

# RESIDENTIAL SITE PLAN

## MARSH VIEW HOUSING FOR THE ELDERLY

TAX MAP 131, LOT 62-2  
ROCHESTER HOUSING AUTHORITY  
ROCHESTER, NEW HAMPSHIRE  
NOVEMBER 17, 2010

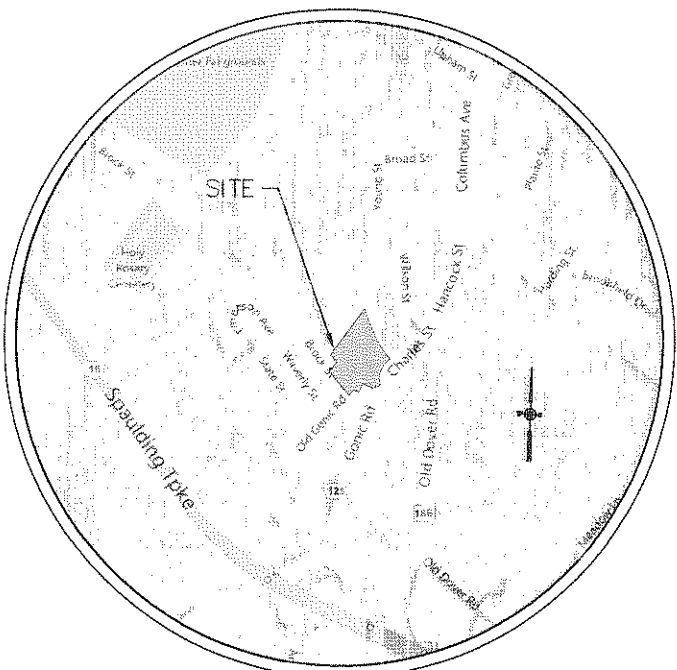
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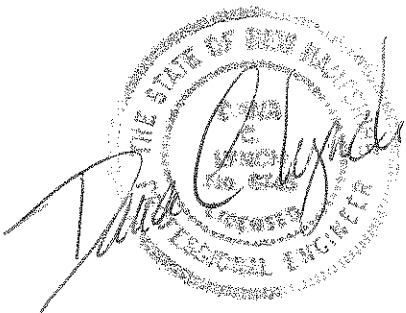
Planning Dept

### ABUTTERS LIST

TAX MAP	LOT NO.	NAME & ADDRESS
128	243	David P. & Diane L. Carignan 19 Wilson Street Rochester, NH 03867-3441
131	7	McManus Route 125 LLC 112 Gates Street Portsmouth, NH 03801
131	45	Marilyn Eastman (fka Marilyn J. Cilley) 3 Old Gonic Road Rochester, NH 03867-4416
131	46	Timothy E. & Jeannette I. Duntley 195 Brock Street Rochester, NH 03867-4407
131	47	Raymond & Muriel Truworthly 193 Brock Street Rochester, NH 03867-4407
131	48	Cynthia & Paul Cature 185 Brock Street Rochester, NH 03867
131	60	Jerome J. & Virginia W. Lachance 164 Brock Street Rochester, NH 03867
131	62	Primax Properties, LLC 1085 East Morehead Street, 4th Floor Charlotte, NC 28204
131	62-1	Norman P. & Stacia R. Vetter Rev. Trust Norman P. & Stacia R. Vetter, Trustees 190 Dry Hill Road Rochester, NH 03867
132	46	Jiffy Lube International Facility I O M S 1398 P.O. Box 4369 Houston, TX 77210-4369
132	47	185 Charles Street LLC 14 Nature Lane Rochester, NH 03867



Location Map  
scale 1" = 1000'



OWNERS OF RECORD/PREPARED FOR:  
ROCHESTER FAMILY HOUSING, INC.  
C/O ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03867

CIVIL ENGINEER:  
CIVILWORKS, INC.  
P.O. BOX 1166  
181 WATSON ROAD  
DOVER, NH 03821-1166

ARCHITECT:  
DAVIS GOUDREAU ARCHITECTS, INC.  
959 ISLINGTON STREET  
PORTSMOUTH, NH 03801

SURVEYOR:  
MCENEANEY SURVEY ASSOC., INC.  
P.O. BOX 681  
DOVER, NH 03821-0681

WETLAND SCIENTIST:  
N.H. SOIL CONSULTANTS/GZA GEOENVIRONMENTAL  
202 KENT PLACE  
NEWMARKET, NH 03857

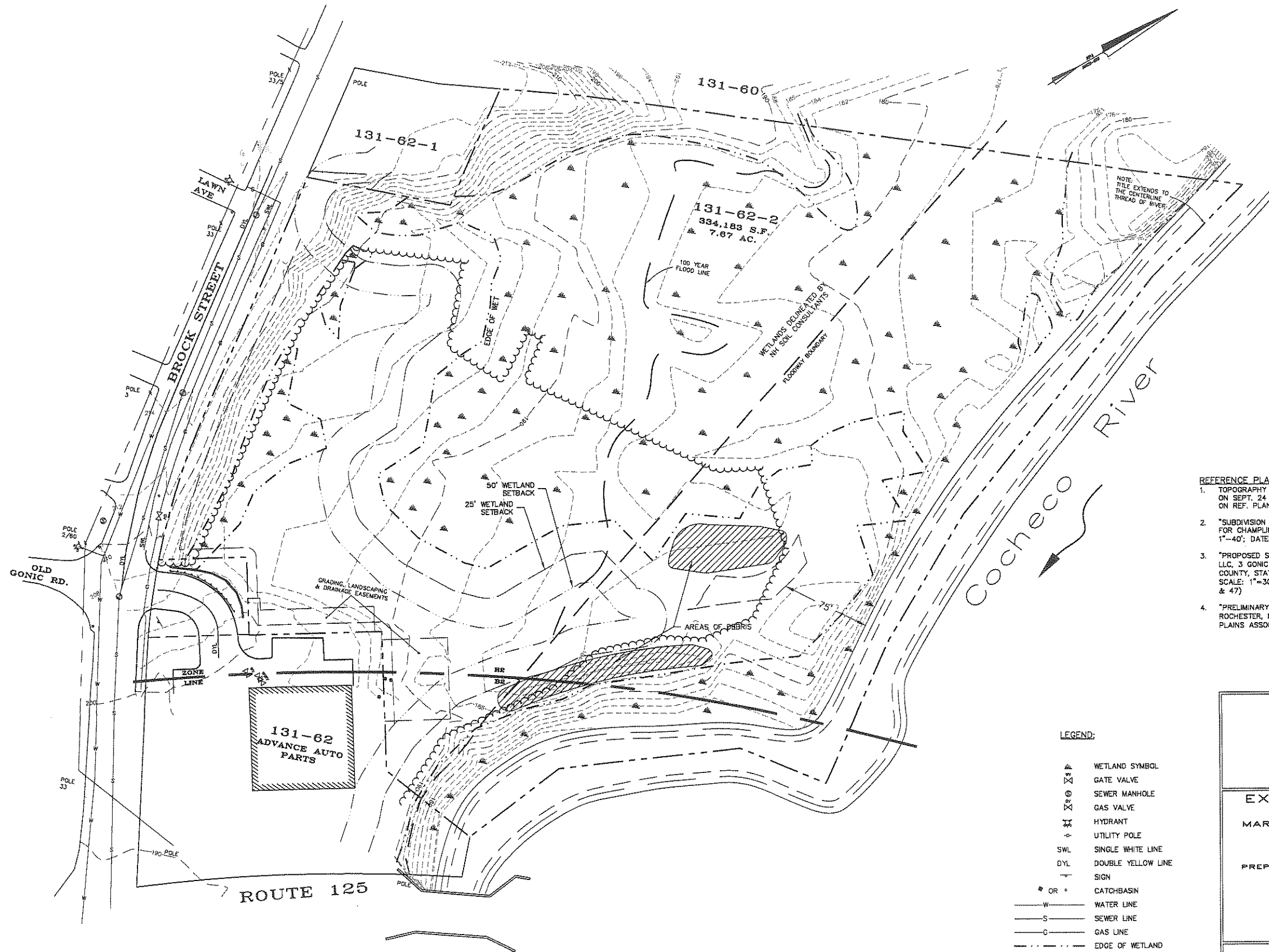
### INDEX

Coversheet	1
Existing Conditions Plan	2
Overall Site Plan	3
Site Plan	4
Site Grading, Drainage and Erosion Control Plan	5
Site Utility Plan	6
Site Lighting Plan	7
Detail Sheets	8 - 11

