #6
12" CPP
L = 85' | 24. PROP. PIPE #15
12" CPP
L = 34' |
| 14. PROP. PIPE #7
12" CPP
L = 56' | 25. PROP. PIPE #16
12" CPP
L = 170' |
| 16. PROP. PIPE #8
18" CPP
L = 117' | 26. PROP. PIPE #17
18" CPP
L = 24' |
| 17. PROP. PIPE #9
8" CPP
L = 22' | 27. PROP. PIPE #18
18" CPP
L = 70' |

- DRAINAGE NOTES:
 1. DRAINAGE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET C-8.
 2. ALL CORRUGATED PLASTIC PIPE (CPP) USED SHALL BE DUAL WALLED HIGH DENSITY POLYETHYLENE.
 3. ALL MATERIALS SHALL BE AS SPECIFIED. ANY CHANGES SHALL BE APPROVED BY THE DESIGN ENGINEER.
 4. PROPOSED ROOF DRAINS SHALL NOT BE TIED INTO PROPOSED FOUNDATION DRAIN.
 5. PROPOSED ROOF DRAINS SHALL HAVE 2" RIGID INSULATION PLACED ON TOP OF THE PIPE WHEN 4 FEET OF COVER CAN NOT BE MAINTAINED.

GRADING AND DRAINAGE PLAN
 TAX MAP 243, LOT 34
 145 AIRPORT DRIVE
 ROCHESTER, NH
 PREPARED FOR:
 CITY OF ROCHESTER

SCALE: 1" = 40' DECEMBER 2019
GRAPHIC SCALE



FILE NO. 104
 PLAN NO. C-3013
 DWG NO. 19275\SP-1
 F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

C-3

LEGEND

---	PROPERTY LINE	-----	PROPOSED DRAIN LINE
---	JURISDICTIONAL WETLANDS	---	PW PROPOSED WATER SERVICE
---	EXISTING OVERHEAD WIRES	---	PS PROPOSED SEWER LINE
---	EXISTING WATER MAIN	---	PG PROPOSED PROPANE GAS LINE
---	EXISTING GRAVITY SEWER MAIN	---	PUGU PROPOSED UNDERGROUND UTILITY WIRES
---	EXISTING SEWER FORCE MAIN	---	PUGU PROPOSED UNDERGROUND ELECTRIC WIRES
---	EXISTING UNDERGROUND ELECTRIC WIRES	---	PROPOSED HYDRANT
---	EXISTING UNDERGROUND UTILITY WIRES	---	PROPOSED WATER VALVE
---	EXISTING GAS PIPE	---	PROPOSED WATER SHUT-OFF VALVE
---	EXISTING DRAIN LINE	---	PROPOSED UTILITY POLE
---	EXISTING HYDRANT	---	PROPOSED SEWER MANHOLE
---	EXISTING WATER GATE OR SHUT-OFF VALVE	---	PROPOSED DRAIN MANHOLE
---	EXISTING UTILITY POLE	---	PROPOSED CATCH BASIN
---	EXISTING SEWER MANHOLE	---	T.O.P. TOP OF PIPE
---	EXISTING CATCH BASIN	---	B.O.P. BOTTOM OF PIPE
---	EXISTING LIGHT POLES		

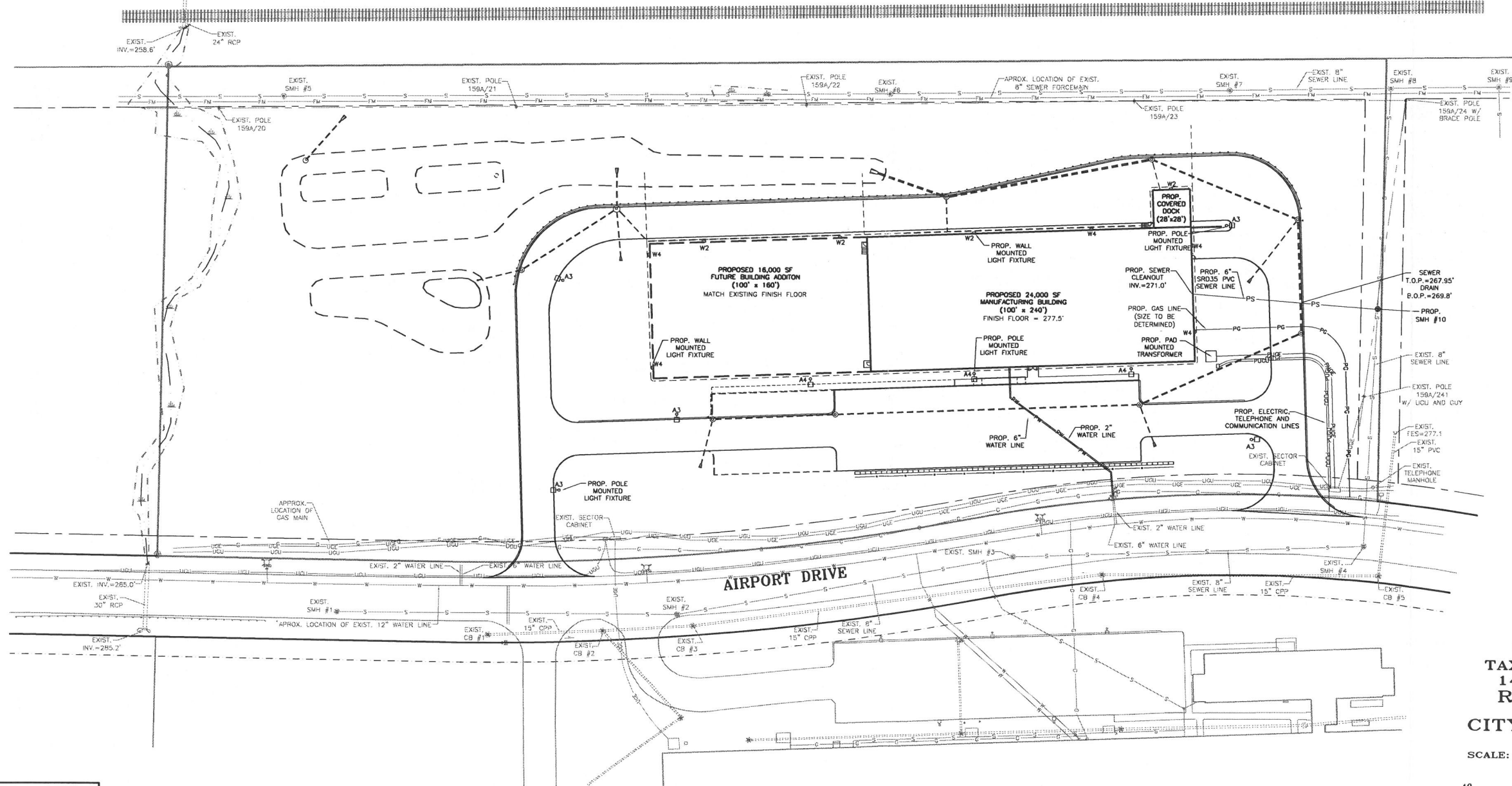
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps
□	A3	5	Lithonia Lighting	DSX0 LED 400 1000 40K T3M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED	1
□	A4	3	Lithonia Lighting	DSX0 LED 400 1000 40K T3M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED	1
□	W2	4	Lithonia Lighting	DSXW1 LED 200 1000 40K T2S MVOLT	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T2S OPTIC, 4000K, @ 1000mA, mounted at 18ft	LED	1
□	W4	5	Lithonia Lighting	DSXW1 LED 200 1000 40K T2S MVOLT	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T2S OPTIC, 4000K, @ 1000mA, mounted at 18ft	LED	1

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



09/15/15 - REVISE LOCATION OF PROPOSED SMH #10. ADD PROPOSED LIGHTING FIXTURES.

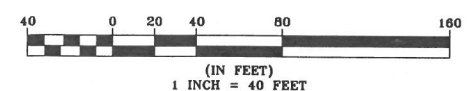
NEW HAMPSHIRE NORTHCOAST CORPORATION



EXISTING SEWER STRUCTURES	PROPOSED SEWER STRUCTURES
EXIST. SMH #1 RIM = 290.1' INV. IN = 272.5' INV. OUT = 281.5'	PROP. SMH #10 RIM = 272.5' INV. IN = 264.8'(S) INV. IN = 264.8'(W) INV. OUT = 264.7'
EXIST. SMH #2 RIM = 288.8' INV. IN = 276.6'	
EXIST. SMH #3 RIM = 287.7' INV. OUT = 280.4'	
EXIST. SMH #4 RIM = 287.4' INV. IN = 277.4' INV. OUT = 276.6'	
EXIST. SMH #5 RIM = 265.8'	
EXIST. SMH #6 RIM = 262.9' INV. IN = 256.3' INV. OUT = 256.2'	
EXIST. SMH #7 RIM = 261.7' INV. IN = 255.2' INV. OUT = 255.1'	
EXIST. SMH #8 RIM = 261.6' INV. IN = 253.9'(W) INV. IN = 255.2'(S) INV. OUT = 253.6'	
EXIST. SMH #9 RIM = 259.6' INV. IN = 253.1'(W) INV. IN = 254.1'(S) INV. OUT = 253.0'	

UTILITY PLAN
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: 1" = 40' DECEMBER 2019
GRAPHIC SCALE



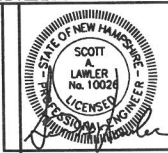
FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275/SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

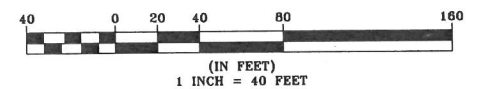
2 Continental Blvd., Rochester, N.H. 603-335-3948

C-4

[illegible]

**EROSION AND SEDIMENTATION
CONTROL PLAN
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER**

SCALE: 1" = 40' DECEMBER 2019
GRAPHIC SCALE



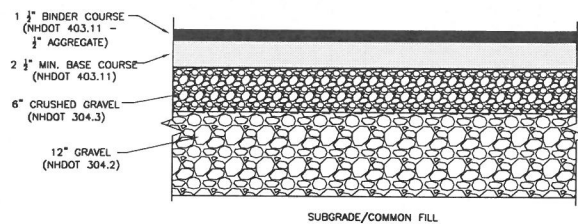
FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275\SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

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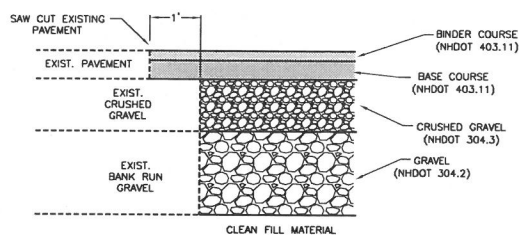


PARKING LOT CROSS-SECTIONS

NOT TO SCALE

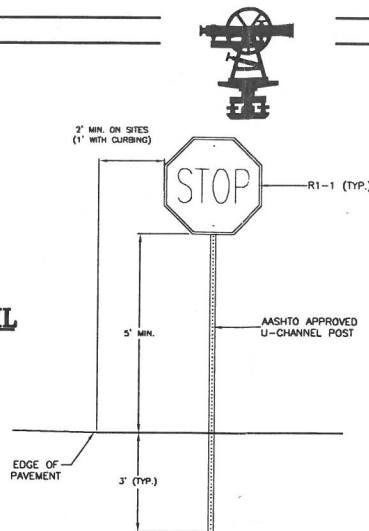
PAVEMENT NOTES:

1. PLACE COMMON FILL IN 12 INCH LIFTS. COMPACT COMMON FILL TO 95% MAXIMUM PROCTOR DENSITY.
2. PLACE GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
3. PLACE CRUSHED GRAVEL IN MAXIMUM 8 INCH LIFTS. COMPACT TO 95% MAXIMUM PROCTOR DENSITY.
4. PAVEMENT MUST BE INSTALLED IN TWO COURSES, A BINDER COURSE AND A WEARING COURSE.



TYPICAL PAVEMENT MATCHING DETAIL

NOT TO SCALE



- NOTES:**
1. SIGN POST SHALL BE AASHTO APPROVED U-CHANNEL OR OTHER PER AASHTO "SPECIFICATIONS FOR STRUCTURAL SUPPORT OF HIGHWAY SIGNS, LUMINARIES AND SIGNALS", LATEST EDITION.
 2. SIGNS SHALL BE MOUNTED 5 FT FROM GROUND TO BOTTOM EDGE WHERE PARKING AND PARKING LOT MOVEMENTS TAKE PLACE.
 3. SIGNS SHALL BE PLACED SO THAT NEAREST EDGE IS 2 FT. FROM EDGE OF PAVEMENT UNLESS CURBED.

