SITE PLAN
FOR
WEST ACTON VILLAGE ECOLOGY
525-541 MASSACHUSETTS AVENUE
3-7 SPRUCE STREET
ACTON, MASSACHUSETTS

DATE: JULY 31, 2009
REV.: DECEMBER 21, 2009
REV.: FEBRUARY 17, 2010

RECORD OWNER:

PARCEL 105	525 MASS AVE LLC 543 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 104	525 MASS AVE LLC 543 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 103	531 MASS AVE LLC 543 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 114	537 MASS AVE LLC 543 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 113	541 MASS AVE LLC 543 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 112	543-545 MASS AVE LIMITED PARTNERSHIP 543-545 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 94 UNIT 2	BITTERROOT GROUP LLC 3 SPRUCE STREET ACTON, MA 01720
UNIT 3	543-545 MASS AVE LIMITED PARTNERSHIP 543-545 MASSACHUSETTS AVE ACTON, MA 01720
PARCEL 97 UNIT 1	PRESTI FAMILY LIMITED PARTNERSHIP 585 MASSACHUSETTS AVE ACTON, MA 01720

REFERENCE:

MIDDLESEX REGISTRY OF DEEDS
SOUTH DISTRICT

PARCEL 105	DEED BOOK 49223 PAGE 364
PARCEL 104	DEED BOOK 49223 PAGE 364
PARCEL 103	DEED BOOK 44299 PAGE 210
PARCEL 114	DEED BOOK 44299 PAGE 207
PARCEL 113	DEED BOOK 44299 PAGE 182
PARCEL 112	DEED BOOK 15300 PAGE 519
PARCEL 94	
UNIT 2	DEED BOOK 42957 PAGE 226
UNIT 3	DEED BOOK 19220 PAGE 223
PARCEL 97	
UNIT 1	DEED BOOK 41606 PAGE 171

PLAN No. 62 OF 1944
TOWN OF ACTON ASSESSORS MAPS
MAP F-2A, PARCELS 94, 97, 103, 104, 105, 112, 113, 114

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ZONING DISTRICT:

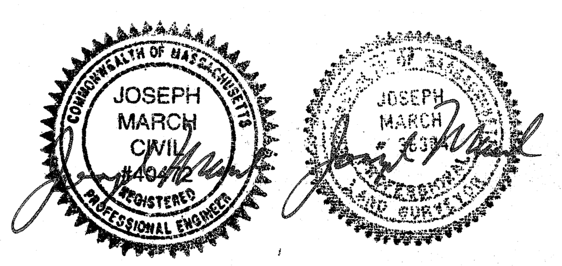
WEST ACTON VILLAGE (WAV)
GROUNDWATER PROTECTION DISTRICT ZONE 3
WEST ACTON HISTORIC DISTRICT

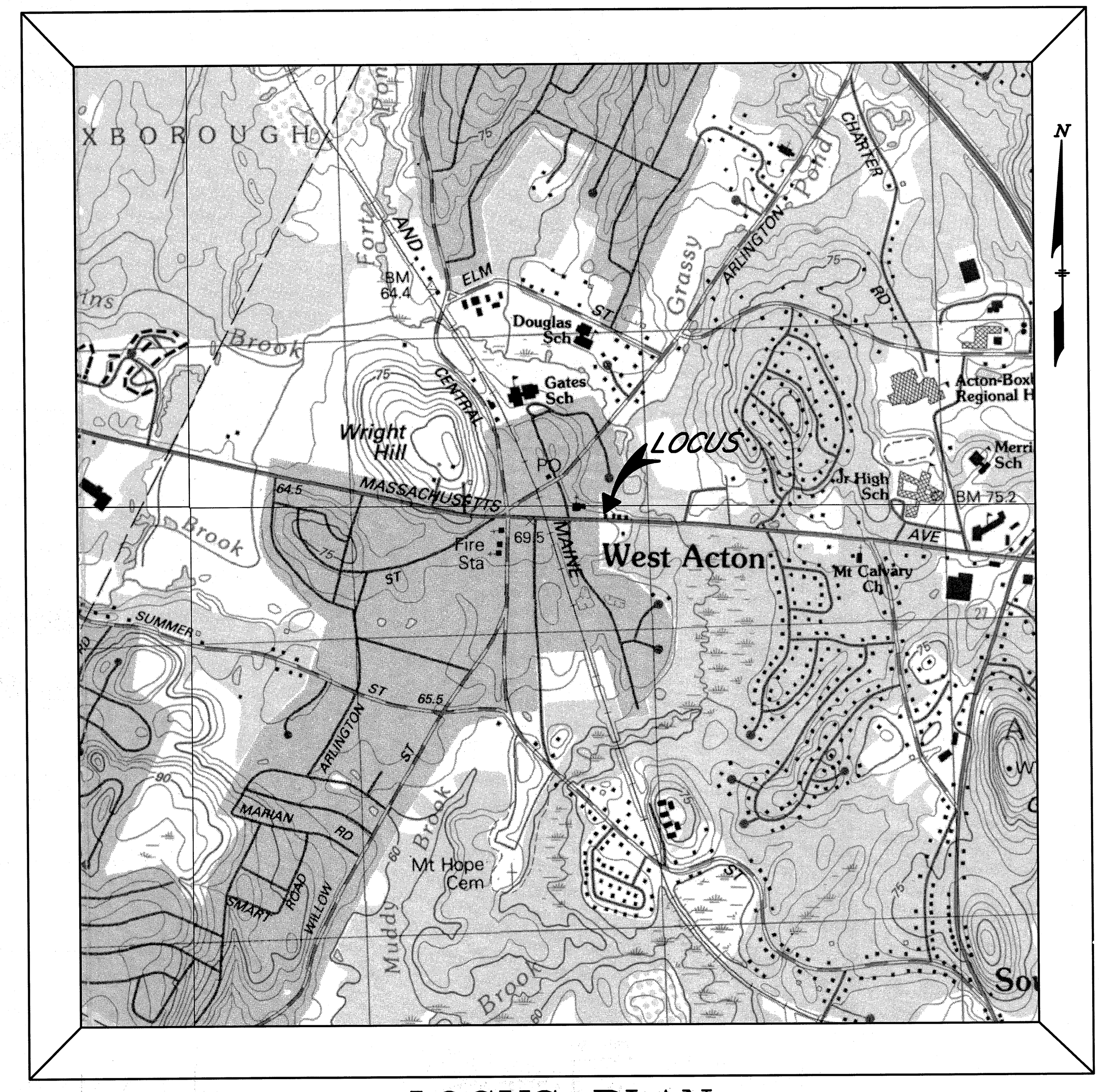
APPLICANT:

531 MASS AVE LLC
543 MASSACHUSETTS AVE
ACTON, MA

ENGINEER/SURVEYOR

STAMSKI AND MCNARY, INC
80 HARRIS STREET
ACTON, MASSACHUSETTS 01720
(978) 263-8585





LOCUS PLAN
SCALE: 1"=1200'
0 600 1200 2400 4800

LAND USE DATA: 525–541 MASSACHUSETTS AVE.

ZONING REQUIREMENTS

ZONING DISTRICT:	WEST ACTON VILLAGE (WAV)	
	REQUIRED:	PROVIDED:
MIN LOT AREA:	NR	176,871 SF
MIN LOT FRONTAGE:	NR	1,062± FT
MIN LOT WIDTH:	NR	567± FT
MIN FRONT YARD:	5 FT	5± FT
MIN SIDE & REAR YARD:	NR	NR
MIN OPEN SPACE:	NR	74%
MAX FLOOR AREA RATIO	0.40	0.40
MAX HEIGHT	36 FT	<36 FT
MIN SIDE YARD ABUTTING R DIST.:	20 FT	>20 FT

FLOOR AREA REQUIREMENTS

LOT AREA =	176,871 SF
WETLAND AND/OR FLOOODPLAIN AREA =	94,241 SF (53%)
DEVELOPABLE SITE AREA (DSA) =	82,630 SF
MAX NET FLOOR AREA ALLOWED : 0.4 x 82,630 =	33,052 SF
PROPOSED NET FLOOR AREA =	33,045 SF
PROPOSED FLOOR AREA RATIO =	0.40
PROPOSED GROSS FLOOR AREA =	49,237 SF

PARKING REQUIREMENTS:
(FROM SECTION 6.3.1, 50% FOR COLLECTIVE USE PARKING: SECTION 6.9.4.4)
(REFER TO SITE PLAN APPLICATION FOR DETAILED PARKING SUMMARY)

	WEEKDAY	NIGHTS/WEEKENDS
RETAIL / OFFICE POTENTIAL MAX.*: *SEE PARKING SUMMARY	50.2 SPACES	27.1 SPACES
RESTAURANT (95 SEATS) : 1 SPACE / 3 SEATS X 0.5	15.8 SPACES	15.8 SPACES
CULTURAL SPACE POTENTIAL MAX.*: *SEE PARKING SUMMARY	3.5 SPACES	21.9 SPACES
NUMBER OF SPACES REQ'D =	69.5 SPACES	64.8 SPACES
NUMBER OF SPACES PROVIDED =	70 SPACES*	70 SPACES*