### SHEET NO.

1
2
3
4
5
6
7
8 - 11

131-62-2-132-10



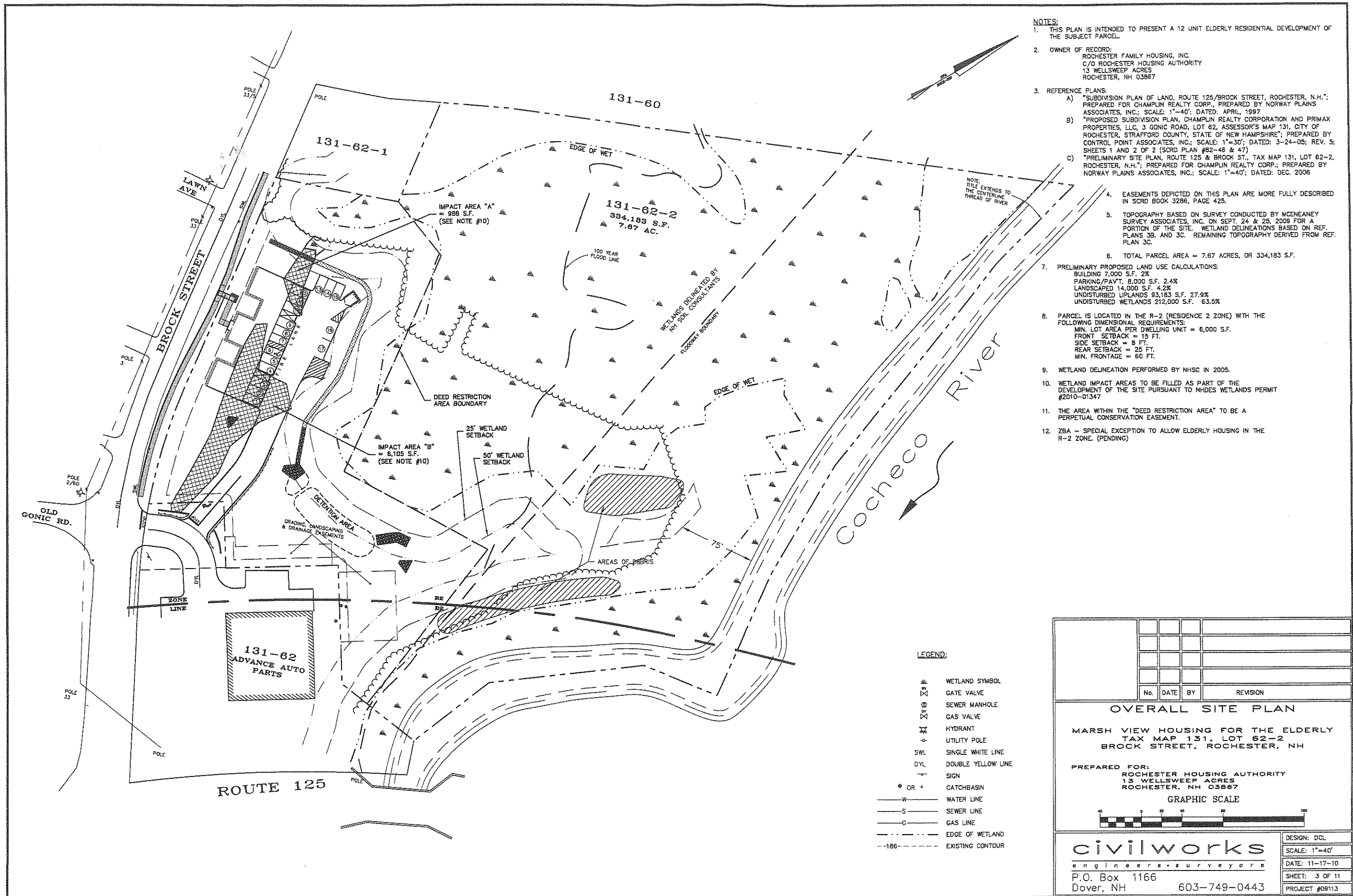
#### REFERENCE PLANS:

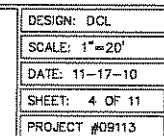
1. TOPOGRAPHY BASED ON SURVEY CONDUCTED BY MCNEANEY SURVEY ASSOCIATES, INC. ON SEPT. 24 & 25, 2009 FOR A PORTION OF THE SITE. WETLAND DELINEATIONS BASED ON REF. PLANS 3 AND 4. REMAINING TOPOGRAPHY DERIVED FROM REF. PLAN 3.
2. "SUBDIVISION PLAN OF LAND, ROUTE 125/BROOK STREET, ROCHESTER, N.H."; PREPARED FOR CHAMPLIN REALTY CORP., PREPARED BY NORWAY PLAINS ASSOCIATES, INC.; SCALE: 1"=40'; DATED: APRIL, 1997
3. "PROPOSED SUBDIVISION PLAN, CHAMPLIN REALTY CORPORATION AND PRIMAX PROPERTIES, LLC, 3 GONIC ROAD, LOT 62, ASSESSOR'S MAP 131, CITY OF ROCHESTER, STRAFFORD COUNTY, STATE OF NEW HAMPSHIRE"; PREPARED BY CONTROL POINT ASSOCIATES, INC.; SCALE: 1"=30'; DATED: 3-24-05; REV. 5; SHEETS 1 AND 2 OF 2 (SCRD PLAN #82-46 & 47)
4. "PRELIMINARY SITE PLAN, ROUTE 125 & BROOK ST., TAX MAP 131, LOT 62-2, ROCHESTER, N.H."; PREPARED FOR CHAMPLIN REALTY CORP.; PREPARED BY NORWAY PLAINS ASSOCIATES, INC.; SCALE: 1"=40'; DATED: DEC. 2006

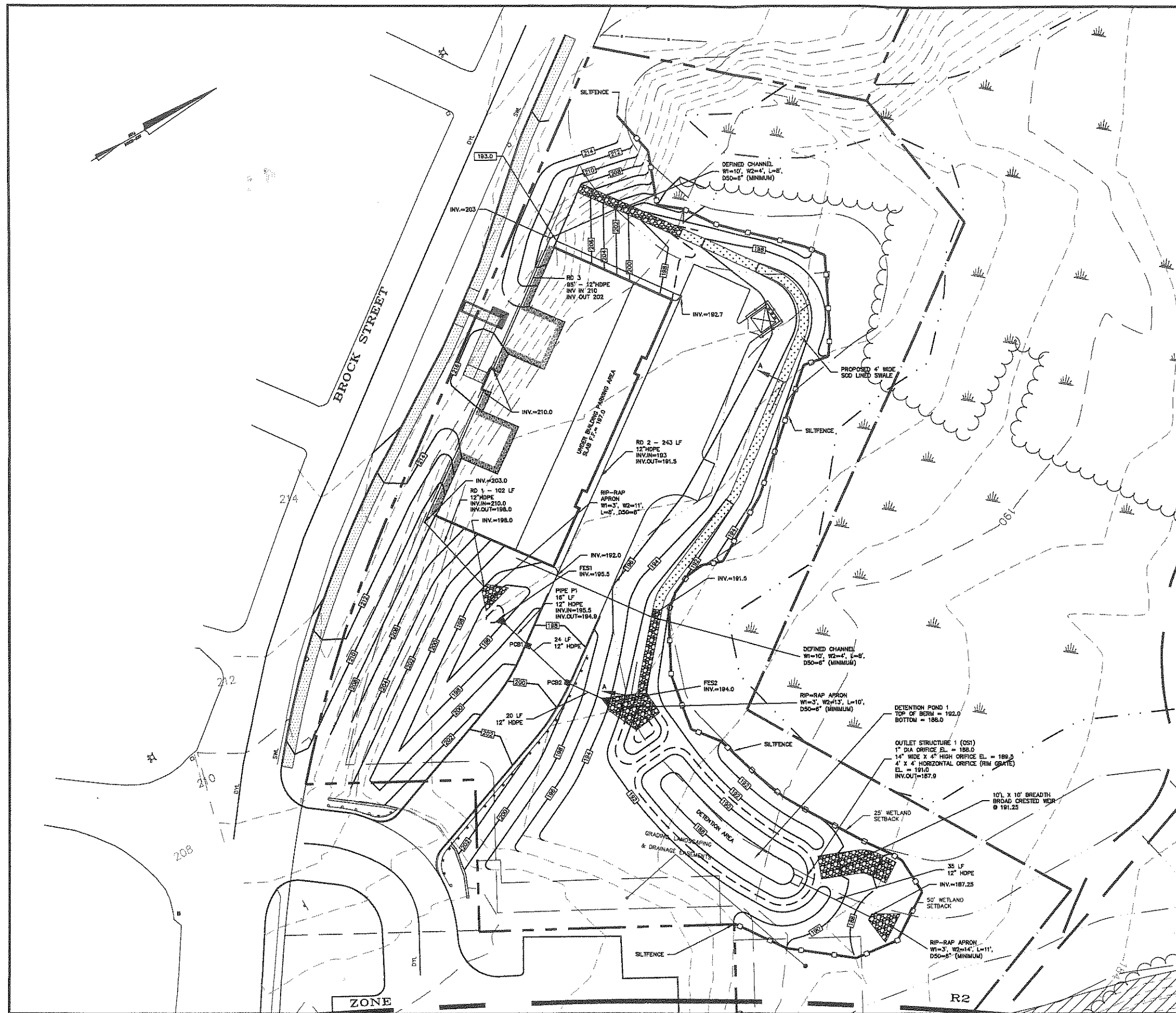
#### LEGEND:

	WETLAND SYMBOL
	GATE VALVE
	SEWER MANHOLE
	GAS VALVE
	HYDRANT
	UTILITY POLE
	SINGLE WHITE LINE
	DOUBLE YELLOW LINE
	SIGN
	CATCHBASIN
	WATER LINE
	SEWER LINE
	GAS LINE
	EDGE OF WETLAND
	EXISTING CONTOUR

No.	DATE	BY	REVISION
<b>EXISTING CONDITIONS PLAN</b> <b>MARSH VIEW HOUSING FOR THE ELDERLY</b> <b>TAX MAP 131, LOT 62-2</b> <b>BROOK STREET, ROCHESTER, NH</b>  <b>PREPARED FOR:</b> <b>ROCHESTER HOUSING AUTHORITY</b> <b>13 WELLSWEEP ACRES</b> <b>ROCHESTER, NH 03867</b>  <b>GRAPHIC SCALE</b>  <b>civilworks</b> <b>engineers • surveyors</b> <b>P.O. Box 1166</b> <b>Dover, NH</b>			
DESIGN: DCL		SCALE: 1"=40'	
DATE: 11-17-10		SHEET: 2 OF 11	
PROJECT #09113		603-749-0443	







- NOTES:**
1. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING PER THE ABOVE REFERENCED "STANDARD SPECIFICATIONS".
  2. SEE DETAIL SHEETS FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
  3. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
  4. BUILDING SHALL BE CONSTRUCTED WITH FOUNDATION DRAINS PER STRUCTURAL DRAWINGS. SEE THIS PLAN FOR OUTLET LOCATION & ELEVATION.
  5. ROOF DRAINS SHOWN SHALL BE 12" HDPE UNLESS OTHERWISE NOTED.

**DRAINAGE STRUCTURES**

CS1  
RIM 198.9  
INV IN=194.9  
INV OUT=194.8

CS2  
RIM 199.40  
INV IN=194.55  
INV OUT=194.45

- LEGEND:**
- WETLAND SYMBOL
  - GATE VALVE
  - SEWER MANHOLE
  - GAS VALVE
  - HYDRANT
  - UTILITY POLE
  - SINGLE WHITE LINE
  - DOUBLE YELLOW LINE
  - SIGN
  - CATCHBASIN
  - WATER LINE
  - SEWER LINE
  - GAS LINE
  - EDGE OF WETLAND
  - EXISTING CONTOUR

No.	DATE	BY	REVISION

**GRADING, DRAINAGE & EROSION CONTROL PLAN**  
MARSH VIEW HOUSING FOR THE ELDERLY  
TAX MAP 131, LOT 62-2  
BROCK STREET, ROCHESTER, NH

PREPARED FOR:  
ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03867

GRAPHIC SCALE

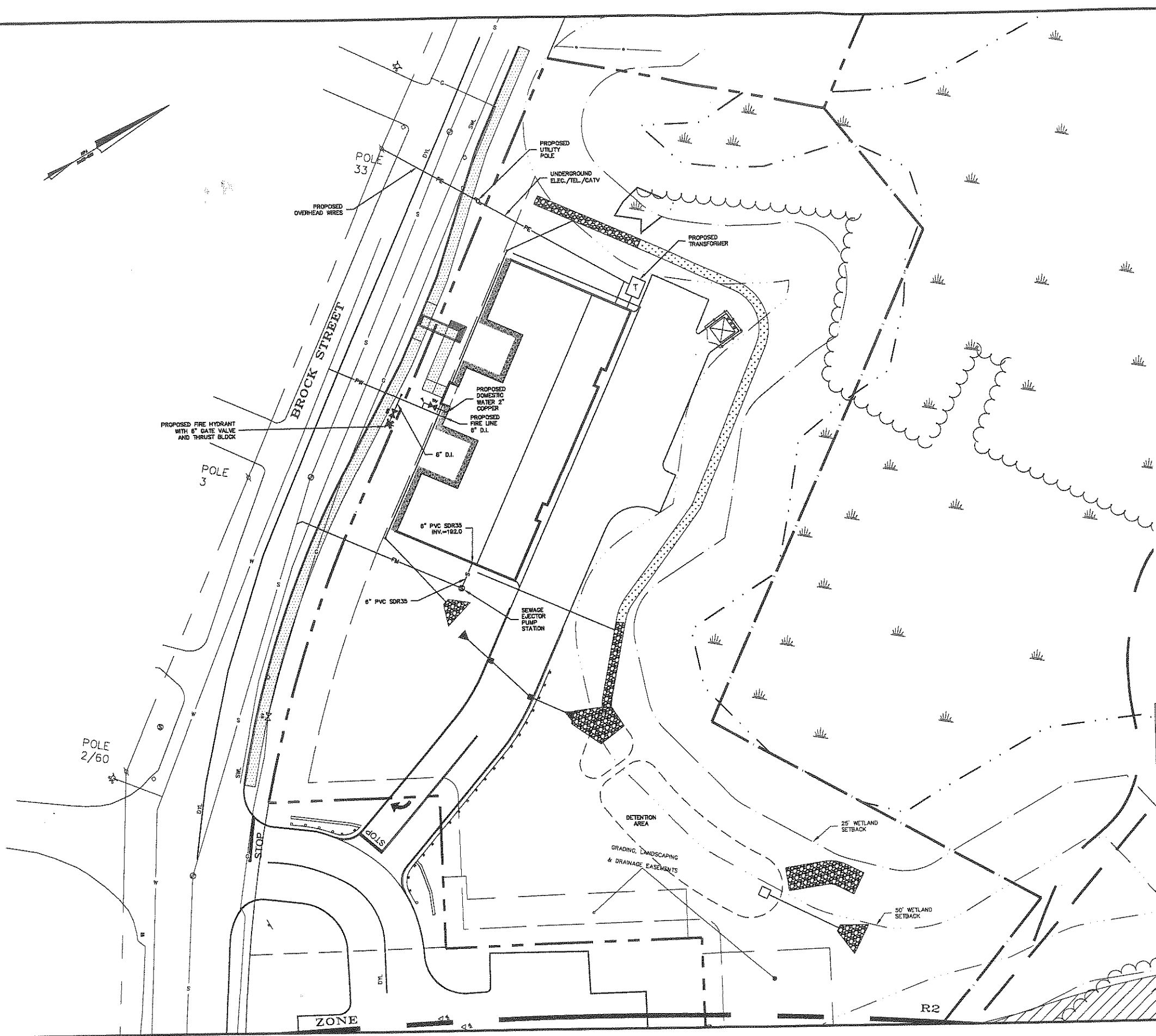
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**civilworks**  
engineers-surveyors

P.O. Box 1166  
Dover, NH 03820

603-749-0443

DESIGN: DCL  
SCALE: 1"=20'  
DATE: 11-17-10  
SHEET: 5 OF 11  
PROJECT #09113



- NOTES:**
1. THE PROJECT SITE IS SERVED BY MUNICIPAL SEWER AND WATER SERVICES.
  2. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AS SHOWN. THE CONTRACTOR SHALL VERIFY THEIR EXACT LOCATIONS WITH THE RESPECTIVE UTILITY OWNERS PRIOR TO WORK BEING PERFORMED. CALL DIGSAFE AT 1-888-388-7233.
  3. ALL PROPOSED UTILITY SERVICES SHALL BE UNDERGROUND WITHIN THE SITE.
  4. UNDERGROUND ELECTRIC, TELEPHONE, AND CABLE TV CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH PER PSNH, VERIZON AND COMCAST STANDARDS.
  5. PROPOSED INSTALLATION OF UNDERGROUND CONDUITS FOR TELEPHONE, ELECTRIC AND ELECTRICAL TRANSFORMER PAD AND GAS SERVICE SHALL BE COORDINATED WITH THE RESPECTIVE UTILITIES.
  6. SEE GRADING AND DRAINAGE SHEET FOR ROOF DRAIN AND WINDOW WELL DRAINAGE INFORMATION.
  7. PROPOSED UTILITIES THAT INTERSECT PROPOSED DRAINAGE PIPES SHALL BE INSTALLED BENEATH THE DRAINAGE PIPE WITH A MINIMUM VERTICAL SEPARATION OF 1 FOOT.