TYPICAL TRAFFIC SIGN

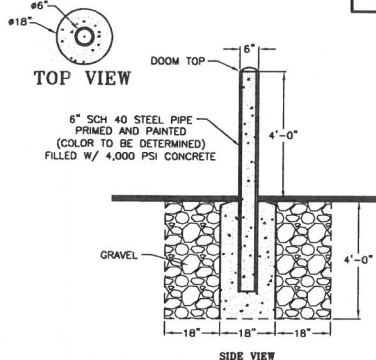
NOT TO SCALE

ITEM NO.	SIGN SIZE		TEXT	NO. SIGNS REQ'D
	HEIGHT	WIDTH		
R1-1	30"	30"	STOP	1
R7-8a	18"	12"	RESERVED PARKING	4
R7-8b	6"	12"	VAN ACCESSIBLE	1

- NOTES:**
1. ALL SIGNS SHALL BE PER "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

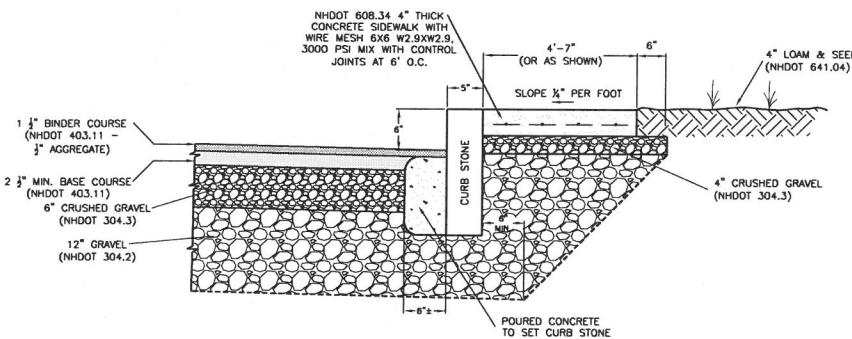
SIGN SCHEDULE

NOT TO SCALE



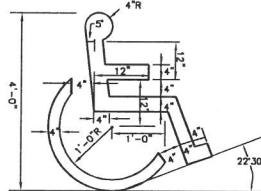
STEEL BOLLARD DETAIL

NOT TO SCALE

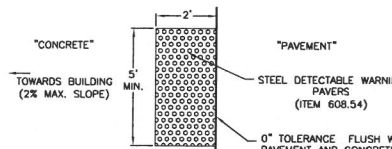


CONCRETE SIDEWALK WITH GRANITE CURB DETAIL

NOT TO SCALE

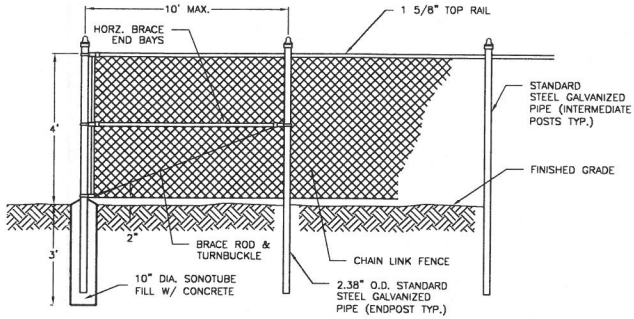


ACCESSIBLE SYMBOL



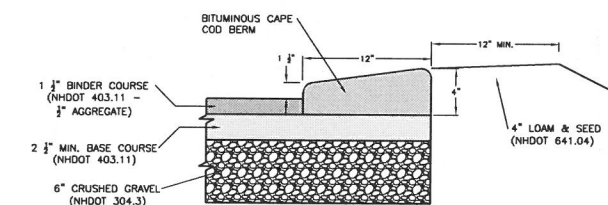
DETECTABLE WARNING PAVER DETAIL

NOT TO SCALE



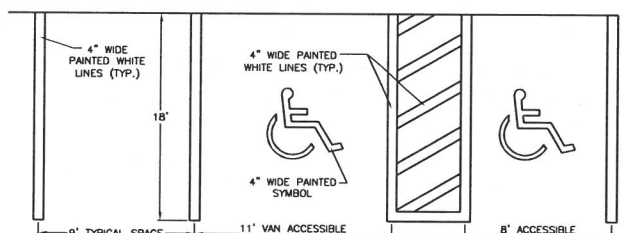
TYPICAL CHAINLINK FENCE

NOT TO SCALE



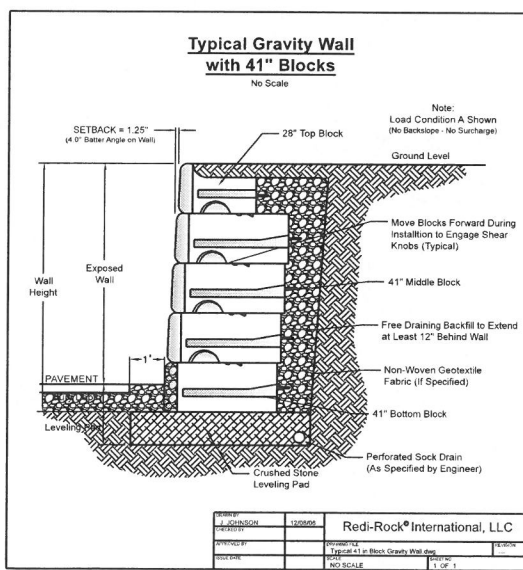
BITUMINOUS CAPE COD BERM DETAIL

NOT TO SCALE



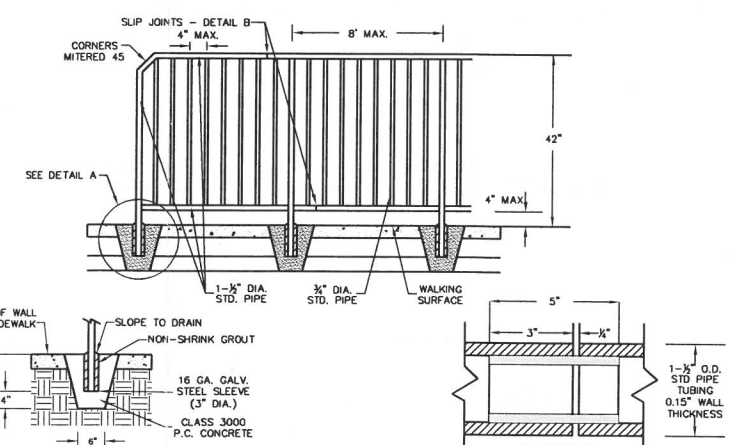
STALL STRIPING DETAIL

NOT TO SCALE



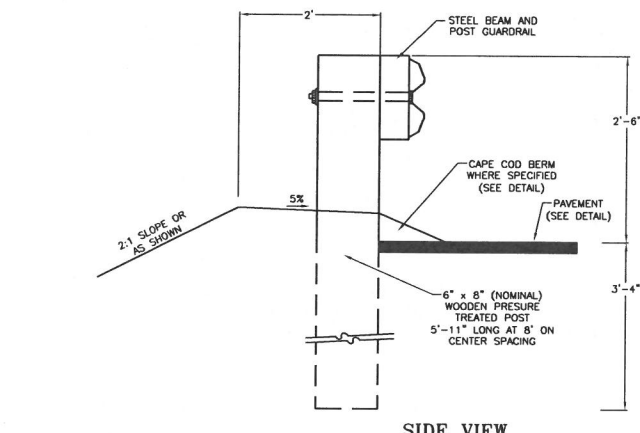
TYPICAL BLOCK RETAINING WALL DETAIL

NOT TO SCALE



METAL HANDRAIL

NOT TO SCALE



CURBING AND GUARD RAIL DETAIL

NOT TO SCALE

- GENERAL SIDEWALK NOTES:**
1. THE MAXIMUM RUNNING SLOPE OF ANY SIDEWALK CURB IS 12:1. THE MAXIMUM CROSS SLOPE IS 2%.
 2. THE SLOPE OF THE LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.
 3. TRANSITIONS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
 4. DETECTABLE WARNING PAVERS (ITEM 608.54) SHALL BE USED ON CONCRETE RAMPS AS SHOWN. EACH TACTICAL WARNING STRIP PANEL SHALL A TRUNCATED DOMED SURFACE AT LEAST 2'-0" IN WIDTH, MEASURED FROM THE BACK OF THE CURB TIP DOWN, AND 5'-0" IN LENGTH MEASURED PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.

HANDICAP RAMP DETAIL "A"

NOT TO SCALE

FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275\SP-1
F.B. NO. SDR-TJR

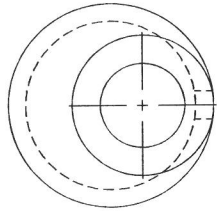
- NOTES:**
1. CONTRACTOR SHALL MAKE SURE POST DO NOT PENETRATE DRAINAGE PIPES OR OTHER UNDERGROUND UTILITY LINES.

31 Mooney Street, Alton, N.H. 603-875-3948

CONSTRUCTION DETAILS
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: AS SHOWN DECEMBER 2019

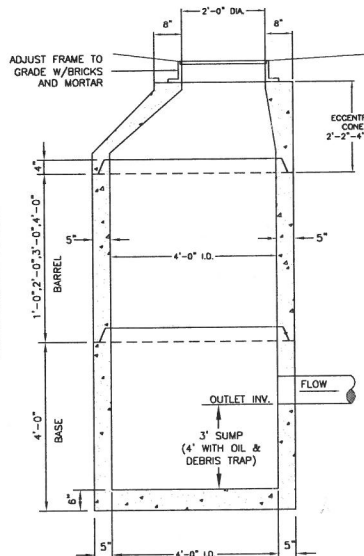
2 Continental Blvd., Rochester, N.H. 603-335-3948



PLAN VIEW

DRAIN LINE DIAMETER	SUM OF DRAIN LINE DIAMETER	CATCH BASIN DIAMETER
15" TO 18"	LESS THAN 54"	4'
21" TO 27"	LESS THAN 72"	5'
30" TO 33"	LESS THAN 90"	6'
36" & LARGER	GREATER THAN 90"	REFER TO THE STANDARD

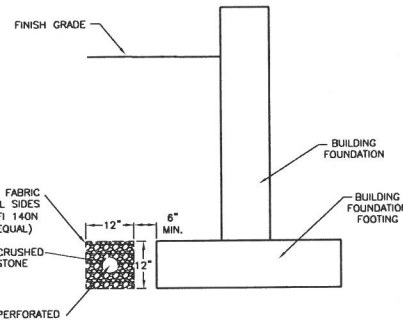
- NOTES:
1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
 2. REINFORCING: SHALL BE PROVIDED FOR H-20 LOADING.
 3. SHIPLAP JOINTS SEALED WITH 1 STRIP OF BUTYL RUBBER SEALANT.
 4. PIPE OPENINGS CAST IN AS REQUIRED.
 5. RISER HEIGHT VARIES 1', 2', 3' OR 4' TO REACH DESIRED DEPTH.
 6. PIPE CONNECTIONS SHALL BE MORTARED.
 7. PRECAST SECTIONS SHALL CONFORM TO ASTM C-478.
 8. SEE SLAB TOP DETAIL FOR STRUCTURES REQUIRING SLAB TOPS, I.E. DOUBLE GRATE AND FRAME STRUCTURES.



SECTION VIEW

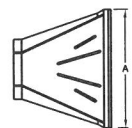
PRE-CAST REINFORCED CATCH BASIN

NOT TO SCALE



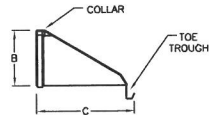
FOUNDATION DRAIN DETAIL

NOT TO SCALE

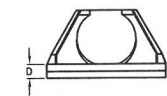


TOP VIEW

PIPE DIAMETERS	A	B	C	D
10" / 12"	42	14.5	33	6
15"	41	19	34	6
18"	49	22	43	6
24"	59.5	28	48	6
30"	88	36	63.5	6
36"	88	43	66.5	6



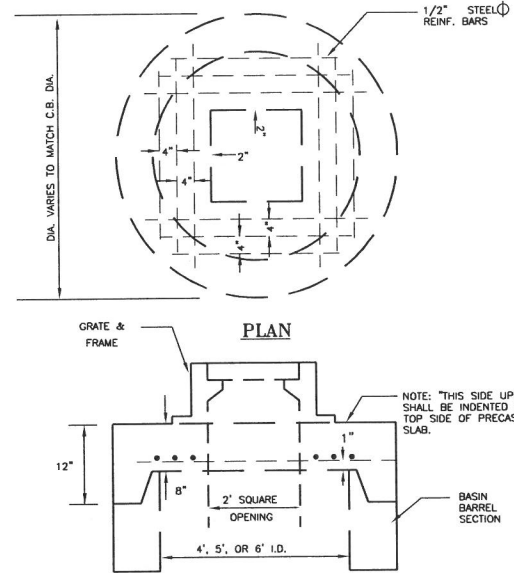
SIDE VIEW



FRONT VIEW

FLAIED END SECTION DETAIL

NOT TO SCALE

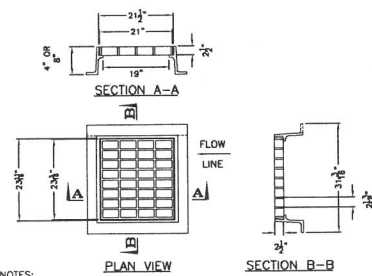


ELEVATION

- NOTES:
1. SLAB TO BE PLACED IN LIEU OF TAPERED SECTION WHERE PIPE WOULD OTHERWISE ENTER INTO TAPERED SECTION OF THE STRUCTURE AND WHERE PERMITTED.
 2. SLAB TOP MAY BE CASTED WITH MINIMUM OR NO INTERLOCKING CHANNEL. HOWEVER, THE CONTRACTOR MUST ENSURE THE SLAB TOP IS FIRMLY ATTACHED TO THE STRUCTURE.

REINFORCED CONCRETE SLAB COVER

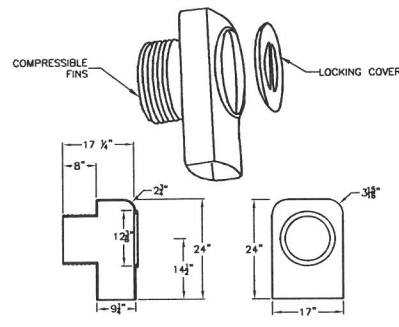
NOT TO SCALE



- NOTES:
1. FRAME AND GRATE SHALL BE CAST IRON.
 2. FRAME AVAILABLE IN 4" OR 8" HEIGHTS.
 3. USE 3 FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.
 4. ALL DIMENSIONS ARE NOMINAL.

CATCH BASIN TYPE 'B' GRATE DETAIL

NOT TO SCALE



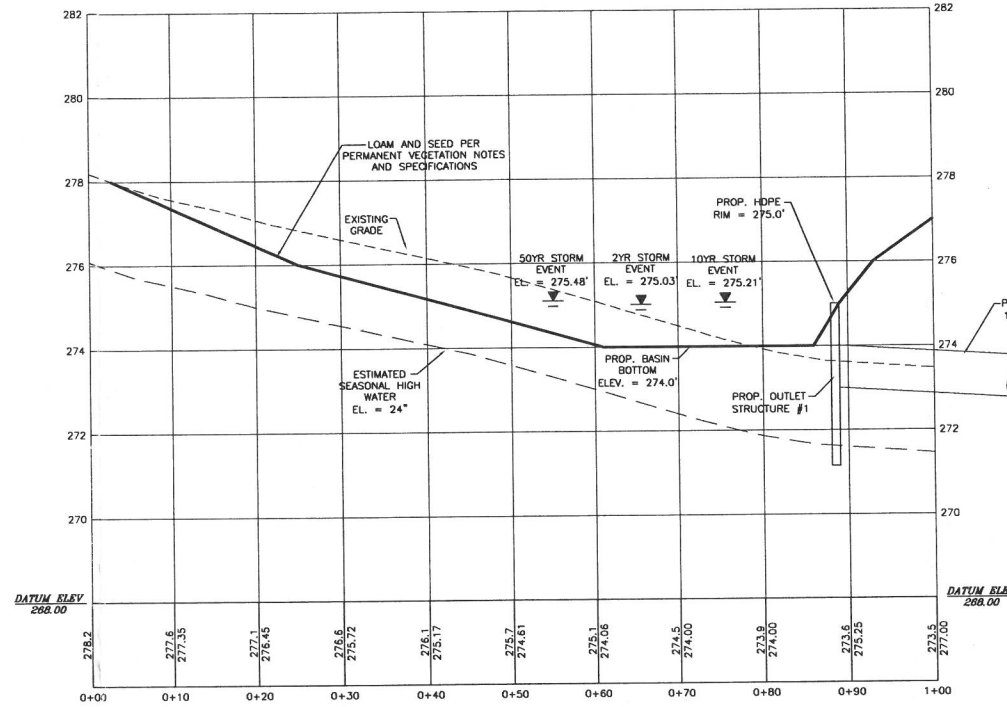
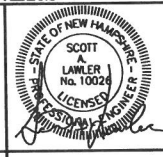
- NOTES:
1. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM
 2. DIMENSIONS ARE FOR 12" DIAMETERS.
 3. UNITS ARE AVAILABLE IN 8", 10", 12", 15" AND 18" DIAMETERS.