*STANDARD SIZE = 65, HANDICAPPED SPACES = 3 (4%), COMPACT SPACES = 2

SEWAGE FLOW:

RETAIL: 12,500 x 50 GPD/1,000 S.F. =	625 GPD
RESTAURANT: 95 x 20 GPD/SEAT =	1,900 GPD
OFFICE : 13,539 x 75 GPD/1000 S.F. =	1,015 GPD
CULTURAL SPACE POTENTIAL MAX. =	525 GPD
EXISTING FLOW AT #541 =	118 GPD
MAX. DESIGN FLOW =	4,183 GPD

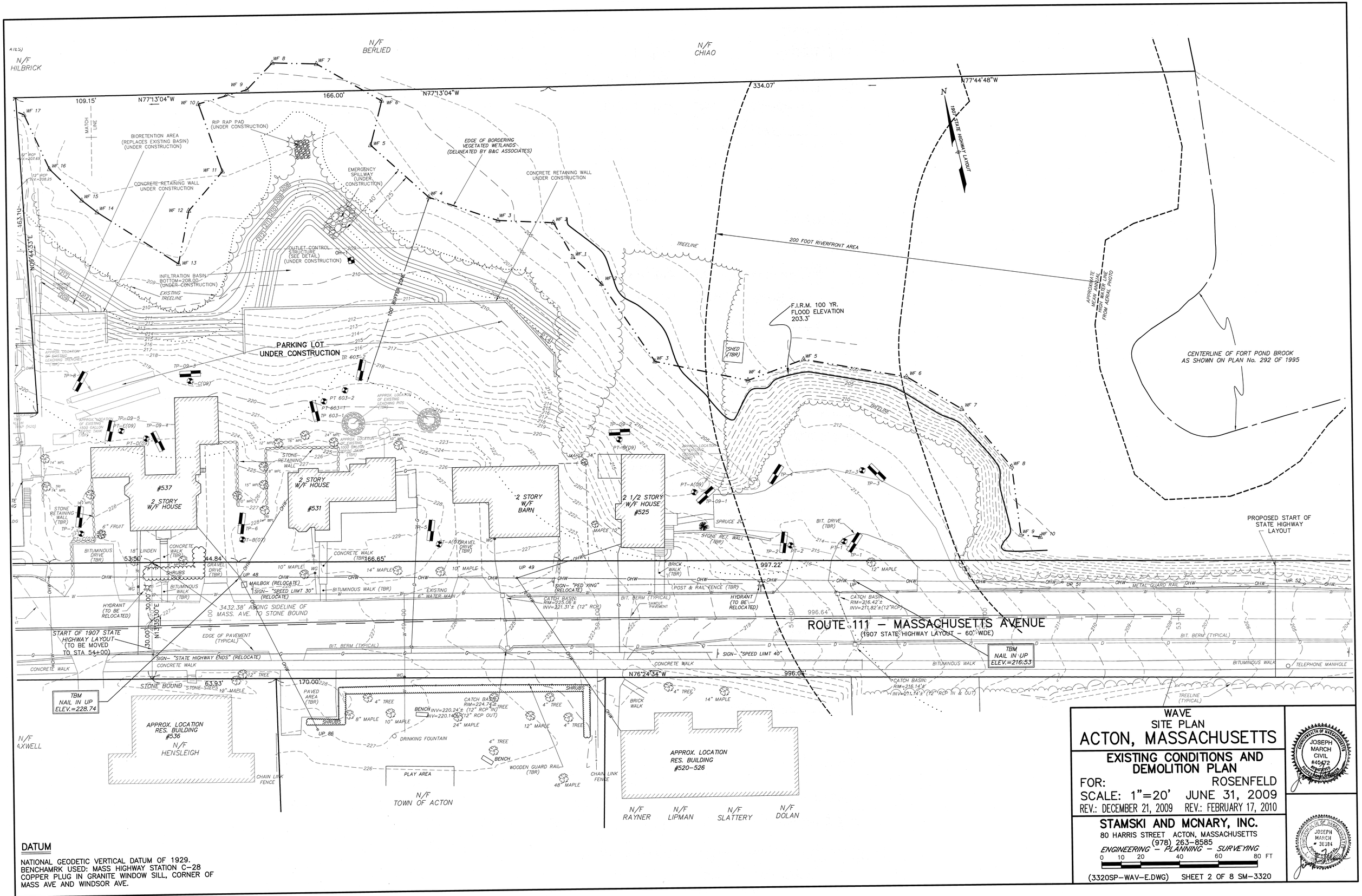
DRAINAGE:

MINIMUM DISTANCE TO GROUNDWATER = 3.5 FT (OH–1)

PEAK DISCHAGE RATES:

	PRE–DEVELOPMENT DISCHAGE RATE (CFS)	POST–DEVELOPMENT DISCHARGE RATE (CFS)
2–YEAR	1.96	1.92
10 YEAR	3.89	3.37
100 YEAR	7.27	6.70

LAYOUT PLAN
SCALE: 1"=40'



WAVE
SITE PLAN
ACTON, MASSACHUSETTS

EXISTING CONDITIONS AND DEMOLITION PLAN

FOR: ROSENFELD
SCALE: 1"=20' JUNE 31, 2009
REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

STAMSKI AND MCNARY, INC.
80 HARRIS STREET ACTON, MASSACHUSETTS
(978) 263-8585
ENGINEERING – PLANNING – SURVEYING

0 10 20 40 60 80 FT

(3320SP-WAV-E.DWG) SHEET 2 OF 8 SM-3320

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH CIVIL #40472 REGISTERED PROFESSIONAL ENGINEER

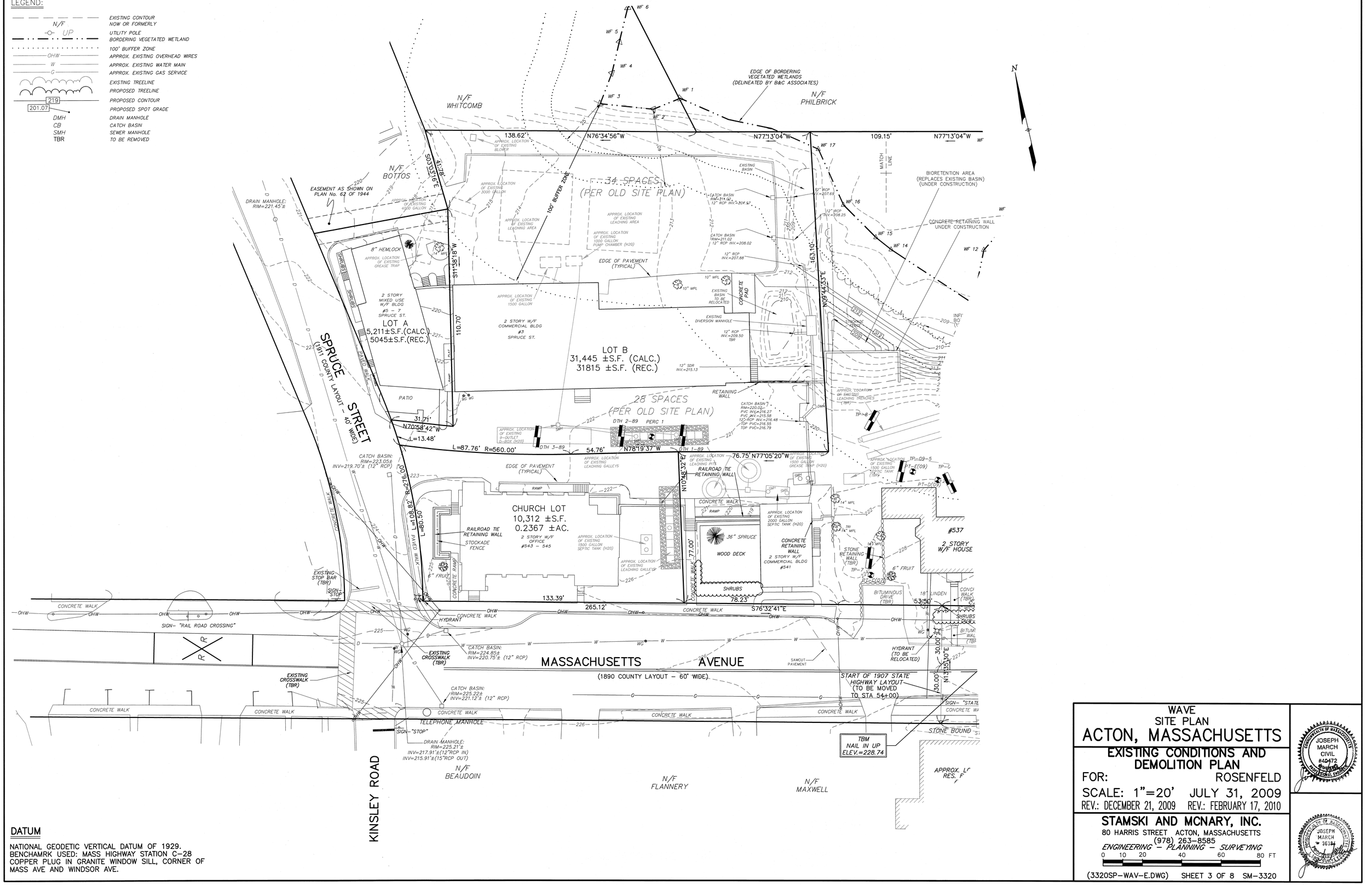
COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH # 38384 PROFESSIONAL LAND SURVEYOR

DATUM

NATIONAL GEODETIC VERTICAL DATUM OF 1929.
BENCHAMRK USED: MASS HIGHWAY STATION C-28
COPPER PLUG IN GRANITE WINDOW SILL, CORNER OF MASS AVE AND WINDSOR AVE.