LEGEND	
	SEWER MANHOLE
	HYDRANT
	HANDICAP SYMBOL
	PROPOSED SIGN
	WETLAND SYMBOL
	WETLAND MAPPING IDENTIFICATION NUMBER (TYP)
	EXISTING LIGHT POLE
	CONCRETE SIDEWALK
	PROPOSED DRAIN LINE
	EXISTING SIGN
	PROPOSED TREE LINE
	BUILDING SETBACK LINE
	PARKING SETBACK LINE
	EXISTING TREE LINE
	EDGE OF WETLAND
	PROPOSED WATER LINE
	PROPOSED SEWER LINE
	PROPOSED GAS LINE
	PROPOSED GAS LINE
	PROPOSED FOUNDATION DRAIN
	PROPOSED ROOF DRAIN

No.	DATE	BY	REVISION

**UTILITY PLAN**

MARSH VIEW HOUSING FOR THE ELDERLY  
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BROCK STREET, ROCHESTER, NH

PREPARED FOR:  
ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03867

GRAPHIC SCALE

**civilworks**  
engineers • surveyors

P.O. Box 1166  
Dover, NH 603-749-0443

DESIGN: DCL
SCALE: 1"=20'
DATE: 11-17-10
SHEET: 6 OF 11
PROJECT #09113



No.	DATE	BY	REVISION

## SITE LIGHTING PLAN

MARSH VIEW HOUSING FOR THE ELDERLY  
TAX MAP 131, LOT 62-2  
BROCK STREET, ROCHESTER, NH

PREPARED FOR:  
ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03667

GRAPHIC SCALE

# civilworks

engineers • surveyors

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P.O. Box 1166  
Dover, NH

603-749-0443

DESIGN: DCL

SCALE: 1"=20'

DATE: 11-17-10

SHEET: 7 OF 11

PROJECT #09113

PROJECT NAME AND LOCATION

Applicant: Rochester Family Housing Inc. LATITUDE: 43° 17' 21"  
c/o Rochester Housing Authority LONGITUDE: 70° 58' 43"  
Rochester, NH 03867

DESCRIPTION

The project consists of the construction of a 12 unit elderly housing on a 7.7 ac. parcel of land with associated site improvements.

DISTURBED AREA

The total area to be disturbed is approximately 47,000 s.f.

SEQUENCE OF MAJOR ACTIVITIES

1. Install temporary erosion control silt fences and stabilized construction entrance.
2. Clear and grub wooded areas.
3. Construct drainage structures, utilities, swales and road base course materials.
4. Strip loam and stockpile in designated area.
5. Stabilize all swales with sod lining and erosion control matting prior to directing flow to them. Stabilize detention pond slopes with jersolan control matting. All areas shall be stabilized within 72 hours of achieving finished grade.
6. Construct building pad area and parking.
7. Loam and seed disturbed areas.
8. When all construction activity is complete and site is stabilized, remove all inlet protection silt fences and sediment that has been trapped by these devices.

DEFINITIONS

An area shall be considered stable if one of the following has occurred.

1. Base course gravels have been installed in areas to be paved.
2. A minimum of 85% vegetative growth has been established.
3. A minimum of 3" of non-erosive material such as stone or rip-rap has been installed; or
4. Erosion control blankets have been properly installed.

PROJECT PHASING

Site work is expected to begin in the Spring and will continue on or about early Fall. Building work will commence as the building pad becomes available and will continue concurrently with the site work.

NAME OF RECEIVING WATER

Unnamed wetlands tributary to the Cochecho River.

TEMPORARY EROSION AND SEDIMENT CONTROLS AND STABILIZATION PRACTICES

As indicated in the sequence of Major Activities, the inlet protection and silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Areas where construction activity temporarily ceases for more than twenty-eight (28) days will be stabilized with a temporary seed and mulch within twenty-one (21) days of the last disturbance. Once construction activity ceases permanently in an area, silt fences and inlet protection and any earth/dikes will be removed once permanent measures are established.

Stabilize all ditches, swales, & level spreaders prior to directing flow to them.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site will be filtered through inlet protection and silt fences. All storm drain inlets shall be provided with inlet protection. Stone rip rap shall be provided at the outlets of drain pipes and culverts.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are the general inspection and maintenance practices that will be used to implement the plan.

1. The smallest practical portion of the site will be denuded at one time, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.
2. All control measures will be inspected at least once each week and following any storm event of 0.5 inches or greater.
3. All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built up sediment will be removed from silt fence or inlet protection when it has reached one third the height of the fence or barrier, or when "bulges" occur.
5. All diversion dikes will be inspected and any breaches promptly repaired.
6. Temporary seeding and planting will be inspected for bare spots, washouts, and unhealthy growth.
7. A maintenance inspection report will be made after each inspection.
8. The Contractor's site superintendent will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance report.
9. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.

B. MULCHING

1. Timing

Mulching - mulch should be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this.

a. Apply mulch prior to any storm event.

This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.

b. Required Mulching within a specified time period.

The time period can range from 21 to 28 days of inactivity on an area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

2. Guidelines for Winter Mulch Application.

Type	Rate per 1,000 s.f.	Uses and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	480 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting	As per manufacturer Specifications	Used in slope areas, water courses and other areas.
Crushed Stone 1/4" to 1-1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.

3. Maintenance

All mulches must be inspected periodically, in particular after rainstorms, to check for hill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. TEMPORARY GRASS COVER

1. Seedbed Preparation

Apply fertilizer at the rate of 600 pounds per acre of 10-10-10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.

2. Seeding

a. Utilize annual rye grass at a rate of 40 lbs./acre.

b. Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.

c. Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.

3. Maintenance

Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

D. FILTERS

1. Silt Fence

a. Synthetic filter fabric shall be a previous sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
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Filtering Efficiency	VTM-51	75% minimum
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Tensile Strength at 20% Maximum Elongation*	VTM-52	Extra Strength 50 lb./in. (min)
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Flow Rate	VTM-51	0.3 gal/sf/min (min)
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\* Requirements reduced by 50 percent after six (6) months of installation.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

b. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 18 inches).

c. A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.

d. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, the wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces. Filter cloth shall be fastened securely to the woven wire fence with ties spaced every 24 inches at the top, mid-section and bottom.

e. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees. When two sections of filter cloth adjoin each other, they shall be overlapped by 6 inches, folded and stapled. Standard Strength 30 lb./in. (min)

f. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.

g. The trench shall be backfilled and the soil compacted over the filter fabric.

h. Silt fences shall be removed when they have served their useful purpose but not before the upslope areas have been permanently stabilized.

3. Sequence of Installation

Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.

4. Maintenance

a. Inlet protection barrier and silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary check dam.

b. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.

c. Sediment deposits must be removed when deposits reach approximately one third (1/3) the height of the barrier.

d. Any sediment deposits remaining in place after the silt fence or haybale barrier is no longer required shall be removed. The area shall be prepared and seeded.

e. Additional stone may have to be added to the construction entrance, periodically to maintain proper function of the erosion control structure of the erosion control structure.

E. Permanent Seeding:

1. Bedding - stones larger than 1 1/2", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 4" to prepare a seedbed and mix fertilizer into the soil.