ELIMINATOR CATCH BASIN OIL AND DEBRIS TRAP DETAIL

NOT TO SCALE



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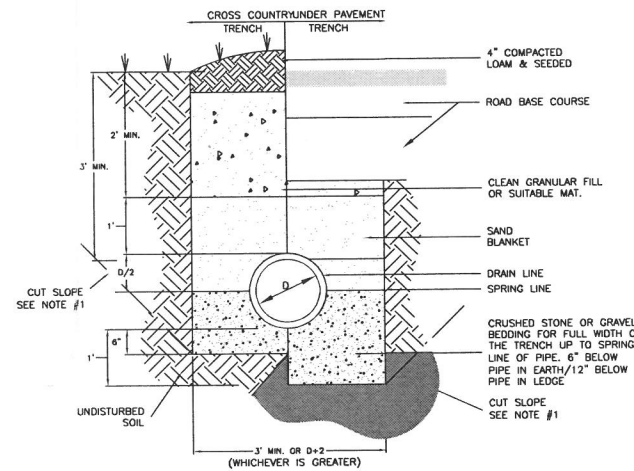


INFILTRATION BASIN #1 CROSS SECTION

1" = 10' (HORZ.) & 1" = 2' (VERT.)

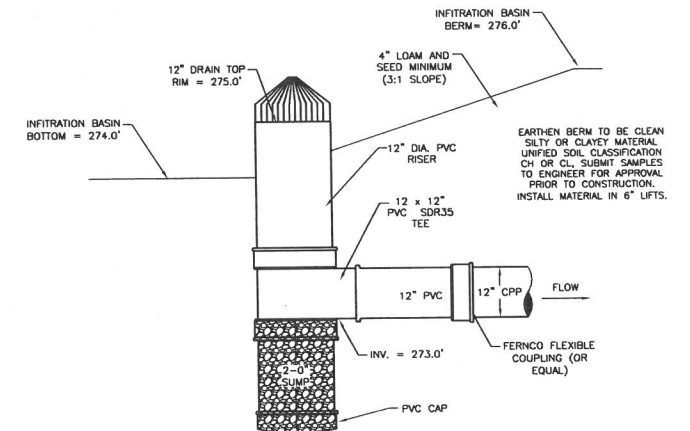
INFILTRATION BASIN:

- SPECIFICATIONS:
1. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO THE INFILTRATION BASIN.
 2. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION BASIN.
 3. AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
 4. VEGETATION SHALL BE ESTABLISHED IMMEDIATELY AFTER FINAL GRADING IS COMPLETED.
 5. CONSTRUCT THE INFILTRATION BASIN TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
 6. LOAM AND SEED ONLY THE SLOPES OF THE INFILTRATION BASIN AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SHEET C-10. SEED MIXTURE = A.
 7. DO NOT PLACE INFILTRATION SYSTEMS INTO SERVICE UNTIL THE CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- MAINTENANCE REQUIREMENTS:
1. INSPECT PRETREATMENT MEASURES (I.E. SEDIMENT FOREBAY(S), HOODED CATCH BASINS, ETC.) AT LEAST TWICE A YEAR AND AFTER EVERY STORM GREATER THAN 2.5 INCHES OF RAIN OVER A 24-HOUR PERIOD.
 2. INSPECT INFILTRATION SURFACE BI-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
 3. INSPECT INFILTRATION SURFACE AFTER ANY RAINFALL EVENT OF 2.5-INCHES OR GREATER IN A 24-HOUR PERIOD.
 4. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION. REPAIR AREA OF REMOVAL AS NECESSARY TO RESTORE INFILTRATION CAPACITY.
 5. PERFORM MAINTENANCE AND REHABILITATION BASED ON INSPECTIONS.
 6. REMOVE DEBRIS (IF ANY) FROM INFILTRATION BASIN INLET BASED ON INSPECTION.
 7. CONDUCT PERIODIC MOWING OF THE INFILTRATION BASIN SLOPES AND EMBANKMENTS (MINIMUM TWICE A YEAR) TO ELIMINATE WOODY GROWTH FROM THE EMBANKMENTS AND BOTTOM. MOWING THE INFILTRATION BASIN EMBANKMENTS WHEN MOWING THE REST OF THE SITE IS RECOMMENDED.
 8. IF THE INFILTRATION SYSTEM DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL (I.E. PROFESSIONAL ENGINEER, CERTIFIED SOILS SCIENTIST, ETC.) SHALL ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE INFILTRATION SURFACE.



DRAINAGE PIPE TRENCH INSTALLATION DETAIL

NOT TO SCALE



INFILTRATION BASIN #1 OUTLET STANDPIPE DETAIL

NOT TO SCALE

DRAINAGE DETAILS
TAX MAP 243, LOT 34
127 & 145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: AS SHOWN DECEMBER 2019

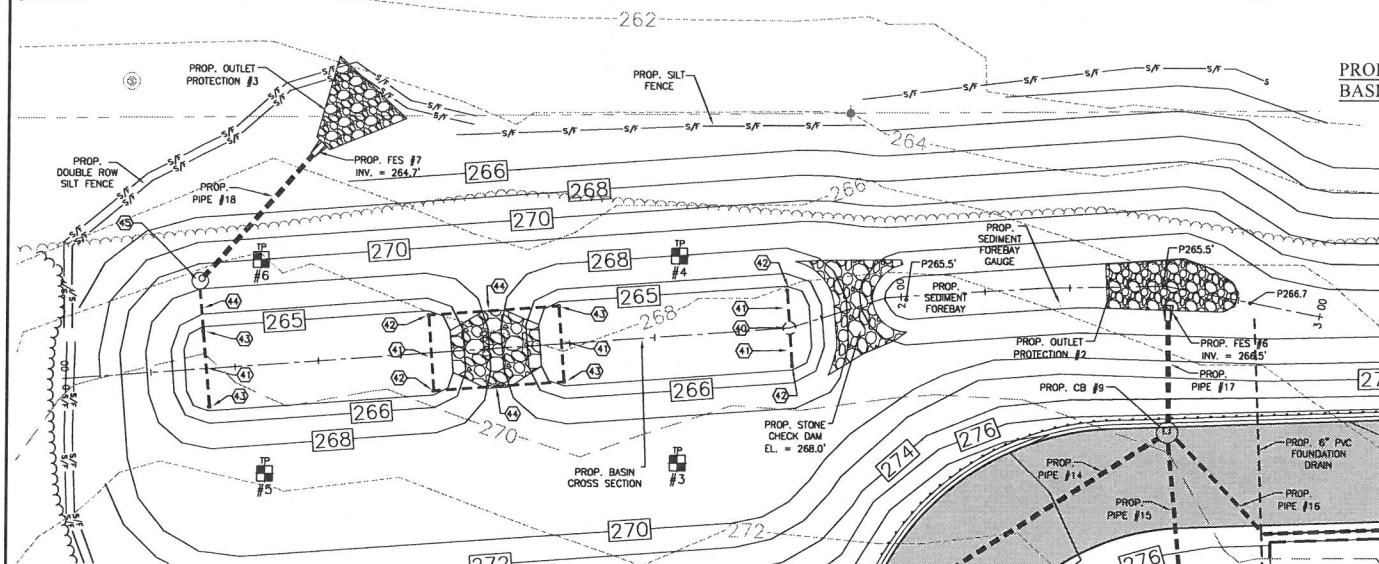
2 Continental Blvd., Rochester, N.H. 603-335-3948

C-7



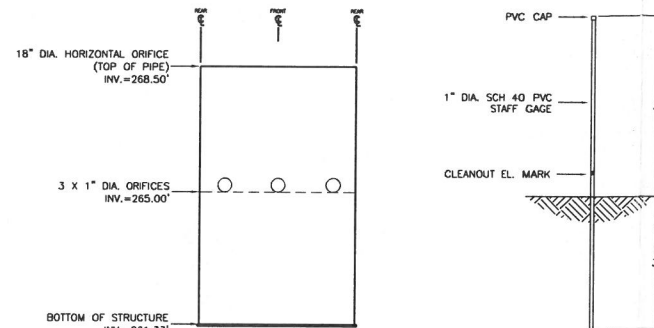
PROPOSED GRAVEL WETLAND
BASIN DRAINAGE STRUCTURES

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



GRAVEL WETLANDS BASIN PLAN
1" = 20'

- 40. PROP. 3" PRECAST CONCRETE PERFORATED DRY WELL
- 41. PROP. 8" PERF. PVC UNDER DRAIN INV. = 262.33' (LAID LEVEL)
- 42. PROP. 8" PERF. PVC RISER GRATE = 266.75'
- 43. PROP. 8" PERF. PVC TO ELEV. 264.33' & SOLID PVC ABOVE CAP = 267.0'
- 44. PROP. 8" PVC INV. = 262.33' (LAID LEVEL)
- 45. PROP. 4" CONCRETE OUTLET STRUCTURE TOP EL. = 269.0'



GRAVEL WETLAND
ORIFICE SCHEMATIC
SCALE: NOT TO SCALE

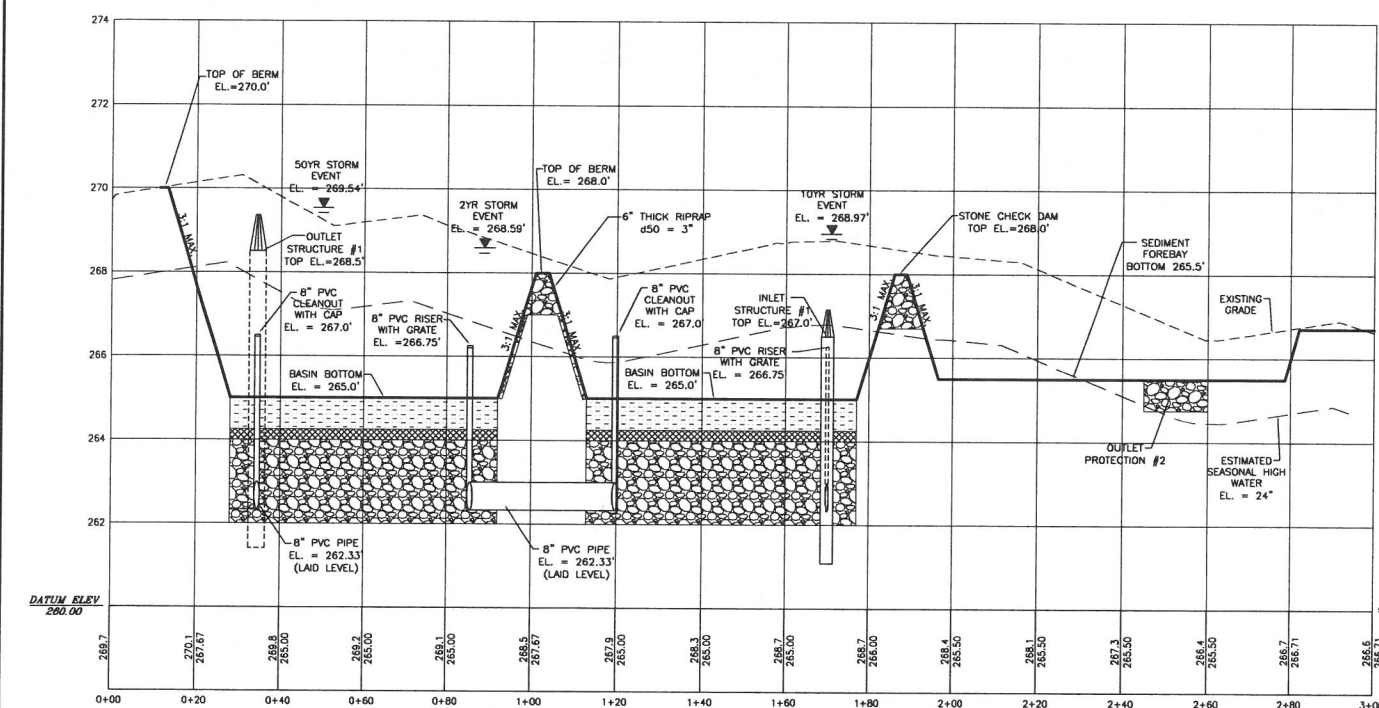
SEDIMENT FOREBAY
GAUGE DETAIL
NOT TO SCALE

CONTACT INFORMATION FOR AGRI-DRAIN CORPORATION:

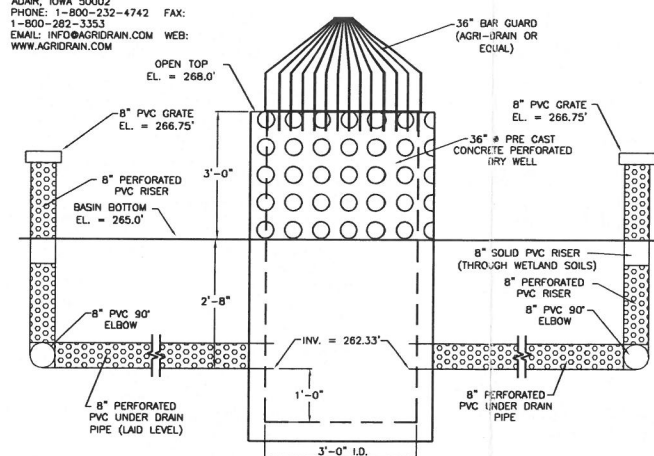
1. THE BAR GUARD SCREEN ON TOP OF THE INLET CONTROL STRUCTURE IS AGRI-DRAIN CORPORATION PRODUCTS (OR EQUAL). AGRI-DRAIN CORPORATION CAN BE CONTACTED AT THE FOLLOWING ADDRESS: TELEPHONE NUMBER, FAX NUMBER AND EMAIL ACCOUNT: AGRI-DRAIN CORPORATION P.O. BOX 458 1462 340TH STREET ADAR, IOWA 50002 PHONE: 1-800-232-4742 FAX: 1-800-282-3353 EMAIL: INFO@AGRIDRAIN.COM WEB: WWW.AGRIDRAIN.COM
2. STAFF GAGE TO BE SCHEDULE 40 PVC DRIVEN OR PLACED IN GROUND A MINIMUM 3'-FT. CLEANOUT MARK ON STAFF TO BE RED PAINT SET 6-INCHES FROM BOTTOM OF BASIN.