LEGEND:

- EXISTING CONTOUR
- N/F NOW OR FORMERLY
- UP UTILITY POLE
- BORDERING VEGETATED WETLAND
- 100' BUFFER ZONE
- OHW APPROX. EXISTING OVERHEAD WIRES
- W APPROX. EXISTING WATER MAIN
- G APPROX. EXISTING GAS SERVICE
- EXISTING TREELINE
- PROPOSED TREELINE
- 219 PROPOSED CONTOUR
- 201.07 PROPOSED SPOT GRADE
- DMH DRAIN MANHOLE
- CB CATCH BASIN
- SMH SEWER MANHOLE
- TBR TO BE REMOVED



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WAVE
SITE PLAN
ACTON, MASSACHUSETTS

EXISTING CONDITIONS AND DEMOLITION PLAN

FOR: ROSENFELD

SCALE: 1"=20' JULY 31, 2009
REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

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ENGINEERING - PLANNING - SURVEYING

0 10 20 40 60 80 FT

(3320SP-WAV-E.DWG) SHEET 3 OF 8 SM-3320

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH CIVIL #40472 REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH #36334 REGISTERED LAND SURVEYOR

LEGEND:

- EXISTING CONTOUR
- N/F — NOW OR FORMERLY
- UP — UTILITY POLE
- BORDERING VEGETATED WETLAND
- 100' BUFFER ZONE
- OHW — APPROX. EXISTING OVERHEAD WIRES
- W — APPROX. EXISTING WATER MAIN
- G — APPROX. EXISTING GAS SERVICE
- EXISTING TREELINE
- PROPOSED TREELINE
- 219 — PROPOSED CONTOUR
- 201.07 — PROPOSED SPOT GRADE
- DMH — DRAIN MANHOLE
- CB — CATCH BASIN
- SMH — SEWER MANHOLE
- UECT — PROPOSED UNDERGROUND UTILS
- G — G — PROPOSED GAS LINE
- W — PROPOSED WATER LINE
- FE — FLARED END
- DI — DROP INLET
- ID — INLINE DRAIN
- TD — TRENCH DRAIN

N/F PHILBRICK

N/F BERLIED

N/F CHIAO

N77°13'04"W 109.15'

N77°13'04"W 166.00'

N77°13'04"W 334.07'

N77°44'48"W

N

190' STATE HIGHWAY LAYOUT

WF 1 WF 2 WF 3 WF 4 WF 5 WF 6 WF 7 WF 8 WF 9 WF 10 WF 11 WF 12 WF 13 WF 14 WF 15 WF 16 WF 17

MATCH LINE

EXISTING BASIN

BASIN 211.02 RCP INV=207.97

12" RCP INV=207.69

12" RCP INV=208.25

CATCH BASIN RIM=211.02 12" RCP INV=208.02

12" RCP INV=207.88

EDGE OF PAVEMENT (TYPICAL)

CONCRETE PAD

PROPOSED FENCE

EXISTING DIV. MH. TC=212.35 INV IN=210.65 INV OUT=209.65 (EXIST BASIN) INV OUT = 209.65 PROP. INV OUT=209.65 (PROP BASIN)

12" SDR INV.=215.13

LOT B
31,445 ±S.F. (CALC.)
31815 ±S.F. (REC.)

RELOCATED BARN

TOW=220.5

TOW=220.0

PROPOSED TOW=221.0

PROPOSED TRASH GARAGE 219.65 219.50 219.85

RETAINING WALL

28 SPACES
(PER OLD SITE PLAN)

DTH 2-89 PERC 1

DTH 3-89

DTH 1-89

54.76'

N78°19'37"W

76.75'

N77°05'20"W

N10°43'32"E 77.00'

APPROX. LOCATION OF EXISTING LEACHING GALLEYS

RAILROAD TIE RETAINING WALL

PROPOSED SEWAGE DISPOSAL SYSTEM (SEE SEWAGE DISPOSAL PLAN)

CATCH BASIN 1 RIM=220.02 PVC INV=216.27 PVC INV=215.58 12"RCP INV=216.48 TOP PVC=216.55 TOP PVC=216.79

PROPOSED BITUMINOUS CONCRETE PAVEMENT

PROP. 5' CONC. SIDEWALK 220.34

CONCRETE WALK

RAMP

APPROX. LOCATION OF EXISTING 2000 GALLON SEPTIC TANK (H20)

CONCRETE RETAINING WALL 2 STORY W/F COMMERCIAL BLDG #541

WOOD DECK

SHRUBS

URCH LOT
,312 ±S.F.
.2367 ±AC.

2 STORY W/F OFFICE #543 - 545

APPROX. LOCATION OF EXISTING 1500 GALLON SEPTIC TANK (H20)

APPROX. LOCATION OF EXISTING LEACHING GALLEYS

133.39'

265.12'

S76°32'41"E

78.23'

53.50'

44.84'

166.65'

CONCRETE WALK

OHW

MASSACHUSETTS AVENUE
(1890 COUNTY LAYOUT - 60' WIDE)

PROP. VERTICAL GRANITE CURB

START OF 1907 STATE HIGHWAY LAYOUT TO BE MOVED TO STA 54+00

TBM NAIL IN UP ELEV.=228.74

PROP. VERTICAL GRANITE CURB REUSE EXISTING CURBING

N/F MAXWELL

N/F FLANNERY

N13°35'30"E 30.00'

3432.38' ALONG SIDELINE OF MASS. AVE. TO STONE BOUND

EDGE OF PAVEMENT (TYPICAL)

STONE BOUND

STONE STEPS 63.93'

APPROX. LOCATION RES. BUILDING #536

N/F HENSLEIGH

N09°44'33"E 163.10'

RIP RAP PAD (UNDER CONSTRUCTION)

BIORETENTION AREA (REPLACES EXISTING BASIN) (UNDER CONSTRUCTION)

FE-3 INV=209.50

PROPOSED RIPRAP PAD

CONCRETE RETAINING WALL UNDER CONSTRUCTION

FE-2 INV=207.0

24" N-12 ADS L=30', S=0.030 EMERGENCY SPILLWAY (UNDER CONSTRUCTION)

EDGE OF BORDERING VEGETATED WETLANDS (DELINEATED BY B&C ASSOCIATES)

CONCRETE RETAINING WALL UNDER CONSTRUCTION

PROPOSED SEWAGE DISPOSAL SYSTEM (SEE SEWAGE DISPOSAL PLAN)

TOP OF BERM ELEV=212.0

OUTLET CONTROL STRUCTURE (SEE DETAIL) (UNDER CONSTRUCTION)

BOTTOM ELEV =208.00

FE-1 INV=208.0

RIPRAP APRON

INFILTRATION BASIN BOTTOM=208.00 (UNDER CONSTRUCTION)

EXISTING TREELINE

100' BUFFER ZONE

TREELINE

200 FOOT RIVERFRONT AREA

AREA TO BE ALLOWED TO NATURALIZE

PROPOSED STONE RETAINING WALL

F.I.R.M. 100 YR. FLOOD ELEVATION 203.3'

SHED (TBR)

PROPOSED SEWAGE DISPOSAL SYSTEM (SEE SEWAGE DISPOSAL PLAN)

TOP OF BERM ELEV=213.0

DI-1 RIM=212.25 INV=210.68

PROPOSED EMERGENCY SPILLWAY

PROPOSED RAIN GARDEN

PROPOSED BREAKOUT PROTECTION BARRIER TOP=213.50

12" ADS L=31'; S=0.005

RIP RAP CHECK DAM

ID-1 RIM=213.50 INV=210.53

STORMCEPTOR STC 900 RIM=215.20 INV'S IN(DMH-3&TD-2)=208.45 INV OUT=208.20 (UNDER CONSTRUCTION)