2. Fertilizer - lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

Agricultural Limestone @ 100 lbs. per 1,000 s.f.  
10-20-20 fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (recommended):

Rate:

Type	LBS. per Acre	LBS per 1,000 sf.
Tall Fescue	20	0.45
Creeping Red Fescue	20	0.45
Birdfoot Trefoil	8	0.20
Total	48	1.10

4. Sodding - sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding on area may be substituted for permanent seeding procedures anywhere on site. Sod preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook.

Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt) etc.

5. Provide a minimum of 4 inches (5 inches loose) of topsoil to all areas to be seeded.

F. Winter Construction Notes

a. All proposed post-development vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The placement of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.

b. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized with stone or erosion control blankets appropriate for the design flow conditions.

c. After November 15th, incomplete road or parking surfaces shall be protected with a minimum of 3-inches of crushed gravel per MHDOT Item 304.3, or if construction is to continue through the winter season be cleared of any accumulated snow after each storm event.

No.	DATE	BY	REVISION	

DETAIL SHEET

MARSH VIEW HOUSING FOR THE ELDERLY  
TAX MAP 131, LOT 62-2  
BROCK STREET, ROCHESTER, NH

PREPARED FOR:  
ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03867

civilworks  
engineers • surveyors

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DESIGN: DCL/SRD

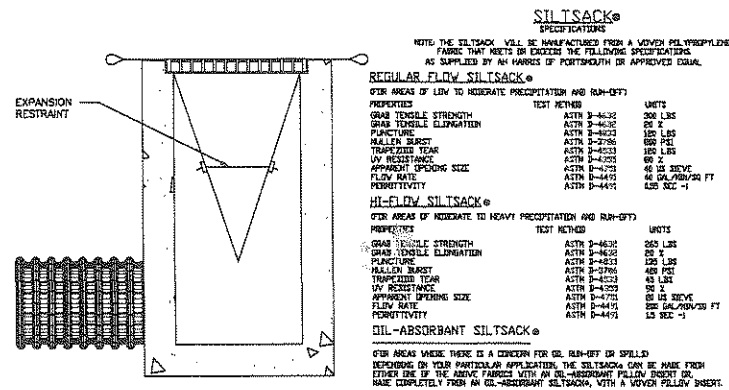
SCALE: AS SHOWN

DATE: 11-17-10

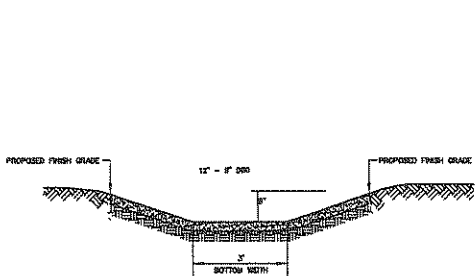
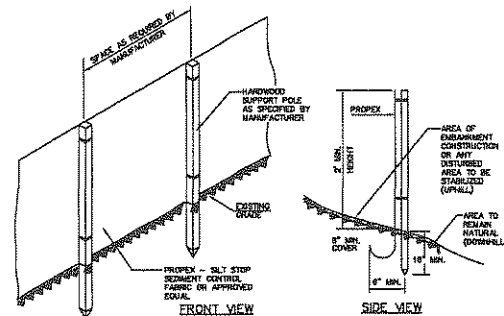
SHEET: 8 OF 11

PROJECT #06122



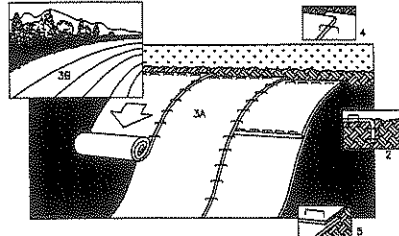


DETAIL OF INLET SEDIMENT CONTROL DEVICE  
NOT TO SCALE

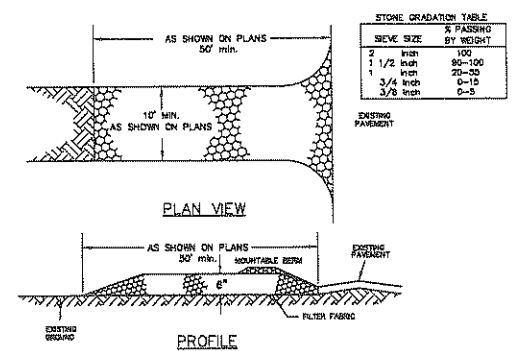
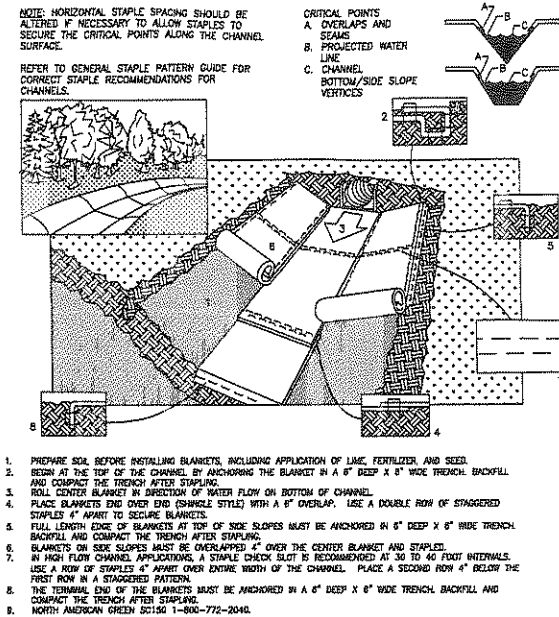


- NOTES:**
- THE FOUNDATION AREA OF THE WATERWAY SHALL BE CLEARED AND GRASSED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBSTRUCTIBLE MATERIAL. MATERIALS REMOVED SHALL BE EXPOSED OF SO THEY WILL NOT INTERFERE WITH THE CONSTRUCTION OR PROPER FUNCTIONING OF THE WATERWAY.
  - THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL. TO PREVENT INLEAKAGE, SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED WATERWAY. EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR EXPOSED OF SO IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.
  - CONSTRUCTION OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION AND AIR AND WATER POLLUTION. APPROPRIATE STATE AND LOCAL LAWS AND REGULATIONS SHALL BE COMPLIED WITH FOR INSTALLATION. THE WATERWAY SHALL BE PLACED ON VEGETATION ESTABLISHED IN THE SWALE PRIOR TO ALLOWING STORMWATER RUNOFF TO FLOW THROUGH THE SWALE.
  - MAINTENANCE OF THE VEGETATION IN THE DRAINAGE WATERWAY IS EXTREMELY IMPORTANT IN ORDER TO PREVENT EROSION, DRAINAGE, AND FAILURE OF THE WATERWAY. MAINTENANCE SHOULD BE DONE PRESENTLY CHOSEN TO CONTROL OVERGROWTH OF WEEDS AND WOODY VEGETATION AND TO KEEP THE SWALES IN A USABLE CONDITION. THE VEGETATION SHOULD NOT BE BURNED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE OF THE WATERWAY.
  - THE WATERWAY SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE THE CONDITION OF THE WATERWAY. HILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER OCCUPATION.
  - PERIODIC APPLICATIONS OF LIME AND FERTILIZER MAY BE NEEDED TO MAINTAIN VEGETATION GROWTH.
  - WATERWAY FENCES SHALL BE PROMPTLY REPAIRED FROM PLANTING OR TEARDOWN DURING PLACEMENT OF THE ROCK RIPRAP BY PLACING A CURB OF SAND OVER THE FENCE. DAMAGED AREAS IN THE FENCE SHALL BE REPAIRED BY PLACING A PIECE OF FENCE OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FENCE. ALL OVERLAPS REQUIRED FOR REPAIRS ON JOINTS TWO FEET OF FENCE SHALL BE A MINIMUM OF 12 INCHES.
  - A WELL-BLENDED MIXTURE OF ROCK SIZES SHALL BE USED FOR THE STONE. FIFTY PERCENT BY WEIGHT OF THE STONE MIXTURE SHALL BE SMALLER THAN THE MAXIMUM SIZE STONE USED. THE LARGEST STONE SIZE IN THE MIXTURE SHALL BE 1.5 TIMES THE SIZE OF THE STONES FOR RIPRAP SHALL BE AVAILABLE ON SLOPEWALLS. THE STONES SHALL BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE (PERPENDICULAR TO THE FLOW) SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FENCE. FLAT ROCKS SHALL NOT BE USED FOR STONE.
  - STONE FOR THE RIPRAP 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 OVERLAPPING OF THE UNDERLYING MATERIALS. HAVING PLACEMENT MAY BE REQUIRED TO PREVENT DAMAGE TO ANY FOUNDATION STRUCTURES.
  - ROCK CHANNELS SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM TO SEE THAT ROCK IS STILL IN PLACE. IF ROCK HAS BEEN DISPLACED OR UNDERMINED THE CHANNEL AREA SHALL BE REPAIRED IMMEDIATELY.
  - WOODY VEGETATION SHALL NOT BE ALLOWED TO BECOME ESTABLISHED IN THE ROCK RIPRAP, AND DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE IN THE CHANNEL.