SEDIMENT FOREBAY:

- SPECIFICATIONS:**
1. CONSTRUCT THE SEDIMENT FOREBAY TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION.
 2. LOAM AND SEED THE SLOPES AND BOTTOM OF THE SEDIMENT FOREBAY AS PRESCRIBED IN THE "PERMANENT VEGETATION" NOTES FOUND ON SHEET C-10.
 3. SEED MIXTURE = A
 4. MAINTENANCE REQUIREMENTS:
 1. INSPECT SEDIMENT FOREBAY BI-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
 2. CONDUCT PERIODIC MOWING OF THE SEDIMENT FOREBAY SLOPES AND EMBANKMENTS (MINIMUM TWICE A YEAR) TO ELIMINATE WOODY GROWTH FROM THE EMBANKMENTS AND BOTTOM. MOWING THE SEDIMENT FOREBAY EMBANKMENTS WHEN MOWING THE REST OF THE SITE IS RECOMMENDED.
 3. REMOVE DEBRIS FROM THE OUTLET STRUCTURE OF THE SEDIMENT FOREBAY (I.E. STONE CHECK DAM) AT LEAST ONCE ANNUALLY.
 4. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION. WHEN SEDIMENT HAS REACHED THE RED MARK ON THE SEDIMENT STAFF GAGE INSTALLED IN THE FOREBAY, REMOVE SEDIMENT AND DISPOSE OF IT OFF-SITE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. ELEVATION OF RED CLEANOUT MARK ON STAFF GAGE = 266.00

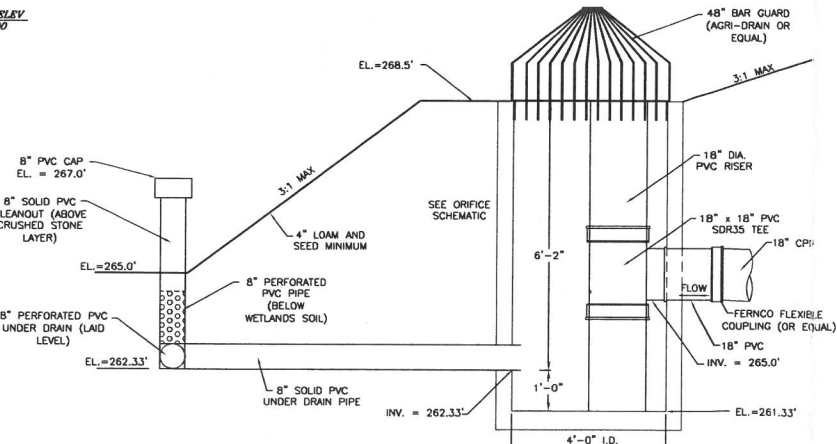


GRAVEL WETLANDS BASIN CROSS SECTION
1" = 20' (HORZ.) & 1" = 2' (VERT.)



GRAVEL WETLANDS INLET STRUCTURE DETAIL
SCALE: NOT TO SCALE

- NOTES:**
1. 8" PERFORATED PIPE SHALL BE SUPPLIED WITH 4 ROWS OF 1" TO 3" DIAMETER HOLES EVERY 3 INCHES.
 2. PERFORATED PIPES SHALL BE PERFORATED IN ACCORDANCE TO ASTM F-758.



GRAVEL WETLANDS OUTLET STRUCTURE DETAIL
SCALE: NOT TO SCALE

GRAVEL WETLAND:

- SPECIFICATIONS:**
1. CONSTRUCT THE GRAVEL WETLAND TO THE GRADES DEPICTED ON THE PLAN AND CROSS-SECTION. OVER EXCAVATE THE 3/4-INCH STONE MEDIA BED AS DEPICTED TO ACCOMMODATE THE 24-INCHES OF STONE AND 3-INCHES OF 3/8" PEA GRAVEL AS SHOWN IN THE CROSS-SECTION.
 2. INSTALL THE WETLAND SOIL IN AN 8-INCH LAYER COMPRISED EXISTING ON-SITE WETLAND SOIL THAT HAS BEEN STOCKED FOR RE-USE OR MEETING THE SPECIFICATION BELOW OF:

WETLAND SOILS MIX:	
COMPOST	= 25%
LOAM	= 25%
PEAT MOSS	= 25%
COARSE SAND (SEPTIC)	= 25%
 3. SEED THE BOTTOM OF THE GRAVEL WETLAND BASIN AS PRESCRIBED NOTES FOUND ON SHEET L-1. SEED MIXTURE = A
 4. LOAM AND SEED ONLY THE SLOPES OF THE GRAVEL WETLAND AS PRESCRIBED NOTES FOUND ON SHEET L-1. SEED MIXTURE = B
 5. PLANT THE BOTTOM OF THE GRAVEL WETLAND AS PRESCRIBED ON SHEET L-1.
- RECOMMENDED SEEDING RATES:**
SUPPLEMENTAL LLB/6,000 SQ. FT. OR STRAIGHT LLB/3,000 SQ.FT.
- MAINTENANCE REQUIREMENTS:**
1. INSPECT PRETREATMENT MEASURES (I.E. SEDIMENT FOREBAY(S), HOODED CATCH BASINS, ETC.) BI-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
 2. INSPECT GRAVEL WETLAND SURFACE BI-ANNUALLY, ONCE IN THE SPRING PRIOR TO MAY 15 AND ONCE IN THE FALL PRIOR TO OCTOBER 15.
 3. INSPECT GRAVEL WETLAND AFTER ANY RAINFALL EVENT OF 2.5-INCHES IN A 24-HOUR PERIOD OR GREATER.
 4. REMOVE AND DISPOSE OF ACCUMULATED SEDIMENT BASED ON INSPECTION. REPAIR AREA OF REMOVAL AS NECESSARY.
 5. PERFORM MAINTENANCE AND REHABILITATION BASED ON INSPECTIONS.
 6. REMOVE DEBRIS (IF ANY) FROM INFILTRATION BASIN INLET BASED ON INSPECTION.
 7. CONDUCT PERIODIC MOWING OF THE INFILTRATION BASIN SLOPES AND EMBANKMENTS (MINIMUM TWICE A YEAR) TO ELIMINATE WOODY GROWTH FROM THE EMBANKMENTS AND BOTTOM. MOWING THE INFILTRATION BASIN EMBANKMENTS WHEN MOWING THE REST OF THE SITE IS RECOMMENDED.
 8. REMOVE PLANT MATERIAL THAT DIES BACK IN THE FALL FROM THE GRAVEL WETLAND SURFACE (I.E. GRASSES, REEDS, ETC.) ONLY REMOVE THE ABOVE GROUND GROWTH THAT HAS DIED BACK. LEAVE THE ROOT MASS INTACT.
 9. IF THE GRAVEL WETLAND DOES NOT DRAIN WITHIN 72-HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL (I.E. PROFESSIONAL ENGINEER, CERTIFIED WETLAND OR SOILS SCIENTIST OR LANDSCAPE ARCHITECT, ETC.) SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE STONE BED AND PIPE MANIFOLD.

GRAVEL WETLAND
BASIN DETAILS
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

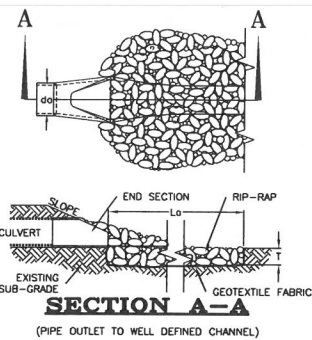
SCALE: AS SHOWN DECEMBER 2019

FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275\SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

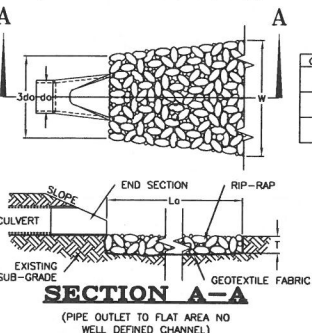
2 Continental Blvd., Rochester, N.H. 603-335-3948



RIP-RAP GRADATION

d50 = 3"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	5	TO 6
85	4	TO 5
50	3	TO 4
15	1	TO 2

d50 = 4"		
% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)	
100	6	TO 8
85	5	TO 7
50	4	TO 6
15	1	TO 2



APRON DIMENSION TABLE

OUTLET PROT. #	PIPE OUTLET	W ₀	W	L ₀	T	d50
#1	24" CPP INLET INTO WALLE	8'	8.5'	22'	12"	4"
#2	18" CPP INLET INTO FOREBAY	6'	6'	14'	9"	3"
#3	12" CPP OUTLET INTO BASIN 2	4.5'	22'	18'	12"	4"

NOTES:

- ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
- THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
- APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

CONSTRUCTION SPECIFICATIONS:

- PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES SHOWN ON THE PLANS.
- MINIMUM 6" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP.
- THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO (2) PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
- RIP-RAP SIZE CHOSEN FOR THE WORST CASE OF ALL OUTLETS. ALL RIP-RAP USED FOR PIPE OUTLET PROTECTION WILL HAVE THE SAME GRADATION AND THICKNESS.

MAINTENANCE NOTES:

- OUTLETS SHALL BE INSPECTED AND CLEANED ANNUALLY AND AFTER ANY MAJOR STORM EVENT. ANY EROSION OR DAMAGE TO THE RIP-RAP SHALL BE REPAIRED IMMEDIATELY.
- CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS OCCURRING.
- THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALCON TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

PIPE OUTLET PROTECTION DETAIL

DUST CONTROL PRACTICES:

- APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.
- WATER APPLICATION:
 - MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST.
 - AVOID EXCESSIVE APPLICATION OF WATER THAT WOULD RESULT IN MOBILIZING SEDIMENT AND SUBSEQUENT DEPOSITION IN NATURAL WATERBODIES.
- STONE APPLICATION:
 - COVER SURFACE WITH CRUSHED OR COARSE GRAVEL.
 - IN AREAS NEAR WATERWAYS USE ONLY CHEMICALLY STABILIZED OR WASHED AGGREGATE.
- REFER TO "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" FOR OTHER ALLOWABLE DUST CONTROL PRACTICES (I.E. COMMERCIAL TACKIFIERS OR CHEMICAL TREATMENTS SUCH AS CALCIUM CHLORIDE, ETC.)

STOCKPILE PRACTICES:

- LOCATE STOCKPILES A MINIMUM OF 50-FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES OR INLETS.
- PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERM, SANDBAGS OR OTHER APPROVED PRACTICES.
- STOCKPILES SHALL BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN NHSM VOL. 3, TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
- IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
- PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

PROTECTION OF INACTIVE STOCKPILES:

- INACTIVE SOIL STOCKPILES SHALL BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY STABILIZATION PRACTICE) AND TEMPORARY PERIMETER SEDIMENT BARRIER (I.E. SILT FENCE, ETC.) AT ALL TIMES.
- INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS, AND SIMILAR MATERIALS SHALL BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHALL ALSO BE COVERED.

PROTECTION OF ACTIVE STOCKPILES:

- ALL STOCKPILES SHALL BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHALL BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHALL BE INSPECTED AT THE END OF EACH WORKING DAY.
- WHEN A STORM IS PREDICTED, STOCKPILES SHALL BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

FILE NO. 104
PLAN NO. C-3013
DWC NO. 19275/SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

PERMANENT VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:

- INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.
- GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- RUNOFF SHALL BE DIVERTED FROM THE SEEDBED AREA.
- ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHALL INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR TO THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:

- WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHALL BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY AND SILT SOILS SHALL BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
- REMOVE FROM THE SURFACE ALL STONES, ZINCES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLOUDS, LUMPS, TRASH OR OTHER UNSUITABLE MATERIAL.
- INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
- WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
- IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHALL BE APPLIED DURING THE GROWING SEASON.
- APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. FERTILIZER SHALL BE RESTRICTED TO LIME, WOOD ASH OR LOW PHOSPHATE AND SLOW RELEASE NITROGEN VARIETIES, UNLESS A SOIL TEST WARRANTS OTHERWISE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

*EQUIVALENT TO 50X CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 870 LB./ACRE (20 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (6-0-4) OR EQUIVALENT

SEEDING:

- INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.
- APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.
- WHERE FEASIBLE EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHALL BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
- SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHALL BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDING IN LATE SUMMER AT LEAST 35% OF THE SEED SHALL BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES, MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSM, VOL. 3, AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- AREAS SEEDING BETWEEN MAY 15 AND AUGUST 15 SHALL BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSM, VOL. 3.
- VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHALL BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVER WINTER PROTECTION.

HYDROSEEDING:

- WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RANGING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN DIAMETER.
- SLOPES MUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY).
- LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR MULCH. BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.
- SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:

- PERMANENT SEEDING AREAS SHALL BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS SHALL CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
- SEEDING AREAS SHALL BE MAINTAINED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MAINTENANCE HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER, BASED ON INSPECTION. AREAS SHALL BE RESEED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
- AT A MINIMUM, 85% OF THE SOIL SURFACE SHALL BE COVERED BY VEGETATION.
- IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND AREAS SHALL BE RESEED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

PERMANENT VEGETATION SEEDING RECOMMENDATIONS

USE	MIXTURE	SPECIES	LBS./ACRE	LBS./1,000-SF
STEEP CUTS AND FILLS, BORROW AREAS	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDOp	2	0.05
		TOTAL	42	0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDOp	2	0.05
		TOTAL	42	0.95
LIGHTLY USED PARKING LOTS, OOD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE	20	0.45
		CREeping RED FESCUE	20	0.45
		REDOp	2	0.05
		TOTAL	42	0.95
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	F	CREeping RED FESCUE	50	1.15
		KENTUCKY BLUEGRASS	50	1.15
		TOTAL	100	2.30

SOURCES:

- NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3
- MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)



GENERAL CONSTRUCTION PHASING:

STABILIZATION:

- A SITE IS DEEMED STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOIL ON SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION UNDER THE CONDITIONS OF A 10-YEAR STORM EVENT, SUCH AS BUT NOT LIMITED TO:
 - IN AREAS THAT WILL NOT BE PAVED:
 - A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED, OR;
 - EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
 - IN AREAS TO BE PAVED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED.