18" ADS L=40'; S=0.005

12" ADS L=28'; S=0.088

TD-1 RIM=214.60 INV=212.10

CB-2 RIM=214.30 INV=211.80

12" ADS L=2'; S=0.050

12" ADS L=46'; S=0.108

TD-2 RIM=215.90 INV=213.40

18" ADS L=69'; S=0.005

12" ADS L=46'; S=0.005

PROPOSED BITUMINOUS CONCRETE PAVEMENT

PROP. 5' CONC. SIDEWALK

STONE RETAINING WALL

DMH-3 RIM=214.35 INV IN(DMH-4)=208.88 INV IN(TD-1)=209.64 INV IN(CB-2)=211.61 INV OUT=208.78 (UNDER CONSTRUCTION) PROP. FF=228.19 PROP. BF=216.0

DMH-4 RIM=219.50 INV=209.13

12" ADS L=50'; S=0.005

DMH-2 RIM=223.80 INV IN(DMH-1)=209.46 INV OUT=209.36

DMH-1 RIM=216.70 INV IN(ID-1)=210.26 INV OUT=210.16

12" ADS L=51'; S=0.005

12" ADS L=140'; S=0.005

TC=216.80 FC=216.30

RELOCATED BUILDING

PROPOSED TRANSFORMER

PROPOSED ELECTRIC

EXISTING BUILDING

PROP. FF=229.7± TF=228.87 PROP. BF=219.9±

RELOCATED WING

STONE RETAINING WALL (TBR)

PROPOSED FIRE PROTECTION

PROPOSED STORZ CONNECTION

PROPOSED WALL MOUNTED INDICATOR VALVE

PROPOSED DOMESTIC SERVICE

PROPOSED 6" CLGI

CUT, CAP & REMOVE SERVICE

GRAVEL DRIVE (TBR)

BITUMINOUS DRIVE (TBR)

RAMP (11:12 MAX)

CONCRETE WALK (TBR)

PROPOSED STREET LIGHT (TYP.)

12" ADS L=3'; S=0.237

12" ADS HEADER

UPGRADE GAS SERVICE

12" W THERMAL PLASTIC WHITE LINES

PROPOSED CROSSWALK W/STAMPED PATTERN

PROPOSED SUBSURFACE INFILTRATION

CB-1 RIM=225.06 INV OUT (INFL.)=221.21 INV OUT=221.31

CATCH BASIN: RIM=225.06± INV=221.31± (12" RCP)

EXISTING WATER MAIN

BIT. BERM (TYPICAL)

SAWCUT PAVEMENT

PROPOSED STONE RETAINING WALL

HYDRANT (TO BE RELOCATED)

CUT,CAP&REMOVE SERVICE

PROP. SLOPED GRANITE CURB

RELOCATED HYDRANT

CATCH BASIN: RIM=216.42±± INV=211.82± (12" RCP) RETROFIT WITH LEBARON "SNOUT"

TRANSITION VERTICAL TO SLOPED GRANITE CURBING

PROPOSED BREAKOUT PROTECTION BARRIER TOP=213.50

PROPOSED 13' BERM OPENING

ROUTE 111 - MASSACHUSETTS AVENUE
(1907 STATE HIGHWAY LAYOUT - 60' WIDE)

PROP. CAPE COD BERM

SIGN- "SPEED LIMIT 40"

TBM NAIL IN UP ELEV.=216.53

CATCH BASIN: RIM=216.14± INV=211.14± (12" RCP IN & OUT) RETROFIT WITH LEBARON "SNOUT"

N76°24'34"W 996.06'

997.22'

996.64'

PROP. 5' CONC. SIDEWALK

PROP. TRANSITION CURB

PROP. VERTICAL GRANITE CURB

CATCH BASIN: RIM=224.74± INV=220.24± (12" RCP IN) INV=220.14± (12" RCP OUT) RETROFIT WITH LEBARON "SNOUT"

BENCH

DRINKING FOUNTAIN

PAVED AREA (TBR)

BRICK WALK

APPROX. LOCATION RES. BUILDING #520-526

PLAY AREA

WOODEN GUARD RAIL (TBR)

N/F TOWN OF ACTON

N/F RAYNER

N/F LIPMAN

N/F SLATTERY

N/F DOL...

525-541 MASSACHUSETTS AVE
SITE PLAN
ACTON, MASSACHUSETTS

GRADING, DRAINAGE & UTILITIES PLAN
FOR: ROSENFELD

SCALE: 1"=20' JULY 31, 2009
REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

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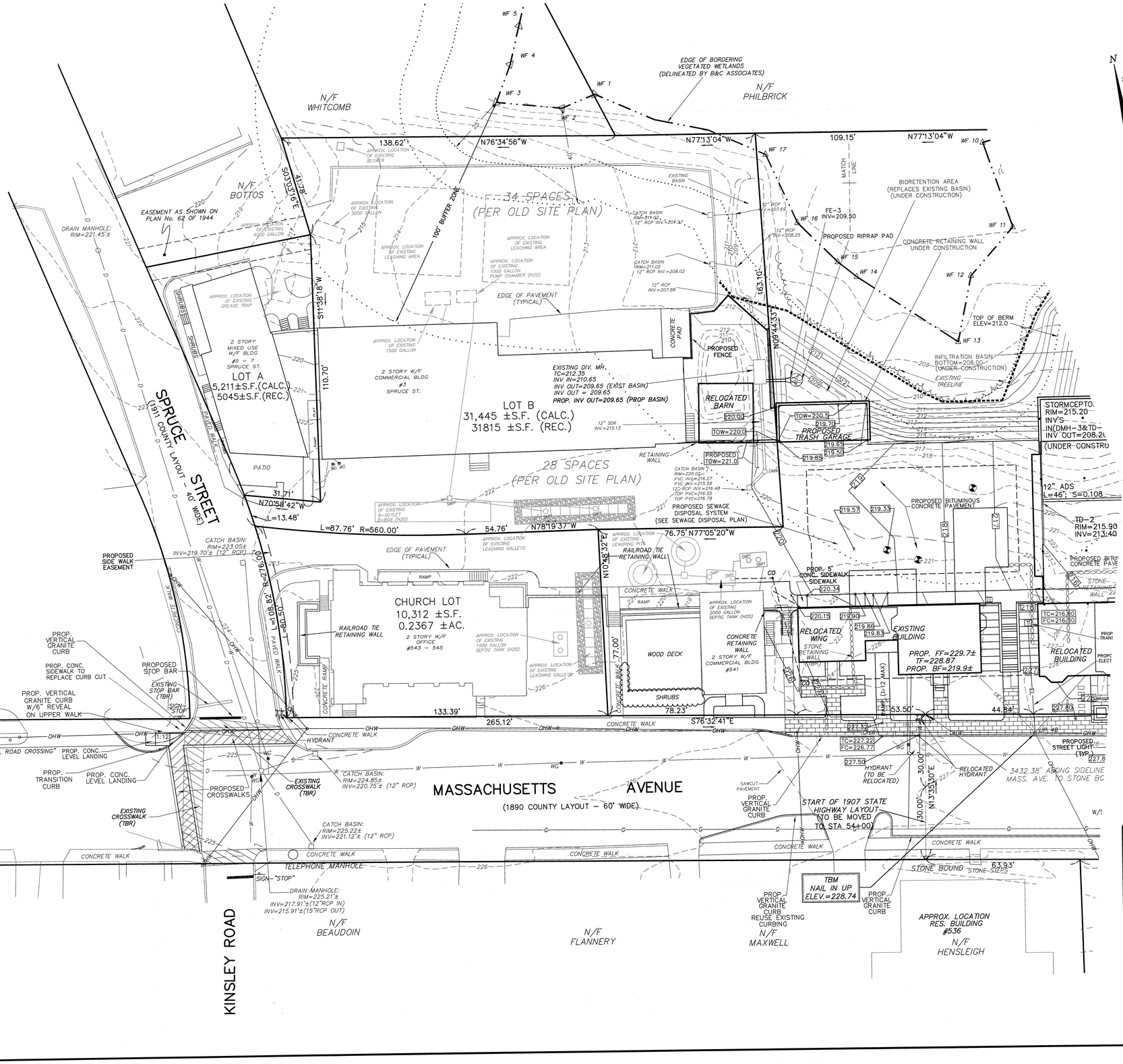
ENGINEERING - PLANNING - SURVEYING

0 10 20 40 60 80 FT

(3320SP-WAV-E.DWG) SHEET 4 OF 8 SM-3320

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH CIVIL #40472 REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH 35384 REGISTERED PROFESSIONAL SURVEYOR



WAVE

SITE PLAN

ACTON, MASSACHUSETTS

GRADING, DRAINAGE & UTILITIES PLAN

FOR: ROSENFELD

SCALE: 1"=20' JULY 31, 2009

REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

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0 10 20 40 60 80 FT

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH CIVIL #40472 REGISTERED PROFESSIONAL ENGINEER

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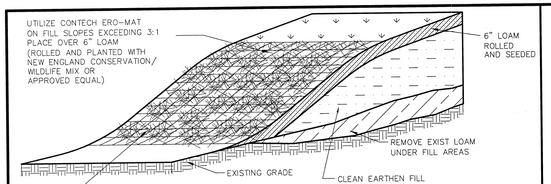