SWALE SECTIONS  
NOT TO SCALE



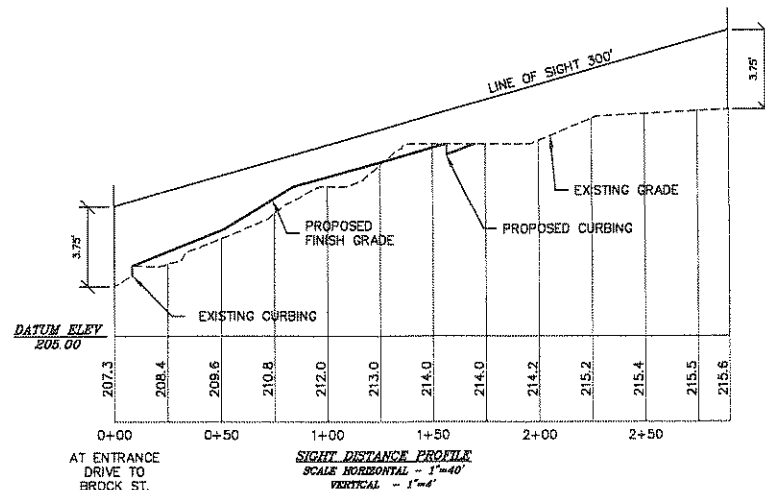
- NOTE:**  
TO BE INSTALLED ON SLOPES STEEPER THAN 3:1 UNLESS OTHERWISE STABILIZED BY STONE RIP-RAP.
- EROSION CONTROL BLANKET SLOPE INSTALLATION**  
NOT TO SCALE



**CONSTRUCTION SPECIFICATIONS**

- STONE SIZE - RHODOT STANDARD STONE SIZE #4 - SECTION 703 OF RHODOT STANDARD SPECIFICATIONS (SEE GRADATION TABLE)
- LENGTH - DETAILS ON PLANS (50 FOOT MINIMUM)
- THICKNESS - SIX (6) INCHES (MINIMUM)
- WIDTH - FULL DRIVE WIDTH (10 FOOT MINIMUM)
- FILTER FABRIC - WRAPI 600X OR APPROVED EQUAL
- SURFACE WATER CONTROL - ALL SURFACE WATER THAT IS FLOWING TO OR OVERTAKING TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BEHIND THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 2:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
- WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

**STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



No.	DATE	BY	REVISION

**DETAIL SHEET**

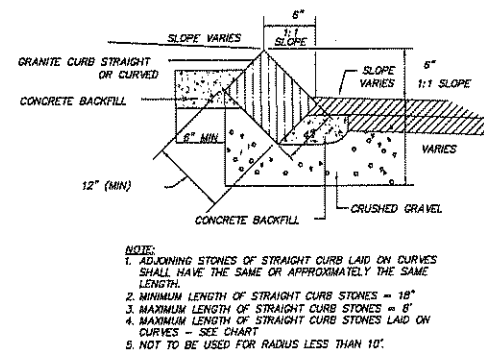
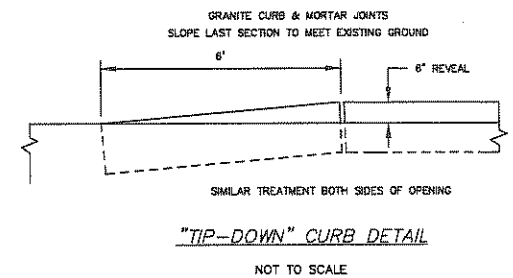
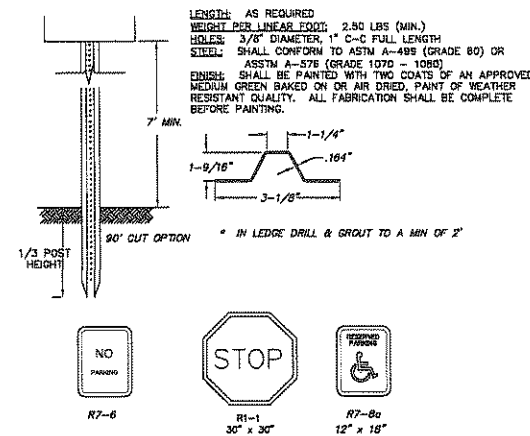
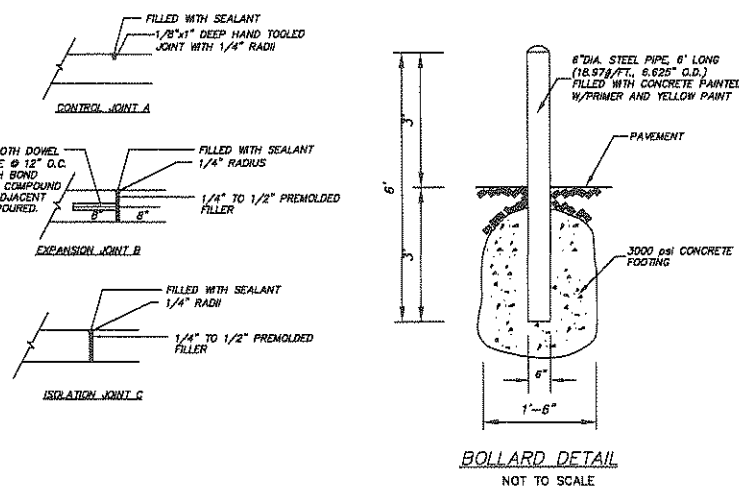
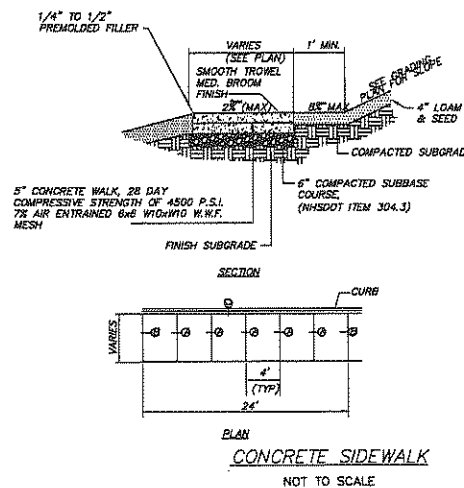
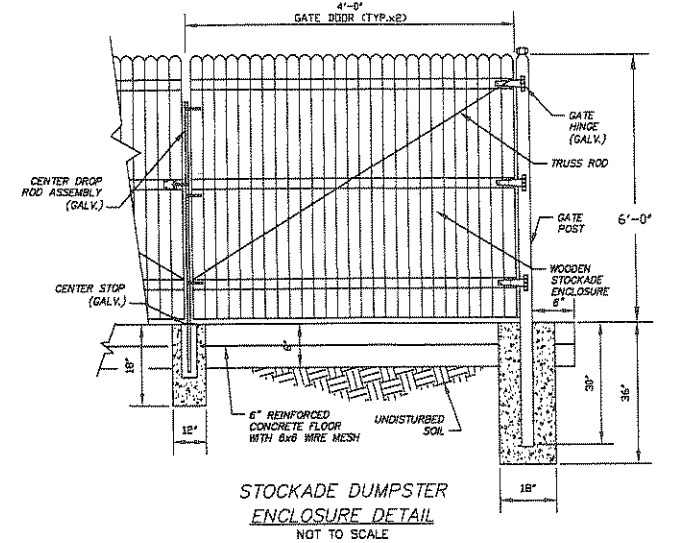
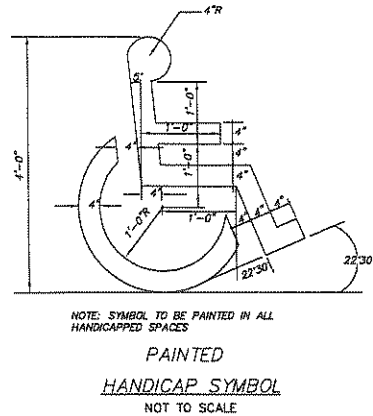
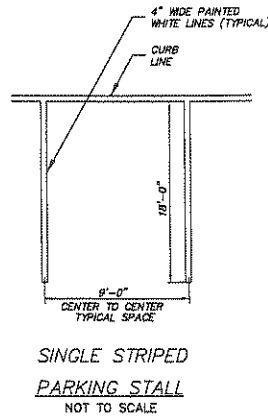
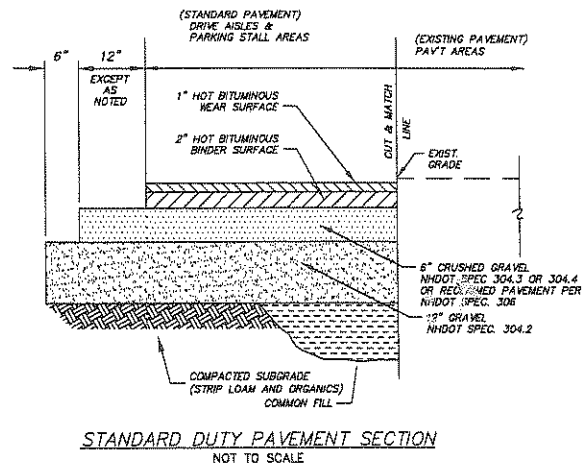
MARSH VIEW HOUSING FOR THE ELDERLY  
TAX MAP 131, LOT 62-2  
BROCK STREET, ROCHESTER, NH