TEMPORARY STABILIZATION:

- ALL AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE TEMPORARILY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES. THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.
- PERMANENT STABILIZATION:
 - ALL AREAS OF EXPOSED OR DISTURBED SOIL SHALL BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.
 - MAXIMUM AREA OF DISTURBANCE:
 - THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREA ARE STABILIZED.

ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.

- FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.
- EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.

- ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN DEPICTED ON SHEET C-3.
- ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON SHEET C-3.

- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.
- STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES".

- SLOPES SHALL NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGE.
- AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.

- AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHALL BE PLACED WITH SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR PLACEMENT OF SEED.
- ALL FILLS SHALL BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS AND OTHER FACILITIES, SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

- IN GENERAL, FILLS SHALL BE COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS. THE CONTRACTOR SHALL REVIEW THE PROJECT GEOTECHNICAL REPORT AND/OR THE "PROJECT SPECIFIC PHASING NOTES" FOR SPECIFIC GUIDANCE.
- ANY AND ALL FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS (LARGER THAN 3/4 THE DEPTH OF THE LIFT BEING INSTALLED), LOGS, STUMPS, BUILDING DEBRIS, FERTILIZER MATERIAL AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.

- ROUGHEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE (I.E. CLAY, SILT) MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.
- THE OUTER FACE OF THE FILL SLOPE SHALL BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE "SURFACE ROUGHENING" IN THE NHSM, VOL. 3.

- ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.
- USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. FILL BENCHES SHALL BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.

- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHALL BE REVISED TO PROPERLY MANAGE THE CONDITION.
- STABILIZE ALL GRADED AREAS WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.

- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
- THE PROJECT SHALL BE CONSTRUCTED TO MEET ALL REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER 880 RELATIVE TO INVASIVE SPECIES.

- ALL DISTURBED AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE. IN NO CASE SHALL ANY DISTURBED AREA BE LEFT UN-STABILIZED FOR LONGER THAN 21 DAYS. IF NECESSARY TEMPORARY STABILIZATION MEASURES AS DISCUSSED IN THE "GENERAL CONSTRUCTION PHASING NOTES" AND NHSM, VOL. 3 SHOULD BE EMPLOYED.

- DURING CONSTRUCTION ALL TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE INSPECTED WEEKLY AFTER EVERY 1/2 INCH OF RAINFALL, AND ANNUALLY.
- EXCESS SEDIMENT SHOULD BE REMOVED FROM TEMPORARY SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES WHEN IT REACHES PRESCRIBED THRESHOLDS DISCUSSED IN THE DETAILS FOR EACH PRACTICE.

- ALL DAMAGED TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE REPAIRED OR REPLACED IMMEDIATELY UPON NOTICE.
- SEDIMENT SHALL BE DISPOSED OF PROPERLY EITHER ON SITE OR OFF SITE, PRIOR TO PROJECT COMPLETION AND STABILIZATION.

- UPON PROJECT COMPLETION, ONCE THE SITE IS DEEMED STABILIZED (VEGETATION IS GERMINATED), THE TEMPORARY SEDIMENT CONTROL BARRIERS AND EROSION CONTROL PRACTICES SHALL BE REMOVED. ANY DISTURBANCE CREATED DURING REMOVAL SHALL BE REPAIRED IN AN APPROPRIATE MANNER.
- ACCUMULATED SEDIMENT SHALL BE REMOVED FROM ALL ON SITE CATCH BASINS AND THE SEDIMENT FOREBAYS TO THE GRAVEL WETLANDS BASIN.

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.



PROJECT SPECIFIC CONSTRUCTION PHASING:

- REFER TO THE "GENERAL CONSTRUCTION PHASING" NOTES PRIOR TO COMMENCING CONSTRUCTION IN ACCORDANCE WITH THE FOLLOWING PHASING. THE "GENERAL CONSTRUCTION PHASING" NOTES APPLY TO THE OVERALL CONSTRUCTION AND SHALL BE ADHERED TO.
- INSTALL ALL TEMPORARY SEDIMENT CONTROL BARRIERS (I.E. SILT FENCE, EROSION CONTROL MIX BERM, STONE CHECK DAMS, ETC.) AROUND THE OUTER PERIMETER OF THE CONSTRUCTION SITE AS DEPICTED ON SHEET C-5 PRIOR TO EARTH MOVING OPERATION ON SHEET C-2.

- INSTALL ORANGE SNOW FENCE AROUND THE PERIMETER OF THE INFILTRATION BASINS AND THE FENCE SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OF THE BASINS HAS STARTED.
- CLEAR, GRUB AND STRIP THE SITE. STUMPS, BRUSH AND OTHER ORGANIC WASTE SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.

- INSTALL A TEMPORARY CONSTRUCTION EXIT AT THE LOCATION OF THE PROPOSED DRIVEWAY CONNECTION TO AIRPORT DRIVE. MAINTAIN AS DIRECTED BY THE TEMPORARY CONSTRUCTION EXIT DETAIL.
- STOCKPILE STRIPPED TOPSOIL AND CUT MATERIAL TO BE REUSED ON SITE IN AN APPROPRIATE LOCATION IN ACCORDANCE WITH THE "SOIL STOCKPILES PRACTICES". MAINTAIN THE STOCKPILES AS DIRECTED IN THE "SOIL STOCKPILE PRACTICES".

- PERFORM THE NECESSARY CUTS AND FILLS TO CONSTRUCT THE GRAVEL WETLANDS BASIN AS DEPICTED ON SHEET C-3 AND IN ACCORDANCE WITH THE INFILTRATION BASIN DETAIL SHOWN ON SHEET C-2.
- PERFORM THE NECESSARY CUTS AND FILLS TO CONSTRUCT THE INFILTRATION BASIN AS DEPICTED ON SHEET C-3 AND IN ACCORDANCE WITH THE INFILTRATION BASIN DETAIL.

- CONSTRUCT THE GRAVEL WETLANDS BASIN, SEDIMENT FOREBAY AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAIL.
- ALL DITCHES/SWALES/AND BASINS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

- PERFORM THE NECESSARY CUTS AND FILLS TO SUBGRADE IN THE BUILDING AND PARKING LOT AREAS.
- INSTALL REQUIRED FILLS IN MAXIMUM 8-INCH LIFTS AND COMPACT EACH LIFT TO 95% MAXIMUM PROCTOR DENSITY.

- AS SUBGRADE IS ACHIEVED INSTALL REMAINING SEDIMENT CONTROL BARRIERS WITHIN THE SITE (I.E. ADDITIONAL SILT FENCE, CHECK DAMS AND SEDIMENT CONTROLS AND CATCH BASINS, ETC.)
- INSTALL ALL UTILITIES AND CLOSED DRAINAGE SYSTEM COMPONENTS (I.E. PIPE CULVERTS, CATCH BASINS AND REMAINING WATER MAIN) PER THE CORRESPONDING DETAILS AND AS SHOWN ON SHEET C-3 AND C-4. AS EACH STRUCTURE IS COMPLETED INSTALL THE CORRESPONDING INFILTRATION BASINS AND OUTLET PROTECTION. LOAM SEED AND MULCH THE SIDE SLOPES OF THE BASIN AS DIRECTED IN THE INFILTRATION BASIN DETAILS AND TEMPORARY SEDIMENT CONTROL BARRIER DEPICTED ON SHEET C-2.

- ALL CUT AND FILL SLOPES AND LAWN AREAS NOT TO BE PAVED SHALL BE LOAMED AND SEED FOR PERMANENT VEGETATION AND STABILIZATION AS DESCRIBED UNDER THE "PERMANENT VEGETATION PRACTICES" WITHIN 3 DAYS OF ACHIEVING FINAL GRADE.
- INSTALL ALL GRAVEL BASE AND CRUSHED GRAVEL MATERIALS FOR THE PARKING AREA AS SPECIFIED IN THE CORRESPONDING DETAILS.

- THE PARKING AREAS SHALL BE STABILIZED (CONSTRUCTED TO GRAVEL BASE COURSE) WITHIN 3 DAYS OF ACHIEVING FINISHED SUBGRADE ELEVATIONS.
- INSTALL PAVEMENT SURFACES AS SOON AS POSSIBLE AFTER THE INSTALLATION OF THE GRAVEL BASE AND CRUSHED GRAVEL. IN ORDER TO LIMIT THE SOIL EROSION AND POLLUTION OF THE GRAVEL MATERIALS WITH ORGANIC MATERIALS, IN NO CASE SHALL AREAS TO BE PAVED BE LEFT UNPROTECTED THROUGH OUT THE WINTER MONTHS.

- ALL DISTURBED AREAS SHALL BE STABILIZED AS SOON AS POSSIBLE. IN NO CASE SHALL ANY DISTURBED AREA BE LEFT UN-STABILIZED FOR LONGER THAN 21 DAYS. IF NECESSARY TEMPORARY STABILIZATION MEASURES AS DISCUSSED IN THE "GENERAL CONSTRUCTION PHASING NOTES" AND NHSM, VOL. 3 SHOULD BE EMPLOYED.

- MAINTENANCE AND INSPECTION:
 - DURING CONSTRUCTION ALL TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE INSPECTED WEEKLY AFTER EVERY 1/2 INCH OF RAINFALL, AND ANNUALLY.
 - EXCESS SEDIMENT SHOULD BE REMOVED FROM TEMPORARY SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES WHEN IT REACHES PRESCRIBED THRESHOLDS DISCUSSED IN THE DETAILS FOR EACH PRACTICE.

- ALL DAMAGED TEMPORARY AND PERMANENT SEDIMENT, EROSION CONTROL AND STORMWATER MANAGEMENT PRACTICES SHOULD BE REPAIRED OR REPLACED IMMEDIATELY UPON NOTICE.
- SEDIMENT SHALL BE DISPOSED OF PROPERLY EITHER ON SITE OR OFF SITE, PRIOR TO PROJECT COMPLETION AND STABILIZATION.

- UPON PROJECT COMPLETION, ONCE THE SITE IS DEEMED STABILIZED (VEGETATION IS GERMINATED), THE TEMPORARY SEDIMENT CONTROL BARRIERS AND EROSION CONTROL PRACTICES SHALL BE REMOVED. ANY DISTURBANCE CREATED DURING REMOVAL SHALL BE REPAIRED IN AN APPROPRIATE MANNER.
- ACCUMULATED SEDIMENT SHALL BE REMOVED FROM ALL ON SITE CATCH BASINS AND THE SEDIMENT FOREBAYS TO THE GRAVEL WETLANDS BASIN.

PERMANENT EROSION AND SEDIMENTATION CONTROL DETAILS

TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH

PREPARED FOR:
CITY OF ROCHESTER

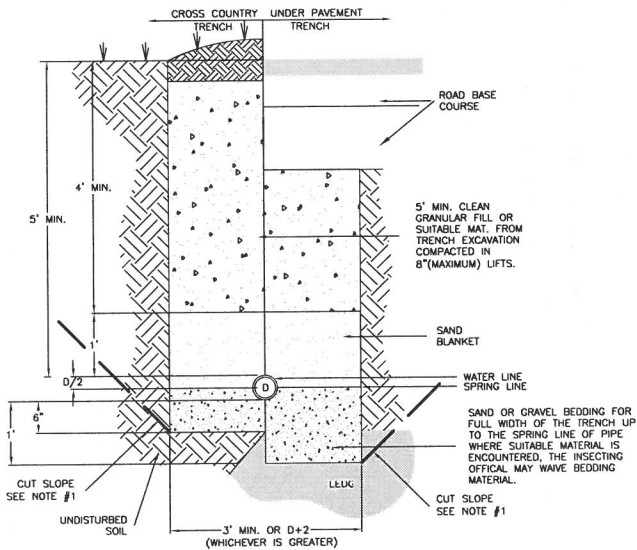
SCALE: AS SHOWN

DECEMBER 2019

2 Continental Blvd., Rochester, N.H. 603-335-3948

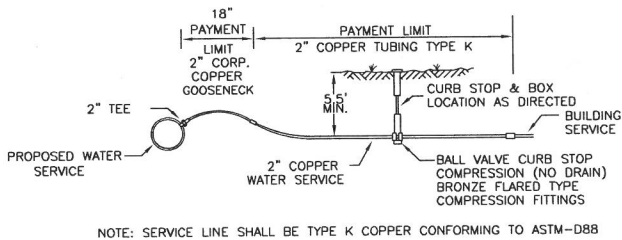
C-10

CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

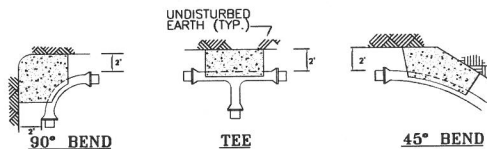


NOTES:
1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4'-FT. INSTALLATIONS DEEPER THAN 4'-FT REQUIRE THE USE OF A TRENCH BOX.
2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
3. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.

WATER PIPE TRENCH INSTALLATION DETAIL
NOT TO SCALE



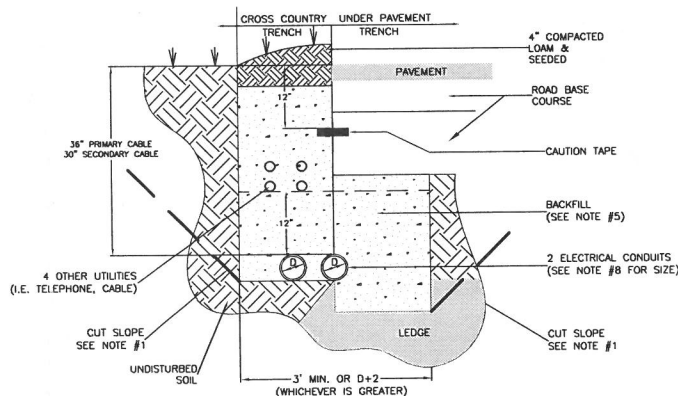
TYPICAL DOMESTIC SERVICE CONNECTION
NOT TO SCALE



PIPE SIZE	90° BEND	TEE	PLUG	45° BEND	22 1/2" & SMALLER
6"	5	4	3	2	2
8"	10	8	6	6	3
12"	24	18	8	12	8

NOTE: SIZE OF THRUST BLOCKS MAY BE INCREASED BY THE ENGINEER TO MEET SOIL CONDITIONS FOUND DURING CONSTRUCTION.