SLOPE STABILIZATION DETAIL

NOT TO SCALE

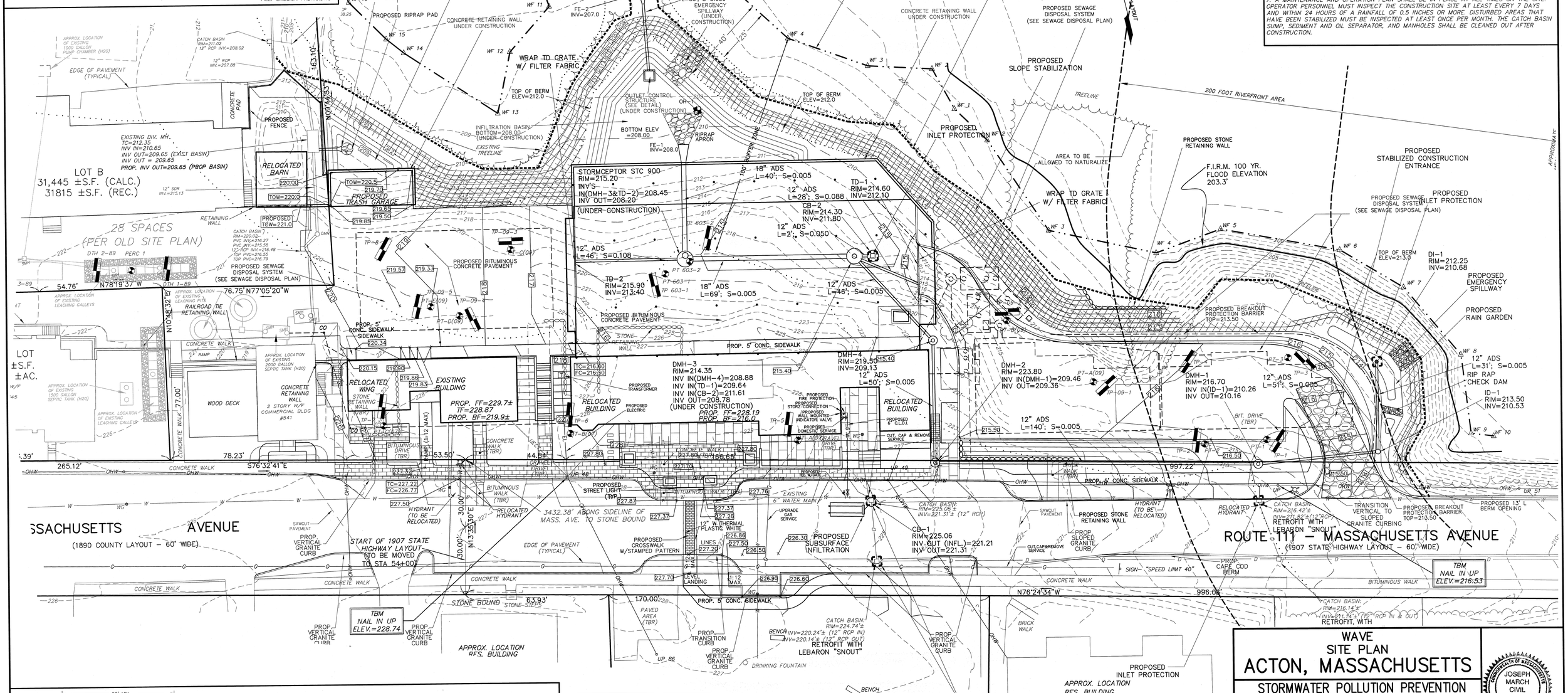
FILE: EROSION FABRIC.DWG

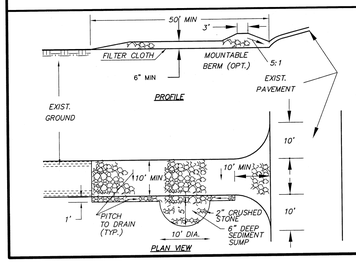
EROSION AND SEDIMENTATION CONTROL NOTES

1. ALL SOIL STOCKPILES SHALL HAVE EROSION CONTROL MEASURES AROUND THEIR PERIMETER AT ALL TIMES.
2. THE DRAINAGE SYSTEM SHALL BE CONSTRUCTED DURING THE EARLIEST STAGES OF THE PROJECT IN ORDER TO DIRECT RUNOFF FOR TREATMENT.
3. THE CATCH BASIN GRATES SHALL BE COVERED WITH SILTATION FABRIC DURING CONSTRUCTION. CATCH BASIN RIMS ARE TO BE SET AT BINDER GRADE UNTIL IT IS TIME TO APPLY THE PAVEMENT WEARING COURSE. THE CATCH BASIN SUMPS SHALL BE CLEANED FOLLOWING COMPLETION OF CONSTRUCTION AND ANNUALLY THEREAFTER. ALL CUT AND FILL SLOPES SHALL BE IMMEDIATELY COVERED WITH 4" OF LOAM AND SEEDED DURING THE GROWING SEASON (APRIL 1 TO NOVEMBER 1) OR COVERED WITH HAYMULCH DURING THE NON-GROWING SEASON (NOVEMBER 1 TO APRIL 1). SLOPES STEEPER THAN 3:1 SHALL BE LOAMED, SEEDED, ROLLED AND STABILIZED WITH "CONTECH ERO-MAT" EROSION MAT, INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. UNLESS OTHERWISE INDICATED, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND BE SEEDED TO PREVENT EROSION.

INSPECTION/MAINTAINENCE:

5. THE DEVELOPER IS RESPONSIBLE TO CLEAN UP ANY SEDIMENT OR DEBRIS WHICH ERODES FROM THE SITE ONTO PUBLIC ROADS AND PRIVATE PROPERTY AND TO REMOVE SEDIMENT OR DEBRIS THAT ENTERS ANY EXISTING DRAINAGE SYSTEM INCLUDING CATCH BASIN SUMPS, PIPE LINES, MANHOLES, AND DITCHES. THE CONTRACTOR SHALL INSTALL EROSION BARRIERS, AS NECESSARY, TO PREVENT MATERIAL FROM ERODING ONTO MASSACHUSETTS AVENUE AND SPRUCE STREET.
6. THE CONTRACTOR SHALL FOLLOW STANDARD PRACTICE AND LOAM AND SEED ALL DISTURBED AREAS FOLLOWING CONSTRUCTION.
7. A MAINTENANCE AND OPERATION PLAN SHALL BE IN PLACE AT ALL TIMES ON THE SITE. OPERATOR PERSONNEL MUST INSPECT THE CONSTRUCTION SITE AT LEAST EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5 INCHES OR MORE. DISTURBED AREAS THAT HAVE BEEN STABILIZED MUST BE INSPECTED AT LEAST ONCE PER MONTH. THE CATCH BASIN SUMP, SEDIMENT AND OIL SEPARATOR, AND MANHOLES SHALL BE CLEANED OUT AFTER CONSTRUCTION.



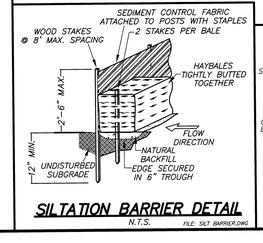


CONSTRUCTION SPECIFICATIONS

1. THE ENTRANCE OF THE PROPOSED DRIVE SHALL INITIALLY HAVE 6" OF 2" CRUSHED STONE LAID DOWN AS A TRAFFIC SEDIMENT CONTROL SURFACE AS SHOWN IN THE STABILIZED CONSTRUCTION ENTRANCE DETAIL. THIS STONE PACK SHALL BE PLACED OVER THE ROADWAY FOR A MINIMUM DISTANCE OF 50 FEET FROM THE EDGE OF PAVEMENT AND SHALL BE REMOVED AND REPLACED WITH ROADWAY GRAVEL PRIOR TO THE PLACEMENT OF PAVEMENT.
2. STONE SIZE – USE 2" CRUSHED STONE.
3. WIDTH – TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS OF INGRESS OR EGRESS.
4. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACEMENT OF STONE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED NEAR CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
7. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAYS. WHEN WASHING IS DONE IT SHALL BE DONE ON STABILIZED ENTRANCE WITH STONE AND WHICH DRAINS INTO THE SEDIMENT SUMP AS SHOWN.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

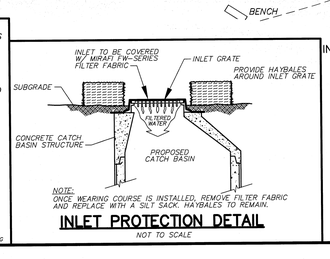
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



SILTATION BARRIER DETAIL

N.T.S. FILE: SILT BARRIER.DWG



NOTE: ONCE WEARING COURSE IS INSTALLED, REMOVE FILTER FABRIC AND REPLACE WITH A SILT SACK. HAYBALES TO REMAIN.