PREPARED FOR:  
ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03887

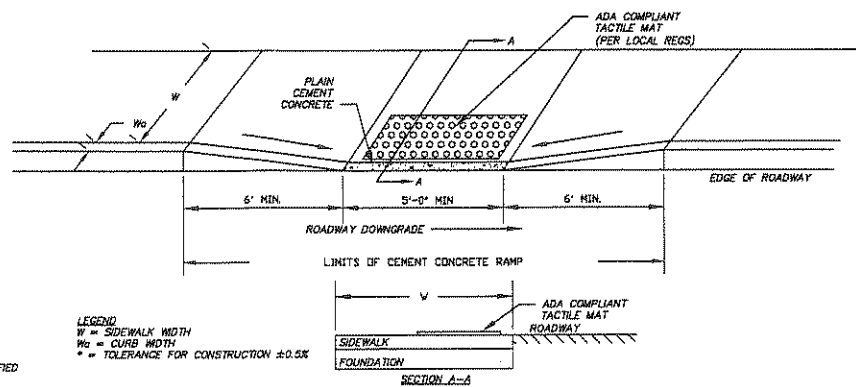
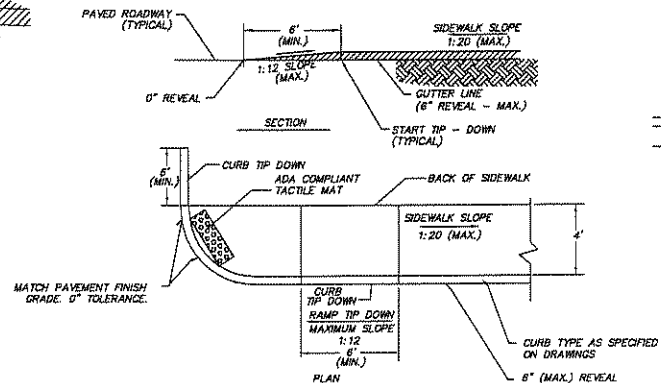
**civilworks**  
engineers-surveyors

P.O. Box 1166  
Dover, NH 03833

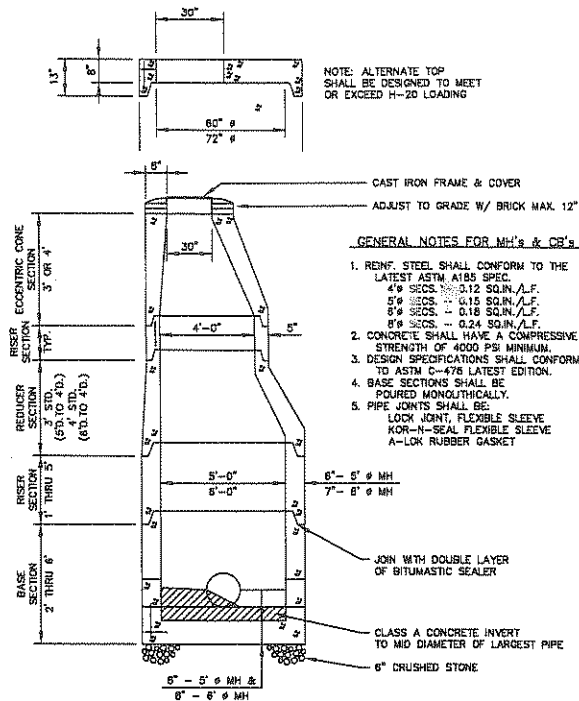
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SHEET: 9 OF 11  
PROJECT #06122



RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'-20'	1'-6"
20'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	6'
OVER 110'	6'

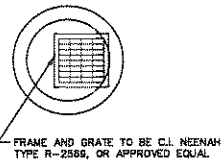


No.	DATE	BY	REVISION
DETAIL SHEET			
MARSH VIEW HOUSING FOR THE ELDERLY TAX MAP 131, LOT 62-2 BROCK STREET, ROCHESTER, NH			
PREPARED FOR: ROCHESTER HOUSING AUTHORITY 13 WELLSWEEP ACRES ROCHESTER, NH 03857			
civilworks		DESIGN: DCL/SRD	
engineers • surveyors		SCALE: AS SHOWN	
P.O. Box 1166 Dover, NH		DATE: 11-17-10	
603-749-0443		SHEET: 10 OF 11	
		PROJECT #06122	