WATER MAIN THRUST BLOCK DETAILS
NOT TO SCALE

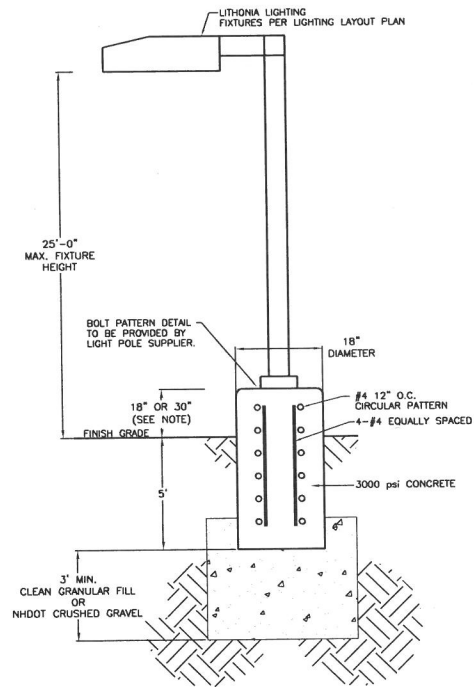


NOTES:
1. ALL NON-METALLIC CONDUIT AND FITTINGS SHALL BE ELECTRICAL GRADE, SCHEDULE 40 PVC, AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEMA TC2-1990 AND BE UL LISTED. ONLY GRAY-COLORED CONDUIT WILL BE ACCEPTED. ANY PVC CONDUIT NOT HAVING THE PROPER NEMA AND UL MARKINGS WILL NOT BE ACCEPTED. ALL STEEL CONDUITS SHALL CONFORM TO ASTM A120 AND BE RIGID GALVANIZED STEEL. ALL PVC JOINTS MUST BE CEMENTED. STEEL FITTINGS SHALL BE SEALED WITH COMPOUND.
2. ALL 90 DEGREE SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES. ALL STEEL SWEEPS WITHIN 18" OF THE SURFACE SHALL BE PROPERLY GROUNDING.
3. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE PSNH DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING CABLE PULLING.
4. THE CONDUIT SHALL CROSS PAVED AREAS AT APPROXIMATELY 90 DEGREES.
5. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY PSNH. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE THOROUGHLY COMPACTED IN 6-INCH LAYERS.
6. A SUITABLE PULL STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE PSNH IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.
7. ROUTING OF THE CONDUIT AND INSPECTION PRIOR TO BACKFILL WILL BE PROVIDED BY PSNH. INSTALLATION OF THE CONDUIT WILL BE DONE BY THE CONTRACTOR. THE PSNH SUPERVISOR MUST BE NOTIFIED 2 BUSINESS DAYS PRIOR TO BACKFILLING THE TRENCH. IN THE EVENT THAT A CABLE CANNOT BE SUCCESSFULLY PULLED THROUGH THE COMPLETED CONDUIT SYSTEM DUE TO A CONSTRUCTION ERROR, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND REPAIR THE INVOLVED CONDUIT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL RESULTING EXPENSES.
8. NORMAL CONDUIT SIZES FOR PSNH ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY.
9. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE THE NATIONAL ELECTRIC CODE.
10. CONDUIT MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4'-FT. INSTALLATIONS DEEPER THAN 4'-FT REQUIRE THE USE OF A TRENCH BOX.

ELECTRICAL & UNDERGROUND UTILITY TRENCH INSTALLATION DETAIL
NOT TO SCALE

GENERAL UTILITY NOTES

- CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888 344-7233) 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND ELEVATIONS.
- THESE PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE IS NOT INTENDED OR IMPLIED.
- ANY UTILITY POLES THAT NEED TO BE RELOCATED SHALL BE COORDINATED WITH PSNH OR VERIZON, WHOM EVER HAS CONTROL OVER THEM.
- PROPOSED UTILITIES ARE TO BE UNDERGROUND. COORDINATE LOCATION OF UNDERGROUND UTILITIES AND TRANSFORMER PADS WITH PSNH AND OTHER PERTINENT UTILITY COMPANIES.
- WATER AND SEWER LINES SHALL BE INSTALLED A MINIMUM OF 10'-FT APART HORIZONTALLY.
- WHERE SEWER AND WATER LINES MUST CROSS, SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM 9'-FT HORIZONTALLY FROM THE WATER LINE AND A VERTICAL SEPARATION OF 18-INCHES SHALL BE MAINTAINED.
- SEWER PIPE JOINTS SHALL BE TESTED WITH ZERO LEAKAGE AT 25 POUNDS PER SQUARE INCH FOR GRAVITY SEWER AND AT 1-1/2 TIMES WORKING PRESSURE FOR ALL FORCE MAINS.
- WATERLINE CONSTRUCTION.
 - ALL PROPOSED WATER LINE MATERIAL USED SHALL MEET ROCHESTER WATER DEPARTMENT AND ROCHESTER ENGINEERING DEPARTMENT SPECIFICATIONS. WATER LINES SHALL BE A.W.W.A C 151, CLASS 52, CEMENT LINED, DUCTILE IRON PIPE.
 - PROPOSED WATER GATE VALVES SHALL BE MANUFACTURED BY KENNEDY OF AMERICAN FLOW CONTROL, RESILIENT SEAT TYPE.
 - ALL WATER LINES SHALL BE BURIED A MINIMUM OF 5'.
 - IF 5' OF COVER IS NOT AVAILABLE WATER LINE SHALL BE INSULATED AS SHOWN IN THE "SHALLOW COVER TRENCH DETAIL FOR INSULATED WATER PIPE".
 - ALL WATER FITTINGS SHALL BE CLASS 350.
 - PROPOSED WATER GATE VALVE SHALL OPEN CLOCKWISE (RIGHT).
- WORK TO CONNECT INTO THE WATER OR SEWER MAINS REQUIRES A PERMIT FROM THE ROCHESTER PUBLIC WORKS DEPARTMENT. CONTRACTORS ARE TO BE PRE-QUALIFIED.



POLE MOUNTED LIGHT DETAIL
NOT TO SCALE

NOTE:
1. LIGH POLE BASE SHALL BE 18" ABOVE FINISH GRADE FOR NON VEHICLE IMPACT AREAS AND 30" FOR VEHICLE IMPACT AREAS.
2. THE LIGH POLE BASES CAN BE PRECAST WITH COORDINATION WITH THE LIGHTING FIXTURE MANUFACTURE FOR BOLT PATTERN.

UTILITY DETAILS
TAX MAP 243, LOTS 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: AS SHOWN DECEMBER 2019

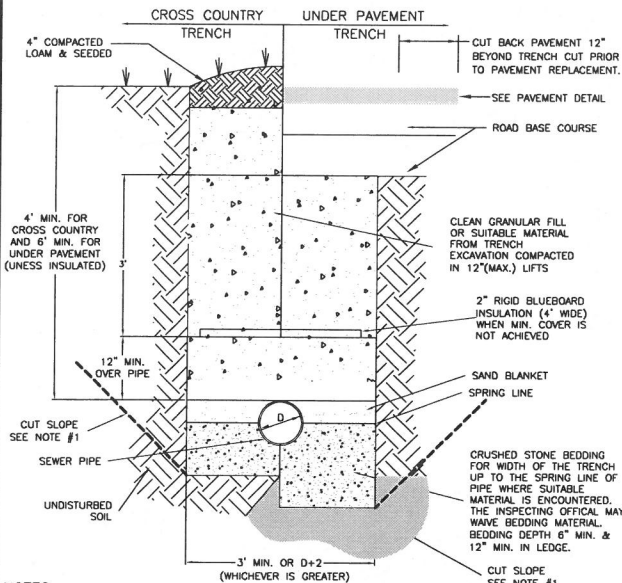
FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275/SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

C-11



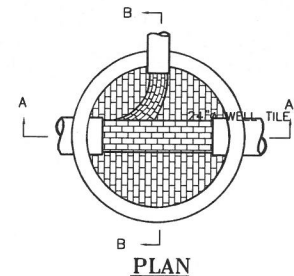
NOTES:

1. PIPES MAY BE INSTALLED BY EXCAVATING AN OPEN TRENCH WITH SIDE SLOPES OF 1:1 MAXIMUM TO A DEPTH OF 4'-FT. INSTALLATIONS DEEPER THAN 4'-FT REQUIRE THE USE OF A TRENCH BOX.
2. PIPE MATERIALS SHALL BE AS SPECIFIED ON THE DESIGN PLAN.
3. SAND BLANKET MAY BE OMITTED FOR REINFORCED CONCRETE PIPE.

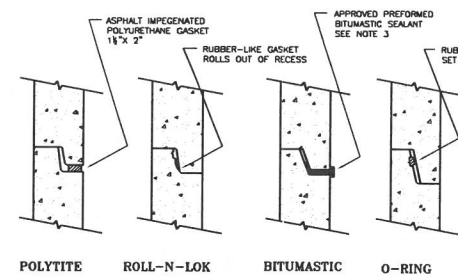
SEWER PIPE

TRENCH INSTALLATION DETAIL

NOT TO SCALE

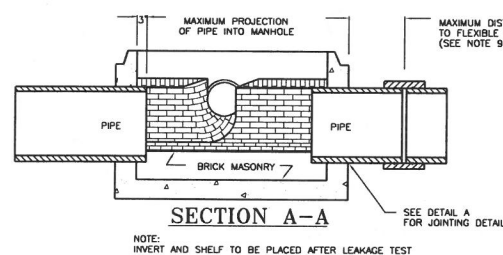


CONCRETE FULL ENCASEMENT

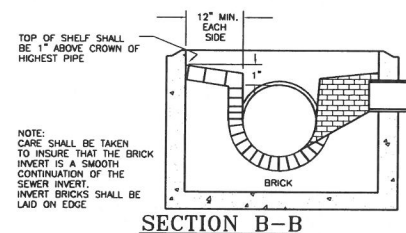


NOTE: ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

DETAIL-B

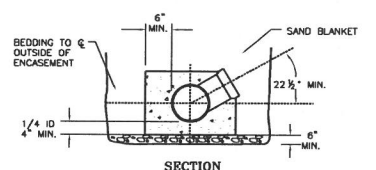
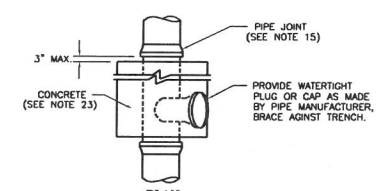
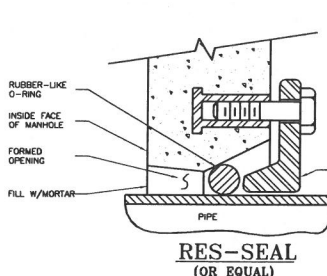


NOTE: INVERT AND SHELVE TO BE PLACED AFTER LEAKAGE TEST

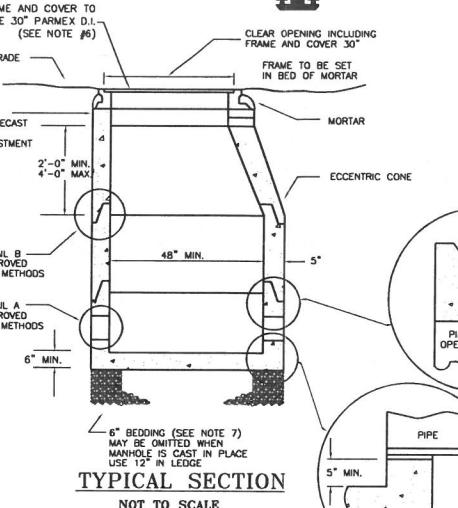


INVERT DETAILS

NOT TO SCALE



CONCRETE FULL ENCASEMENT



NOT TO SCALE

KOR-N-SEAL JOINT SLEEVE

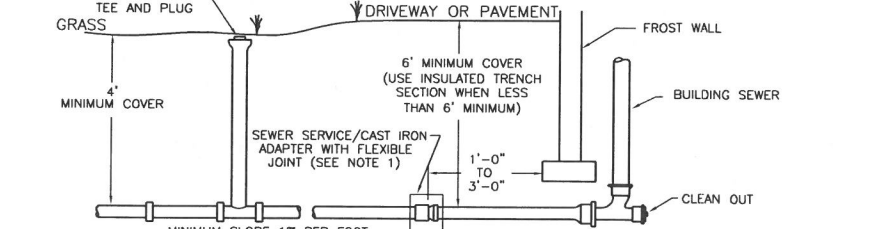
(OR EQUAL)

NOTE: ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

DETAIL-A

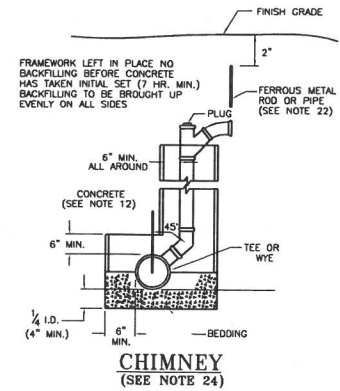
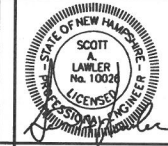
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE

(OR EQUAL)



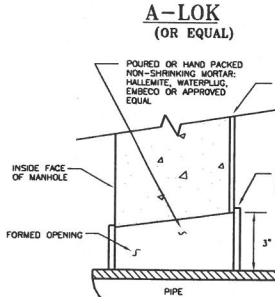
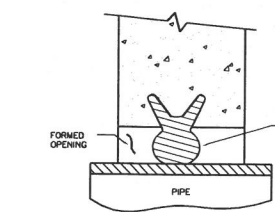
NOTES:

1. IT IS INTENTION OF THE CITY OF ROCHESTER PUBLIC WORKS DEPARTMENT THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY BY THE PUBLIC WORKS DEPARTMENT FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS SHALL BE AS SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS, WITH OR WITHOUT STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE, WITH OR WITHOUT REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE MONOLITHICALLY IN PLACE, AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE. EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
2. PRECAST CONCRETE BARRELS, SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
3. PRECAST CONCRETE BARRELS, SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.
4. VACUUM LEAKAGE TESTING (ASTM C1244) SHALL BE PERFORMED FOR ALL MANHOLES, LOW-PRESSURE AIR TESTING (ASTM F1417) AND DEFLECTION TESTING USING A "GO/NO GO" MANHOLE, FOR ALL SANITARY SEWERS, IN ACCORDANCE WITH THE NHDES SEWER REGULATIONS AND THE CITY OF ROCHESTER DEPARTMENT OF PUBLIC WORKS REQUIREMENTS.
5. INVERTS AND SHELVE SHALL BE CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVE SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYER OF INVERT AND SHELVE SHALL CONSIST OF BRICK MASONRY.
6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) LETTER "SEWER" FOR SEWERS OR "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
7. BEDDING: MIN. 6" OF 3/4" CRUSHED STONE (12" IN LEDGE) FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33: 100% PASSING 1/2" SCREEN 20-55% PASSING 3/8" INCH SCREEN 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, CRUSHED STONE MIN. 3/4" SHALL BE USED.
8. CONCRETE FOR DROP SUPPORT SHALL CONFORM TO THE REQUIREMENT FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS: CEMENT: 6.0 BAGS PER CUBIC YARD WATER: 5.75 GALLONS PER BAG CEMENT MAXIMUM SIZE OF AGGREGATE: 1" INCH
9. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES: RCP & CI PIPE - ALL SIZES - 48" AC & VC PIPE - UP THROUGH 12" DIA. - 18" SEE NOTE 9.A DI PIPE - LARGER THAN 12" DIA. - 36" DI PIPE - NONE REQUIRED PVC (ASTM 3034) UP THROUGH 15" DIA. - NONE REQUIRED PVC (ASTM F 798) - LARGER THAN 15" DIA. - 48" TO 60" 9.A. UNDER SEVERE CONDITIONS WHEN DIFFERENTIAL SETTING CANNOT BE CONTROLLED WITHIN NORMAL LIMITS, VARIATIONS IN THE SUB LENGTH MAY BE NECESSARY. OTHER PLASTIC PIPES SHALL BE REVIEWED ON A CASE BY CASE BASIS.
10. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE INSTALLED HAVING AN EXISTING ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.
11. MANHOLE STEPS MAY BE PERMITTED UPON REQUEST BY THE OWNER AS SECONDARY ADDITIONAL SAFETY FEATURE SUPPLEMENTARY TO THE PRIMARY PORTABLE LADDER ENTRY AND WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS: A. THE STEPS SHALL BE MANUFACTURED OF 5/8 INCH ROUND STAINLESS STEEL, OR FORGED ALUMINUM ALLOY. THEY SHALL BE SHAPED SO THAT THEY CAN NOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED. B. THE STEPS SHALL BE EMBEDDED IN THE CONCRETE BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF THE FORMS, SECURING THE STEPS WITH MORTAR IN DRILLED OR CAST HOLES, WILL NOT BE ACCEPTABLE. C. THE STEPS SHALL BE OF THE DROP TYPE WITH A DEPRESSION SECTION FOR HANDHOLD, APPROXIMATELY 14"x10" IN DIMENSION.
12. MINIMUM SIZE PIPE FOR HOUSE SERVICE SHALL BE 4 INCHES.
13. PIPE AND JOINT MATERIALS P.V.C. (POLY VINYL CHLORIDE) PIPE: ALL P.V.C. PIPE AND FITTINGS SHALL CONFORM TO THE MOST RECENT REQUIREMENTS OF ASTM SPECIFICATIONS FOR TYPE PSN POLY VINYL CHLORIDE (P.V.C.) SEWER PIPE AND FITTINGS, DESIGNATION D-3034 AND ASTM SPECIFICATIONS FOR SEWER PIPE, JOINTS USING ELASTOMERIC SEALS, DESIGNATION D-3212. MANUFACTURER'S CERTIFICATE OF COMPLIANCE SHALL BE FURNISHED TO THE ENGINEER, PRIOR TO INSTALLATION METHODS OF SHIPPING AND STORAGE ON SITE SHALL BE SUCH AS TO AVOID INJURY TO THE PIPE. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB. MINIMUM "PIPE STIFFNESS" (7/1) AT 7 1/2' DEFLECTION SHALL BE 45 PSI FOR SIZE WHEN TESTED IN ACCORDANCE WITH ASTM METHODS OF TEST D-2412, "EXTERNAL LOADING PROPERTIES OF PLASTIC PIPE BY PARALLEL - PLATE LOADING". ALL P.V.C. PIPE SHALL BE TYPE SDR-35 (A MEASURE OF THICKNESS AND RIGIDITY) AND SHALL HAVE ELASTOMERIC GASKET JOINTS. SOLVENT CEMENT JOINTS SHALL NOT BE ALLOWED. P.V.C. USED FOR FORCE MAINS SHALL CONFORM TO ASTM D-2241 AND D-1784. (CLASS 1254-B) A SAFETY FACTOR OF 2.5 SHALL BE USED FOR PRESSURE RATING DETERMINATION WITH A STANDARD DIMENSION RATIO (SDR) NO HIGHER THAN 26.
14. DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.
15. JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIAL USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT A FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.
16. TEES OR WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE, FOLLOWING MANUFACTURER'S INSTRUCTIONS. A BOLTED, CLAMPED, OR EPOXY-CEMENTED SADDLE TAPPED INTO A SMOOTHLY DRILLED OR SAWN OPENING IN THE SEWER. THE PRACTICE OF BREAKING AN OPENING WITH A SLEDGE HAMMER, STUFFING CLOTH OR OTHER SUCH MATERIAL AROUND THE JOINT, OR APPLYING MORTAR TO HOLD THE CONNECTION, AND ANY OTHER SIMILAR CRUDE PRACTICES OR HASTY IMPROVISATIONS WILL NOT BE PERMITTED. THE CONNECTION SHALL BE CONCRETE ENCASED AS SHOWN IN THE DETAIL UP TO AND INCLUDING 15" DIAMETER. DOES (NOT APPLY TO INSTALLATIONS WHERE TEES & WYES ARE USED).
17. PIPE INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED, AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AS SPECIFIED IN NOTE 10. BEDDING AND RE-FILL FOR A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH THE APPROPRIATE MECHANICAL DEVICES. THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE HOUSE FOUNDATION AT A GRADE OF NOT LESS THAN 1/8 INCH PER FOOT PIPE JOINTS MUST BE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.
18. TESTING: THE COMPLETED HOUSE SEWER SHALL BE SUBJECTED TO A LEAKAGE TEST IN ANY OF THE FOLLOWING MANNERS (PRIOR TO BACKFILLING) A. AN OBSERVATION TEE SHALL BE INSTALLED AS SHOWN AND, WHEN READY FOR TESTING, AN INFLATABLE BLADDER OR PLUG SHALL BE INSERTED JUST UPSTREAM FROM THE OPENING IN THE TEE AFTER INFLATION, WATER SHALL BE INTRODUCED INTO THE SYSTEM ABOVE THE PLUG TO A HEIGHT OF 5 FEET ABOVE THE LEVEL OF THE PLUG. B. THE PIPE SHALL BE LEFT EXPOSED AND LIBERALLY HOSED WITH WATER, TO SIMULATE, AS NEARLY AS POSSIBLE, WET TRENCH CONDITIONS OR, IF THE TRENCH IS WET, THE GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE INSPECTIONS FOR LEAKS SHALL BE MADE THROUGH THE CLEAROUT WITH A FLASHLIGHT. C. DRY FLUORESCENCE DYE SHALL BE SPRINKLED INTO THE TRENCH OVER THE PIPE. IF THE TRENCH IS DRY, THE PIPE SHALL BE LIBERALLY HOSED WITH WATER, OR IF THE TRENCH IS WET, GROUND WATER SHALL BE PERMITTED TO RISE IN THE TRENCH OVER THE PIPE. OBSERVATION FOR LEAKS SHALL BE MADE IN THE FIRST DOWNSTREAM MANHOLE. LEAKS OBSERVED IN ANY OF THE ABOVE ALTERNATE TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE AND THE PIPE SHALL BE DUG-UP IF NECESSARY AND RE-LAD SO AS TO ASSURE WATER-TIGHTNESS.
19. ILLLEGAL CONNECTION: NOTHING BUT SANITARY WASTE FLOW FROM THE HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS OR SUMP PUMPS OR ANY OTHER SIMILAR CONNECTION CARRYING RAIN WATER, DRAINAGE, OR GROUND WATER, SHALL NOT BE PERMITTED.
20. HOUSE AND WATER SERVICE SHOULD NOT BE LAID IN THE SAME TRENCH AS SEWER SERVICE, BUT WHEN NECESSARY, SHALL BE PLACED ABOVE AND TO THE SIDE OF THE HOUSE SEWER AS SHOWN.
21. BEDDING: MIN. 3/4" CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATERIAL AND MEETING ASTM C33.6 100% PASSING 1/2" SCREEN 20-55% PASSING 3/8" INCH SCREEN 0-10% PASSING #4 SIEVE 0-5% PASSING #8 SIEVE WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, MIN. 3/4" CRUSHED STONE SHALL BE USED.
22. LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PREPREFRER.
23. CONCRETE: CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATIONS AS FOLLOWS: CEMENT: 6.0 BAGS/C.Y. WATER: 5.75 GALLONS/BAG OF CEMENT AGGREGATE: 1" MAX.
24. CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4', A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. 25 - ALL DRAINAGE AND SEWER STRUCTURES INCLUDING FRAMES AND GRATES SHALL BE H-20 LOADING. 26 - ALL SEWER CONSTRUCTION SHALL BE CONSTRUCTED TO NHDES AND THE CITY OF ROCHESTER STANDARDS & SPECIFICATIONS.
27. HORIZONTAL JOINTS: BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE COMMISSION, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
28. PIPE TO MANHOLE JOINTS: SHALL BE ONLY AS APPROVED BY THE COMMISSION AND IN GENERAL, WILL DEPEND FOR WATER TIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.
29. FOR BITUMASTIC TYPE JOINTS: THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY APPROVED BITUMASTIC SEALANTS: DAK-N-KENT SEALANT.
30. THE CONTRACTOR SHALL NOTIFY DIG-SAFE 1-888-344-7233 PRIOR TO CONSTRUCTION.



PRESS-WEDGE II

(OR EQUAL)



SANITARY SEWER DETAILS
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: AS SHOWN

DECEMBER 2019

FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275\SP-1
F.B. NO. SDR-TJR

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

C-12



Diagram illustrating the layout of a single-track bridge. The bridge consists of a terminal section followed by a series of end posts. The dimensions are as follows:

- Terminal section length: 6'-3"
- Distance between end posts: 12'-5 1/4"
- Distance between end posts (repeated): 6'-3"
- Distance between end posts (repeated): 12'-5 1/4"
- Distance between end posts (repeated): 6'-3"
- Distance between end posts (repeated): 12'-5 1/4"
- Distance between end posts (repeated): 6'-3"
- Distance between end posts (repeated): 12'-5 1/4"

Labels include: TERMINAL SECTION, END POSTS, LAP IN DIRECTION OF TRAFFIC, and GROUND LINE.

Technical drawing of a rectangular plate with the following dimensions and features:

- Overall width: 24"
- Overall height: 16 1/4"
- Left edge: 29 1/2" X 1 1/8" SLOTTED HOLES
- Right edge: 8 1/2" and 2 1/4"

STEEL TO BE
12-GAGE, MIN.

6 $\frac{3}{8}$ " R

3"

TAB TO FIT $\frac{1}{32}$ " LOOSE

$\frac{7}{16}$ " x 1 $\frac{1}{8}$ " SLOTTED HOLES

8 $\frac{1}{2}$ "

2 $\frac{1}{4}$ "

PAY LIMITS FOR STANDARD SECTION

6'-3" (TYP.)

USE APPROPRIATE APPROVED TERMINAL UNIT, BRIDGE APPROACH, ETC.

FACE OF GUARDRAIL, AS SHOWN ON THE TYPICAL SECTION

PLAN

USE APPROPRIATE APPROVED TERMINAL UNIT, BRIDGE APPROACH, ETC.

Diagram illustrating the Standard Section of a guardrail system. The diagram shows a cross-section of the guardrail assembly, including the W-beam, steel posts, and wood blocks. Key dimensions and components are labeled:

- SHOULDER GRADE AT EDGE OF PAVEMENT
- 30" (TYP.)
- W-BEAM
- 4" x 6" STEEL POST WITH 6" x 8" WOOD OFFSET BLOCK (TYP.)
- ELEVATION
- STANDARD SECTION
- TRANSITION RAIL HEIGHT FROM 30" TO 27" OVER 50 FEET FOR ALL TERMINAL UNITS WHICH HAVE ONLY BEEN TESTED AT 27"

Technical drawing showing the side and front views of a vertical plate. The side view (left) shows a plate with a total height of 7'-0" and a width of 5 3/8". The front view (right) shows a plate with a total width of 4" and a height of 1 1/8". A 3/4" diameter hole is located near the top of the front view. The plate is labeled W6 x 8.5.

Technical drawing of a corrugated metal profile. The drawing shows a cross-section of the profile with the following dimensions and labels:

- SHEET THICKNESS:** 12 GAUGE (0.109")
- NEUTRAL AXIS:** Indicated by a dashed line.
- Overall Width:** 12 1/4"
- Overall Height:** 3 3/8"
- Flange Width:** 2 5/16"
- Flange Thickness:** 1/8"
- Flange Angle:** 10°
- Flange Radius:** 1 7/32"
- Flange Height:** 2 3/8"
- Flange Radius:** 1 5/8" R
- Flange Angle:** 55°
- Flange Radius:** 5/8" R
- Flange Height:** 1 7/32"
- Flange Angle:** 55°
- Flange Radius:** 1 5/8" R
- Flange Height:** 2 3/8"
- Flange Angle:** 10°
- Flange Radius:** 1 7/32"
- Flange Thickness:** 1/8"
- Flange Width:** 2 5/16"

NOTE: AP RAIL IN DIRECTION OF TRAFFIC

24"

7"

4"

3/8" R

2"

8 1/2"

1 1/8"

TRAFFIC

POST BOLT SLOT

SPlice BOLT SLOT

SHOULDER GRADE AT EDGE OF PAVEMENT

Technical drawing of a bolt and nut assembly. The bolt has a head diameter of $1 \frac{5}{16}$ inches, a head height of $\frac{7}{16}$ inches, and a shoulder diameter of $1 \frac{3}{8}$ inches. The shank has a diameter of $\frac{5}{8}$ inch and a length L . The threaded portion has a length T and a thread pitch of $\frac{1}{8}$ inch. The nut has a diameter of $1 \frac{1}{4}$ inches and a height of $1 \frac{1}{8}$ inches. A note indicates a $1'' \times \frac{3}{4}''$ deep recess on both sides of the nut.