INLET PROTECTION DETAIL

NOT TO SCALE

WAVE

SITE PLAN

ACTON, MASSACHUSETTS

STORMWATER POLLUTION PREVENTION SITE PLAN

FOR: ROSENFELD

SCALE: 1"=20' JULY 31, 2009

REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

STAMSKI AND MCNARY, INC.
80 HARRIS STREET ACTON, MASSACHUSETTS
(978) 263-8585
ENGINEERING – PLANNING – SURVEYING

0 10 20 40 60 80 FT

(3320SP-WAV-E.DWG) SHEET 6 OF 8 SM-3320

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH CIVIL #40472 REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS JOSEPH MARCH # 36384 REGISTERED LAND SURVEYOR

GENERAL NOTES

1. ALL UNDERGROUND UTILITIES SHOWN HEREON WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS FROM VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE EXCAVATING, BLASTING, INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING. ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, MUST BE CONTACTED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963 MASS. WE ASSUME NO RESPONSIBILITY FOR DAMAGE INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE APPROPRIATE PUBLIC UTILITY ENGINEERING DEPARTMENT MUST BE CONSULTED. DIG-SAFE TELE. NO. (888) 344-7233.
2. UNLESS OTHERWISE SPECIFIED ON THESE PLANS, ALL CONSTRUCTION METHODS AND MATERIALS SHALL COMPLY WITH SPECIFICATIONS OUTLINED IN THE ACTON ZONING BYLAW AND THE ACTON RULES AND REGULATIONS FOR SITE PLAN SPECIAL PERMITS.
3. ALL LIMITS OF WORK SHALL BE LOCATED IN THE FIELD PRIOR TO CONSTRUCTION OR SITE CLEARING.
4. ALL WATER PIPES, HYDRANTS, GATE VALVES AND OTHER APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE ACTON WATER SUPPLY DISTRICT REQUIREMENTS.
5. ALL STUMPS AND OTHER CONSTRUCTION DEBRIS SHALL BE PROPERLY REMOVED ANY FILL MATERIAL USED SHALL BE FREE OF HAZARDOUS MATERIALS OR WASTE.
6. ALL DRAIN PIPES SHALL BE ADS N-12 UNLESS OTHERWISE SHOWN.

7. TRANSPORTATION OF FILL, EARTH, OR CONSTRUCTION DEBRIS TO OR FROM THE SITE SHALL BE RESTRICTED TO DAYTIME HOURS (9 AM TO 4 PM) MONDAY THROUGH FRIDAY.
8. CONSTRUCTION SHALL BE IN ACCORDANCE WITH 521 CMR – ARCHITECTURAL ACCESS BOARD REGULATIONS. ALL PROPOSED SIDEWALKS SHALL HAVE A MAX. CROSS SLOPE OF 2%. THE PROPOSED HANDICAP PARKING STALLS AND ADJACENT AREAS SHALL HAVE A MAX. SLOPE OF 2% IN ALL DIRECTIONS.
9. LOCATIONS OF THE EXISTING SEPTIC TANKS, SOIL ABSORPTION SYSTEM, AND WATER LINE ARE APPROXIMATE PER ACTON B.O.H. RECORDS, AND ACTON TOWN ENGINEER RECORDS.
10. THE EXISTING ONSITE SOIL ABSORPTION SYSTEM AND ASSOCIATED TANKS LABELED TO BE REMOVED SHALL BE ABANDONED PURSUANT TO 310CMR 15.354 ABANDONMENT OF SYSTEMS OR REMOVED FROM SITE.
11. ANY FILL MATERIAL USED SHALL BE FREE OF HAZARDOUS MATERIALS OR WASTE.

DRAINAGE SYSTEM OPERATION AND MAINTENANCE PLAN

1. BMP OWNER: 541 MASS AVE LCC
   541 MASSACHUSETTS AVE.
   ACTON, MA 01720

2. PARTIES RESPONSIBLE FOR MAINTENANCE: SAME AS ABOVE
3. SCHEDULE FOR INSPECTION AND MAINTENANCE:

DEEP SUMP AND HOODED CATCH BASIN:
THE DEEP SUMPS FOR THE CATCH BASINS SHALL BE INSPECTED AND CLEANED QUARTERLY. THE CATCH BASINS HAVE A FOUR FOOT DEEP SUMP AND THE WATER LEVEL IS MAINTAINED BY THE DISCHARGE PIPE AT FOUR FEET. THE DISCHARGE PIPE IS HIDDEN FROM VIEW BY A HOODED OUTLET.

THE DEPTH OF THE SEDIMENT IN THE BASIN SHALL NOT EXCEED A DEPTH OF 18 INCHES AS DETERMINED BY PROBING WITH A STICK. IF THE STICK HITS THE BOTTOM WITHIN 30 INCHES OF THE WATER LEVEL, MORE THAN 18 INCHES OF SEDIMENT HAS ACCUMULATED AND MUST BE REMOVED. LICENSED PERSONS SHOULD REMOVE AND DISPOSE OF THE CONTENTS OF THE SUMP IN ACCORDANCE WITH APPLICABLE REGULATIONS.

STORMCEPTOR:
INSPECTION AND MAINTENANCE OF THE IN-LINE STORMCEPTOR CAN BE PERFORMED FROM THE SURFACE, WITHOUT ENTRY INTO THE UNIT. PERFORM MAINTENANCE ONCE THE STORED VOLUME REACHES 15% OF THE STORMCEPTOR CAPACITY, OR IMMEDIATELY IN THE EVENT OF A SPILL.

PERFORM QUARTERLY INSPECTIONS DURING THE FIRST YEAR OF INSTALLATION TO ACCURATELY ESTABLISH THE MAINTENANCE SCHEDULE.

REMOVE OIL AND SEDIMENT THROUGH THE 24-INCH DIAMETER OUTLET RISER PIPE. ALTERNATIVELY, FLOATABLES AND HYDROCARBONS MAY BE REMOVED THROUGH THE 6-INCH OIL INSPECTION PORT.

DISPOSAL FROM STORMCEPTOR ARE SIMILAR TO THAT OF ANY OTHER BEST MANAGEMENT PRACTICE (BMP). CONSULT LOCAL GUIDELINES OR YOUR STORMCEPTOR AREA MARKETING MANAGER PRIOR TO DISPOSING THE SEPARATOR CONTENTS.

INFILTRATION BASIN:
THE INFILTRATION BASIN SHALL BE INSPECTED AFTER EVERY MAJOR STORM EVENT FOR THE FIRST THREE MONTHS AFTER CONSTRUCTION, AND INSPECTED TWICE A YEAR THEREAFTER. PREVENTATIVE MAINTENANCE SHALL BE DONE TWICE A YEAR ON THE INFILTRATION BASIN.

- PREVENTATIVE MAINTENANCE INCLUDES, BUT IS NOT LIMITED TO, MOWING THE BUFFER AREA, SIDE SLOPES, AND BASIN BOTTOM IF A GRASSED FLOOR; RAKE IF STONE BOTTOM; REMOVE TRASH AND DEBRIS; REMOVE GRASS CLIPPINGS AND ACCUMULATED ORGANIC MATTER.
- SIDE SLOPES OF THE CHANNEL SHALL BE INSPECTED FOR EROSION. ALL ERODED AREAS SHALL RECEIVE 6" OF LOAM AND BE RESEEDED PER ORIGINAL DESIGN PLAN. AREAS OF CONTINUED EROSION SHALL BE STABILIZED WITH 3" MINUS RIPRAP.
- REMOVE ALL SEDIMENT FROM THE CHANNEL ONCE THE SEDIMENT REACHES 10% OF CHANNEL VOLUME OR 3-INCH DEPTH.
- IF THERE IS PONDING DUE TO CLOGGING, IMMEDIATELY ADDRESS THE REASONS FOR THE PONDING

SEDIMENT FOREBAY:
THE SEDIMENT FOREBAY SHALL BE INSPECTED AFTER EVERY MAJOR STORM EVENT FOR THE FIRST THREE MONTHS AFTER CONSTRUCTION. THE SEDIMENT FOREBAY SHALL BE INSPECTED MONTHLY THEREAFTER.

SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT FOREBAY UPON DISCOVERY OF 3 INCHES OF SEDIMENT ACCUMULATION.

ERODED OR BARREN SPOTS SHALL BE RECOVERED WITH STONE IMMEDIATELY AFTER INSPECTION TO PREVENT EROSION AND ACCUMULATION OF SEDIMENT.

SEDIMENT SHALL BE REMOVED FROM THE FOREBAY AS NEEDED, AT LEAST FOUR TIMES EVERY YEAR. THIS PROCEDURE SHALL NOT TAKE PLACE UNTIL THE FLOOR OF THE FOREBAY IS THOROUGHLY DRY.