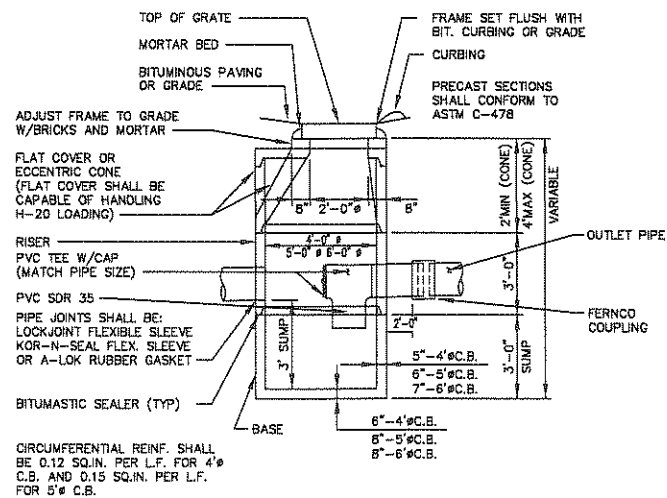
STANDARD 5 FT. & 6 FT. DIA. MANHOLES

NOT TO SCALE



GRATE DETAIL

NOT TO SCALE

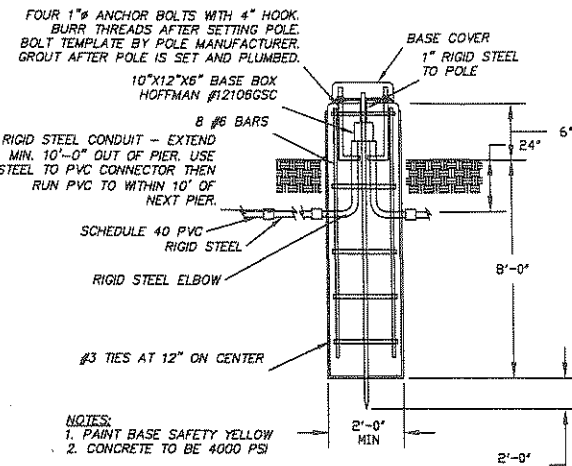


PRE-CAST REINFORCED CATCH BASIN WITH OIL & GRIT TRAP

NOT TO SCALE

# SPECIFICATIONS

1. All construction shall conform with the State of New Hampshire Department of Transportation (NHDOT), "Standard Specifications for Road and Bridge Construction"; hereinafter referred to as the "Standard Specifications".
2. Catch basins and manholes shall be pre-cast reinforced concrete designed by an engineer registered in New Hampshire, and able to withstand loadings of 8 tons (H20 Loading).
3. Manholes shall have cast iron frames and covers with 30" inside diameter openings. A 3-inch (minimum) letter "D" for drain shall be plainly cast into the center of each cover.
4. Catch basins and manholes shall be adjusted to grade with courses of brick. Maximum adjustment to grade shall be 12 inches. Frames shall be set on a full bed of mortar, true to grade and concentric with the masonry. All voids between the top of the structure and the bottom flange of the frame shall be completely filled to make a watertight fit. A ring of mortar at least one inch thick and pitched to shed water away from the frame, shall be placed over and around the outside of the bottom flange. The mortar shall extend to the outer edge of the masonry all around its circumference and shall be finished smooth. No visible leakage will be permitted.
5. Invert channels of sewer manholes shall be formed smoothly to the largest pipe radius. Changes in grade shall be formed smoothly and evenly. The floor of the structure outside the channels shall be sloped towards the channels at approximately 1/2 inch per foot. The floor at the channel shall match the crown of the largest pipe.
6. Trench construction will conform with Section 603.3.1 of the Standard Specifications (1974).
7. Wood sheeting or a suitable trench box shall be used to support the trench as necessary. If wood sheeting is used, it shall be driven at a distance of 1 foot from the outside diameter of the pipe to a depth 6 inches below the invert of the pipe. Wood sheeting shall be cut off and left in place to an elevation not less than 1 foot above the top of the pipe, but not greater than 3 feet below the finished grade.
8. Bedding shall conform with Section 603.3.2 of the Standard Specifications (1974).
9. Backfill material will conform with Section 603.3.5 of the Standard Specifications (1974) and, in addition, shall exclude debris, pieces of pavement, organic matter, top soil, all wet or soft muck, peat or clay, all excavated ledge material, frozen material, all rocks over 6 inches in largest dimension, or any material which, as determined by the Engineer, will not provide sufficient support or maintain the completed construction in a stable condition. Backfill shall not be placed on frozen or previously frozen material.
10. All backfill and bedding compaction shall meet the requirements of AASHTO 99 Method C. Density shall be 95 percent. Compaction shall be 6 inch lifts for bedding and backfill to a plane 1 foot above the pipe and in 12 inch lifts thereafter by an approved mechanical compactor.
11. Should frozen material be encountered, it shall not be placed in the backfill nor shall backfill be placed upon frozen material. Previously frozen material shall be removed as required before new backfill is placed.
12. The Contractor shall be responsible for any damage to frames and grates during and from the time of removal from the existing structure to and during the time of resetting, and shall replace in kind any damaged frames or grates at no additional compensation.
13. All trenches will be covered and debris, including any rejected materials, shall be removed daily. Strict safety precautions shall be maintained at all times.
14. Location of utilities shown on the plans are approximate.
  - a) the Contractor shall, 48 hours prior to construction, notify the utility companies and have all utilities in the vicinity of the construction marked in the field.
  - b) after the utilities have been located and prior to construction, the Contractor with the Engineer, shall layout the proposed drainage system in the field and rectify any utility conflicts which may be found.
  - c) Any conflicts with utilities found during construction by the Contractor shall be immediately brought to the attention of the Engineer and the Utility Company and properly rectified.
  - d) The Contractor is responsible for the cost of repair for any utilities damaged during construction. The Contractor shall contact the Utility Company to repair any damages, however, the Contractor may make appropriate repairs with the Utility Company's permission.
15. Complete shop drawings for pipe, manholes, catch basins, frames, grates and covers shall be submitted in triplicate for approval by the Engineer prior to the start of construction. Each shop drawing shall be checked and initialed by the Contractor to indicate approval before it is submitted to the Engineer.
16. Shop drawings for flat concrete covers shall be stamped prior to submission for approval by a New Hampshire Registered Professional Engineer.
17. Brick masonry for setting frames and brick and mortar plugs shall conform to the Standard Specification Section 604.2.4.

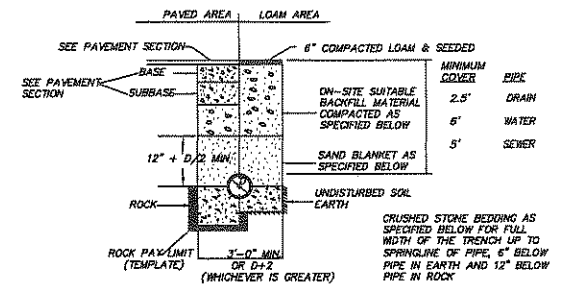
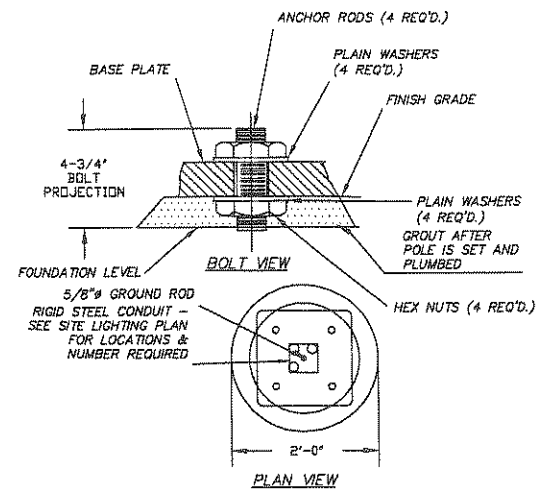


- NOTES:
1. PAINT BASE SAFETY YELLOW
  2. CONCRETE TO BE 4000 PSI

LIGHT POLE BASE

NOT TO SCALE

NOTE: REFER TO ELECTRICAL DRAWINGS FOR GROUNDING REQUIREMENTS.

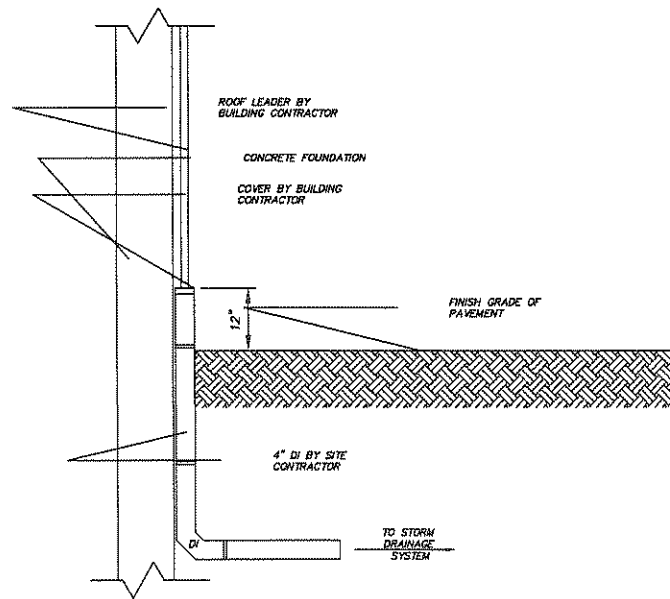


BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 98, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 98, METHOD C.

SAND BLANKET & BEDDING			3/4" CRUSHED STONE BEDDING		
SEIVE SIZE	% FINER BY WEIGHT		SEIVE SIZE	% FINER BY WEIGHT	
1/2"	90 - 100		1"	100	
200	0 - 15		3/4"	90 - 100	
			1/2"	25 - 50	
			3/8"	0 - 20	
			#4	0 - 5	

UTILITY TRENCH

NOT TO SCALE



- NOTE:
1. SEE GRADING PLAN FOR SUGGEST OUTLET LOCATIONS.
  2. COORDINATE DOWNSPOUT LOCATIONS WITH ARCHITECT.

BOOT ROOF DRAIN DETAIL

NOT TO SCALE

No.	DATE	BY	REVISION

DETAIL SHEET

MARSH VIEW HOUSING FOR THE ELDERLY  
TAX MAP 131, LOT 62-2  
BROCK STREET, ROCHESTER, NH

PREPARED FOR:  
ROCHESTER HOUSING AUTHORITY  
13 WELLSWEEP ACRES  
ROCHESTER, NH 03607

civilworks  
engineers & surveyors

P.O. Box 1166  
Dover, NH 03820

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PROJECT #08122