5/8" BUTTON HEAD BOLT AND RECESSED NUT

1. LENGTH OF MEED IS THE TOTAL LENGTH OF A LONGITUDINAL BARRIER NEEDED TO SHIELD AN AREA OF CONCERN. TO DETERMINE THE LENGTH OF MEED, REFER TO THE "ROADSIDE - LATEST ADOPTED VERSION: DESIGN GUIDE" DESIGNATIONS PROVIDED IN BRACKETS [] REFERENCE "A GUIDE TO STANDARDIZED DESIGNATIONS AND ELEMENTS DETAILED IN THE LATEST ADOPTED VERSION, HIGHWAY BARRIER HARDWARE" AASHTO-AGC-AIRBTA JOINT COOPERATIVE COMMITTEE.
2. THE RECTANGULAR PLATE WASHER [RW030] IS USED ONLY FOR 37'-6" OF STANDARD SECTION UPSTRADE OF A TYPICAL 12'-0" UNIT OF STANDARD ROADWAY (OR 10'-0").
3. USE 12'-6" LENGTH RAIL ELEMENT IN CURVES OF LESS THAN 300' RADIUS.
4. WHEN QUADRALOR IS INSTALLED BEHIND CURB, EITHER 6'-0" BEHIND SLOPE CURB OR ON A CURBED RAMP OR AT THE BACK OF SIDEWALK WITH BARRIER CURB, THE RAIL HEIGHT SHALL BE 18" FROM THE TOP OF THE CURB AT THE POSTS. THE POSTS SHALL BE 7'-0" SHORTER THAN THE 7'-0" INDICATED ON THE DETAIL, BUT NOT LESS THAN 6'-0", MAY ONLY BE USED WHEN:
 - A) THE SLOPE BEHIND THE QUADRALOR IS NO STEEPER THAN 4:1
 - B) WHERE THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK OF THE SLOPE IS A MINIMUM OF 7'-0"
 - C) AND THEN ONLY AS APPROVED OR SPECIFICALLY SHOWN ON THE PLANS.
5. TO INSTALL THE 7'-0" POSTS IN ROCK FILL AREAS AND IN AREAS OF OTHER DIFFICULT SITE CONDITIONS, METHODS SUCH AS AUGURING, EXCAVATING, AND OTHER MORE UNUSUAL METHODS MAY BE REQUIRED FOR THE POSTS TO BE INSTALLED. THESE METHODS ARE NOT CONSIDERED AS EQUIVALENT TO THE EQUAL METHODS OF POST INSTALLATION ARE NOT CONSIDERED JUSTIFICATION FOR REDUCING THE EMBEDMENT DEPTH OF THE POSTS AND WILL NOT BE APPROVED AS SUCH.
6. THE FHWA ADMINISTRATION HAS APPROVED THE USE OF OFFSET BLOCKS WITH DIMENSIONS THAT VARY MORE THAN WOULD BE CONSIDERED WITHIN THE NORMAL CATEGOR OF NOMINAL DIMENSIONS. IN ORDER TO BE APPROVED FOR USE IN THE SETBACK AREAS, DIMENSIONS MORE THAN THE NOMINAL DIMENSIONS SHOWN ON THE DETAILS, THE FOLLOWING CRITERION APPLIES:
 - A) THE OFFSET BLOCKS BE SHOWN TO BE APPROVED BY THE FHWA ADMINISTRATION AS MEETING THE FOLLOWING CRITERIA:
 1. THE FACE OF THE BLOCK SHALL BE 18" MINIMUM FROM THE FACE OF THE PAVEMENT OR AT THE INDICATED OFFSET, PER THE DESIGN PLANS; AND
 2. THERE MUST BE A DECREASE IN THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE AS SHOWN ON THE DESIGN PLANS, AN INCREASE IN THE DISTANCE FROM THE BACK OF THE POST TO THE BREAK IN THE SLOPE IS ACCEPTABLE.
7. ALL OTHER REQUIREMENTS OF THE PERTINENT SPECIFICATIONS AND DETAILS REMAIN IN FORCE.

1. DETAILS FOR GUARDRAIL SHOWN ON THIS PAGE EXCERPTED FROM AND SPECIFIED TO MATCH NHDOT STANDARD PLANS, STANDARD NO. GR-2 AND GR-10; BEAM GUARDRAIL STANDARD SECTION - STEEL POST & HARDWARE DETAILS.

SCALE: AS SHOWN DECEMBER 2019

31 Mooney Street, Alton, N.H. 603-875-3948

NORWAY PLAINS ASSOCIATES, INC.

2 Continental Blvd., Rochester, N.H. 603-335-3948

C-13	
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Seed Mixes:

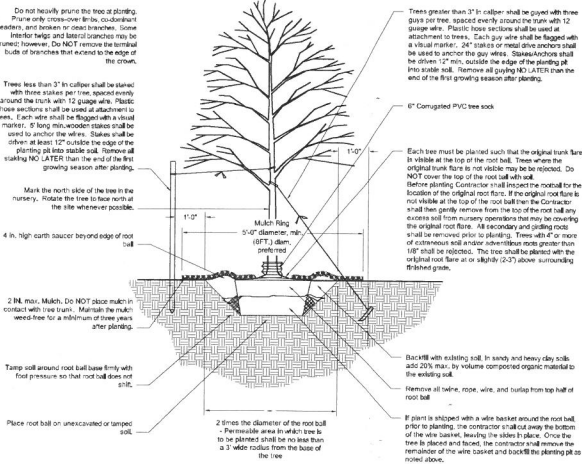
Seed Mix A 50% New England Wetland Plants - New England Wetland Mix
50% New England Wetland Plants - New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites

Application Rates:

Seed Mix A 50% @ 22lbs/acre New England Wetland Mix
50% @ 50lbs/acre New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites

Plant List

TREES					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ab	Abies fraseri	Fraser Fir	6	8-10' Ht	
Am	Amelanchier x grandiflora Robin Hill	Robin Hill Serviceberry	4	8-10' Ht	Multi-Stem B&B
Ar	Acer rubrum 'October Glory'	October Glory Red Maple	4	2-5' Cal	B&B
Br	Betula nigra 'Heritage'	Heritage River Birch	4	10-12' Ht	Multi-Stem B&B
Ham	Hamamelis x intermedia 'Arnold Promise'	Arnold Promise	4	8-10' Ht	
Qr	Quercus rubra 'Kindred Spirit'	Red Oak	3	2-2.5' Cal	Multi-Stem B&B
SHRUBS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ig	Ilex glabra 'Shamrock'	Shamrock Holly	64	5 gal	Full to ground
Sp	Spiraea x bumalda 'Anthony Waterer'	Anthony Waterer Spiraea	48	5 gal	
PERENNIALS, GROUNDCOVERS, VINES and ANNUALS					
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
An	Anemone hepatica 'September Charm'	Japanese Anemone	16	1 gal	
Cal	Calamagrostis scutifolia 'Karl Foerster'	Feather Reed Grass	3	1 gal	
Day	Hemerocallis 'Big Time Happy'	Big Time Happy Daylily	22	1 gal	
Rud	Rudbeckia fulgida 'Goldsturm'	Black-Eyed Susan	6	1 gal	
Sa	Saxifraga nemoralis 'Blue Hill'	Dark Blue Saxif	10	1 gal	
Vm	Vinca minor	Periwinkle	38	50 lbs	

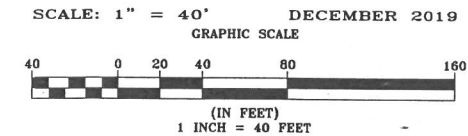


Tree Planting Detail

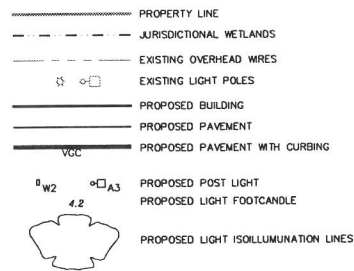
Landscape Notes

- Design is based on drawings by Norway Plains dated December 2019 and may require adjustment due to actual field conditions.
- The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or materials within the tree protection area.
- Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call 800-SAFE at 1-888-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall bed all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be lagged with proper botanical name.
- The Contractor shall guarantee all plants for not less than one year from time of acceptance.
- Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with either of the following:
 - An underground sprinkling system.
 - An outside hose attachment within 150 feet.
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 1/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 8' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
- Landscape Architect is not responsible for the means and methods of the contractor.

LANDSCAPE PLAN
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER



LEGEND



Schedule						
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp
□	A3	5	Lithonia Lighting	DSX0 LED 400 1000 40K T3M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED
□	A4	3	Lithonia Lighting	DSX0 LED 400 1000 40K T3M MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA, mounted at 25ft	LED
□	W2	4	Lithonia Lighting	DSXW1 LED 20C 1000 40K T2S MVOLT	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T2S OPTIC, 4000K, @ 1000mA, mounted at 18ft	LED
□	W4	5	Lithonia Lighting	DSXW1 LED 20C 1000 40K T2S MVOLT	DSXW1 LED WITH (2) 10 LED LIGHT ENGINES, TYPE T2S OPTIC, 4000K, @ 1000mA, mounted at 18ft	LED

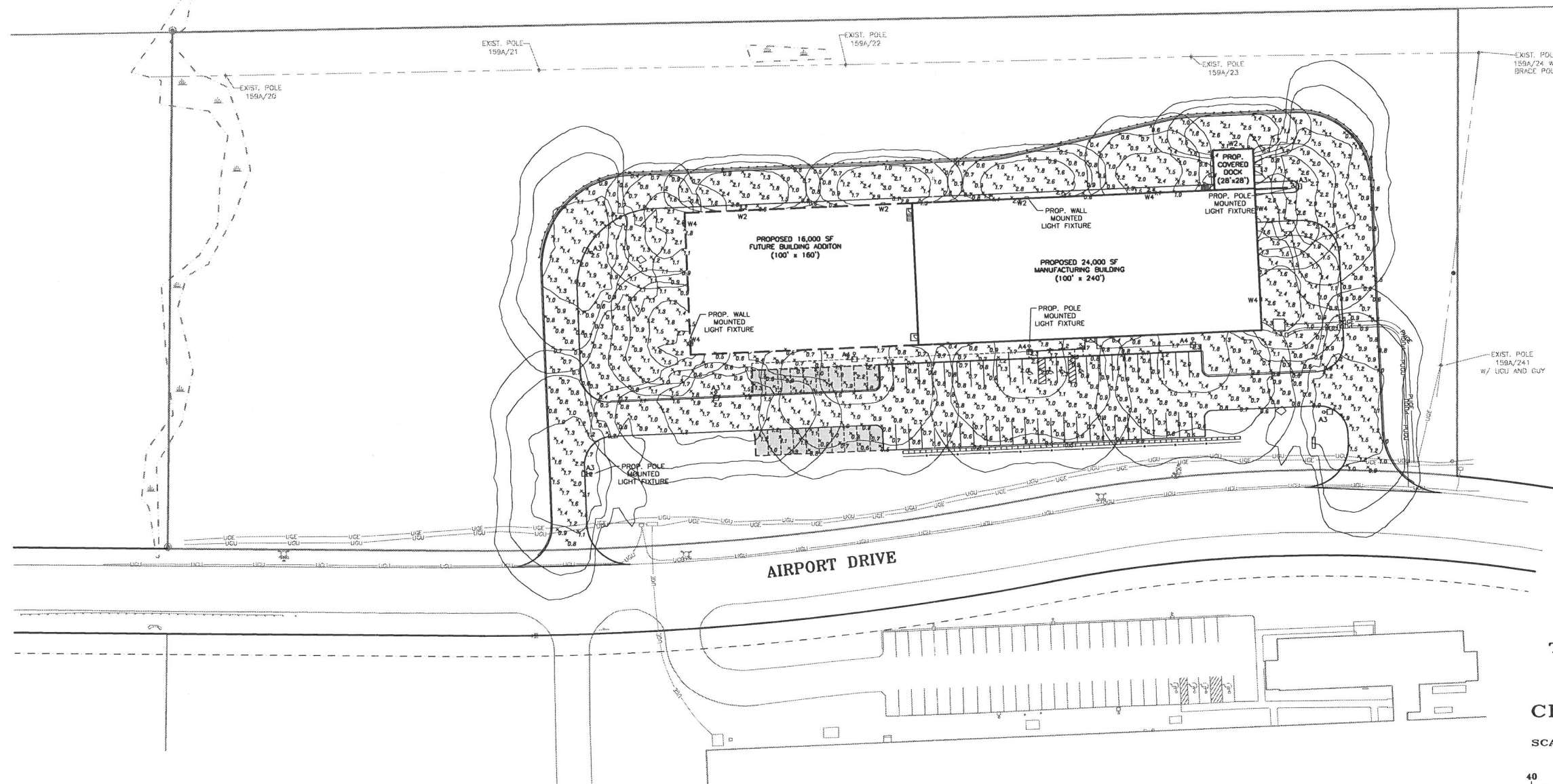
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Area around Building	+	1.2 fc	3.2 fc	0.2 fc	16.0:1	6.0:1
Parking Lot	+	1.2 fc	3.2 fc	0.4 fc	8.0:1	3.0:1



CAREFULLY REVIEW ALL SHEETS OF THIS PACKAGE TO INSURE PROPER CONSTRUCTION. SPECIFIC SITE CONDITIONS SHOULD BE EXPLORED PRIOR TO CONSTRUCTION. CONTACT BOTH THE DESIGN ENGINEER AND THE PROJECT OWNER FOR ANY AVAILABLE GEOTECHNICAL OR HYDROGEOLOGICAL INFORMATION AVAILABLE BUT NOT CONTAINED WITHIN THE PLAN SET. IF THERE ARE ANY QUESTIONS WITH THE DESIGN PRESENTED IN THIS PLAN SET PLEASE CONTACT THE ENGINEERING STAFF AT NORWAY PLAINS ASSOCIATES, INC. (603)-335-3948.

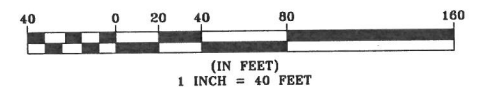
LIGHTING DESIGN BY:
VISIBLE LIGHT, INC.
LIGHTING FOR COMMERCIAL AND INDUSTRIAL SITES, AND ROADWAYS
8 Merritt Industrial Drive Phone: (603) 938-6048
Hampton, NH 03842 e-mail: info@visiblelightinc.com (603) 938-6708

NEW HAMPSHIRE NORTHCOAST CORPORATION



LIGHTING PLAN
TAX MAP 243, LOT 34
145 AIRPORT DRIVE
ROCHESTER, NH
PREPARED FOR:
CITY OF ROCHESTER

SCALE: 1" = 40' DECEMBER 2019
GRAPHIC SCALE



FILE NO. 104
PLAN NO. C-3013
DWG NO. 19275/SP-1
F.B. NO. SDR-TJR

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