POROUS PAVEMENT:
POROUS PAVEMENT SHALL BE POWER WASHED TO DISLODGE TRAPPED PARTICLES AND THEN VACUUM SWEPT MONTHLY. WINTER SANDING IS PROHIBITED. THE SURFACE SHALL BE INSPECTED FOR DETERIORATION ANNUALLY. THE SURFACE SHALL BE MONITORED AFTER EVERY MAJOR STORM TO ENSURE PROPER DRAINAGE.

TRENCH DRAINS:
TRENCH DRAINS SHALL BE INSPECTED AND CLEANED QUARTERLY.

RAIN GARDEN AND BIORETENTION AREA:
THE GARDEN SHALL BE INSPECTED AFTER EVERY MAJOR STORM EVENT FOR THE FIRST THREE MONTHS AFTER CONSTRUCTION, AND INSPECTED AS STATED BELOW THEREAFTER. BIORETETION AREAS REQUIRE CAREFUL ATTENTION WHILE PLANTS ARE BEING ESTABLISHED AND SEASONAL LANDSCAPING MAINTENANCE THEREAFTER.

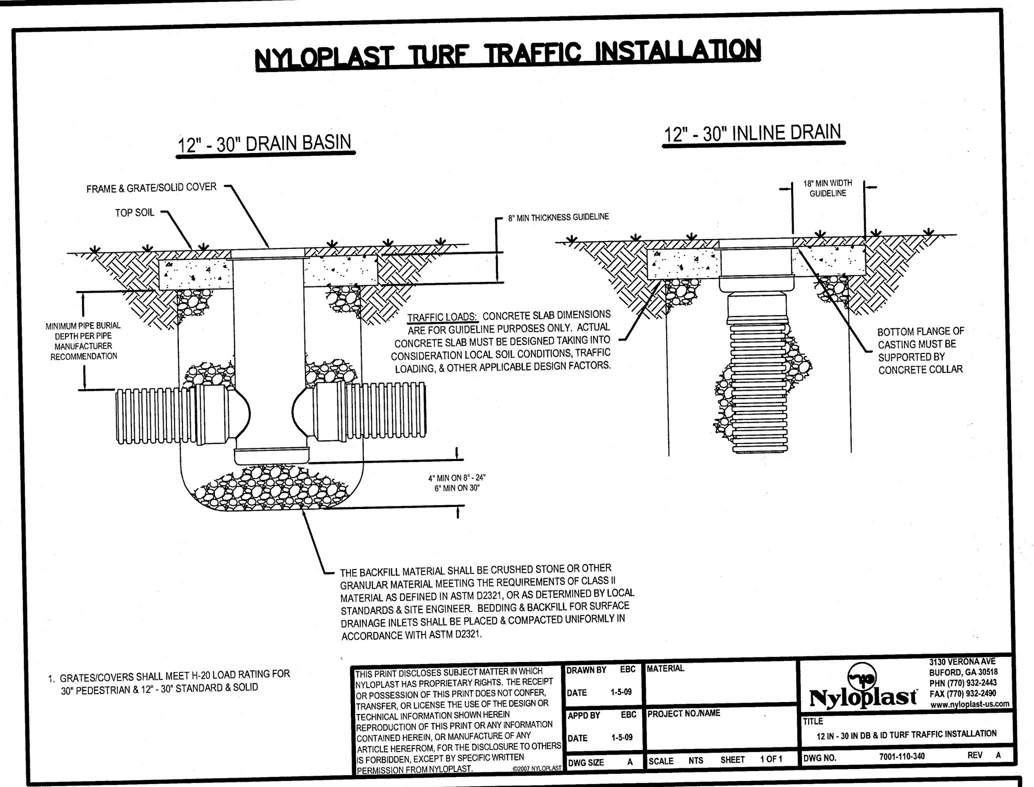
- SEASONAL LANDSCAPING MAINTENANCE INCLUDES, BUT IS NOT LIMITED TO:
  - INSPECTING AND REMOVING TRASH MONTHLY
  - INSPECTING SOIL AND REPAIRING ERODED AREAS MONTHLY
  - MULCHING ANNUALLY IN THE SPRING
  - REMOVING DEAD VEGETATION ANNUALLY IN THE SPRING OR FALL
  - REPLACING DEAD VEGETATION ANNUALLY IN THE SPRING
  - PRUNING ANNUALLY IN THE SPRING OR FALL
  - REPLACING ENTIRE MEDIA AND ALL VEGETATION AS NEEDED IN THE LATE SPRING OR EARLY SUMMER
  - RE-MULCH VOID AREAS AS NEEDED
- SIDE SLOPES OF THE CHANNEL SHALL BE INSPECTED FOR EROSION. ALL ERODED AREAS FOUND SHALL RECEIVE 6" OF LOAM AND BE RESEEDED PER ORIGINAL DESIGN PLAN. AREAS OF CONTINUED EROSION SHALL BE STABILIZED WITH 3" MINUS RIPRAP.

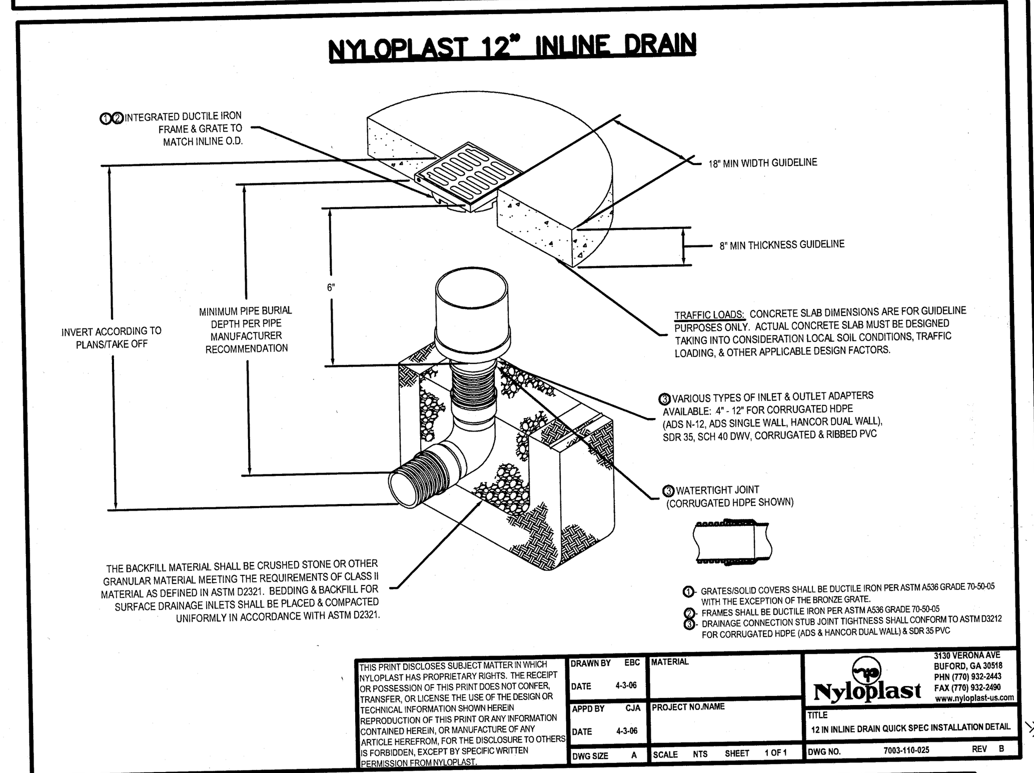
  IF THERE IS PONDING DUE TO CLOGGING, IMMEDIATELY ADDRESS THE REASONS FOR THE PONDING

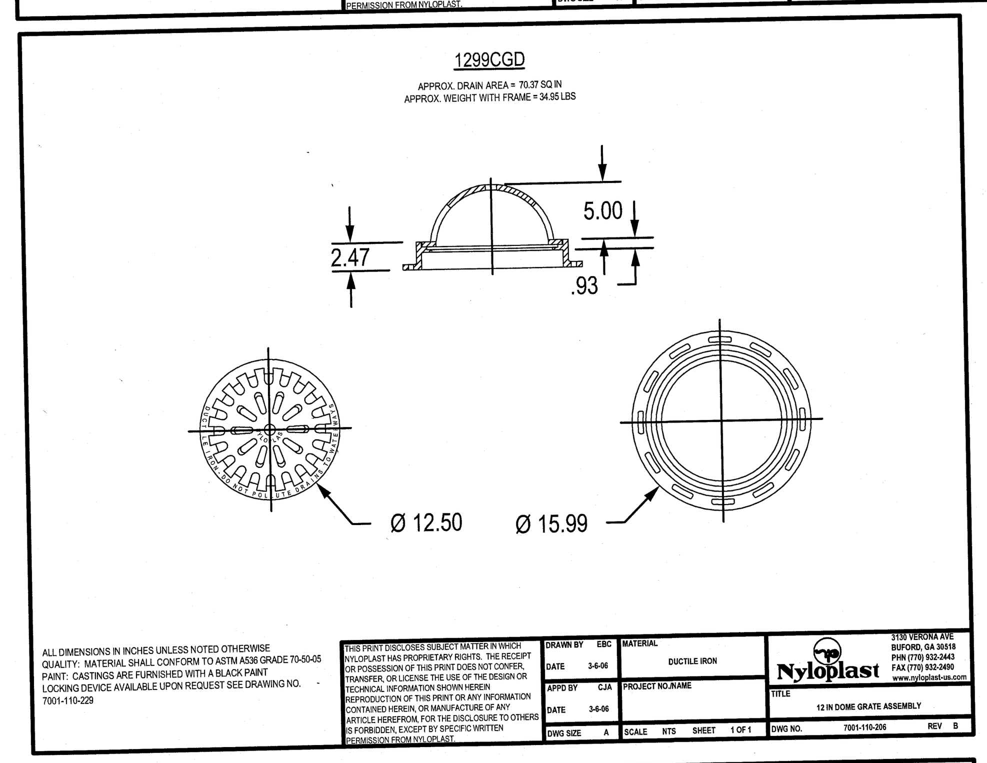
  BECAUSE THE SOIL MEDIUM FILTERS CONTAMINANTS FROM THE RUNOFF, THE CATION EXCHANGE CAPACITY OF THE SOIL MEDIA WILL EVENTUALLY BE EXHAUSTED. THUS, IT IS NECESSARY TO REPLACE THE SOIL MEDIA TO PREVENT CONTAMINANTS FROM MIGRATING TO THE GROUNDWATER, AS NECESSARY. USING SMALL SHRUBS AND PLANTS INSTEAD OF LARGER TREES WILL MAKE IT EASIER TO REPLACE THE MEDIA WITH CLEAN MATERIAL WHEN NEEDED.

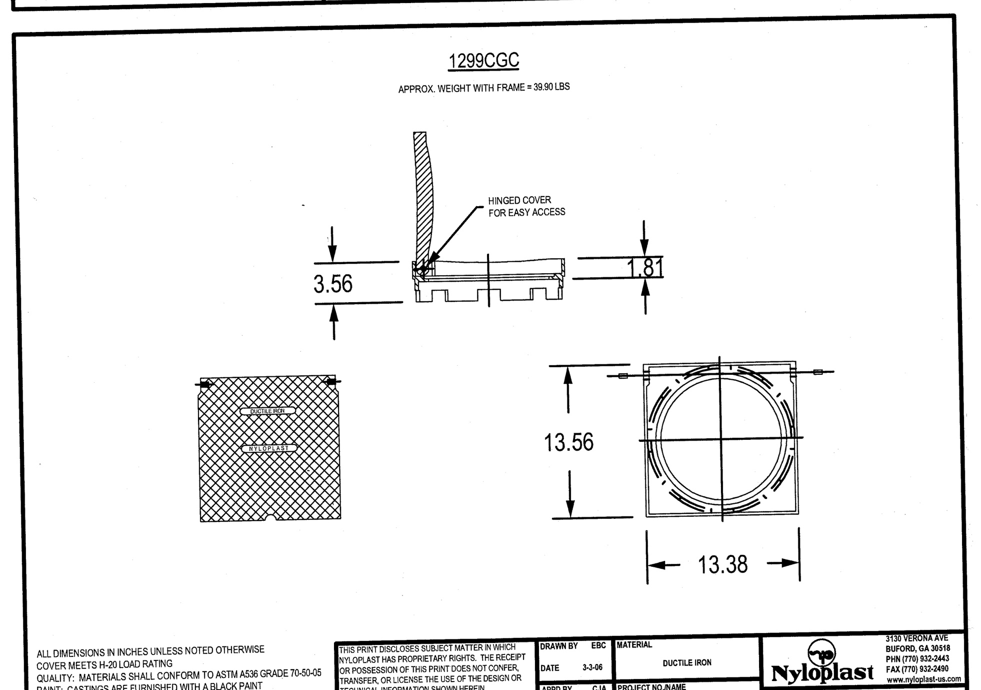
EMERGENCY CONTACTS:
IN THE EVENT OF A HAZARDOUS MATERIALS SPILL ON THE SITE THE FOLLOWING PARTIES SHALL BE CONTACTED: FIRE DEPARTMENT: PH: 978-264-9645

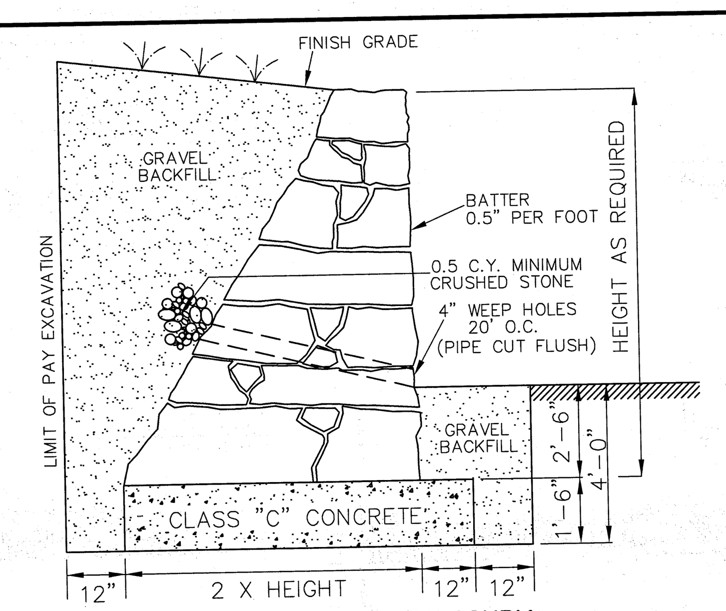
RECORDS:
THE OWNER SHALL MAINTAIN AN INSPECTION LOG OF ALL ELEMENTS OF THE STORM WATER MANAGEMENT PLAN. THE OWNER SHALL MAINTAIN A MAINTENANCE LOG DOCUMENTING THE INSPECTION AND MAINTENANCE OF THE DRAINAGE STRUCTURES UNDER HIS CONTROL. A COPY OF THE EROSION CONTROL AND STORM WATER MAINTENANCE PLAN AND INSPECTION LOGS SHALL BE KEPT ONSITE AT ALL TIMES.



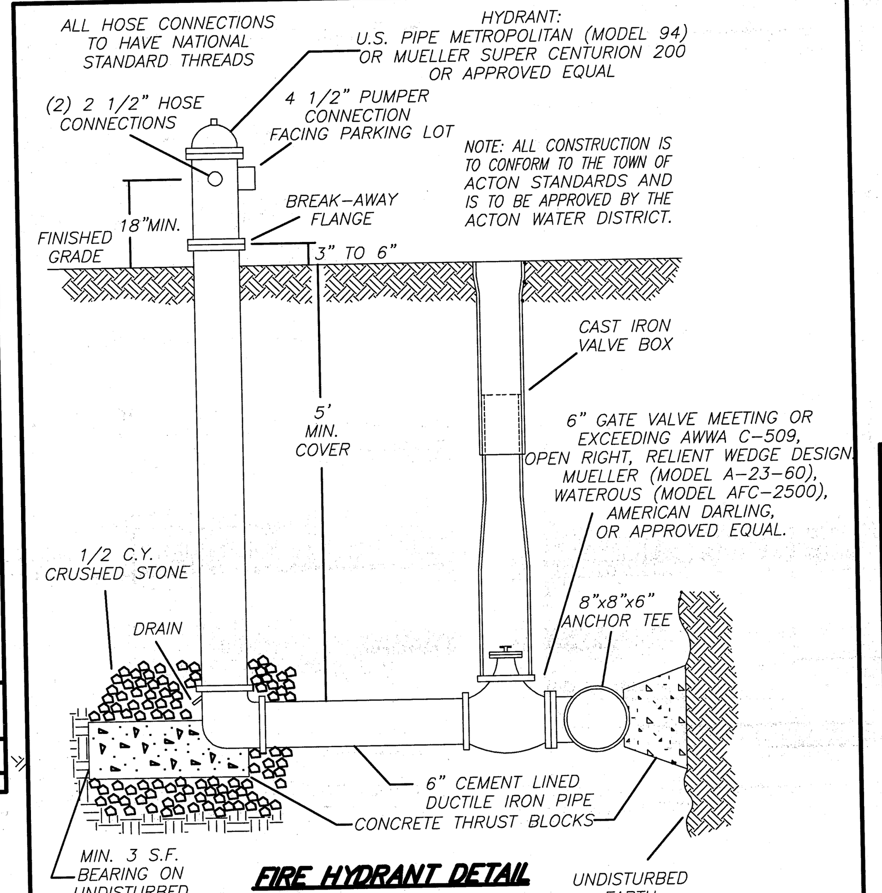




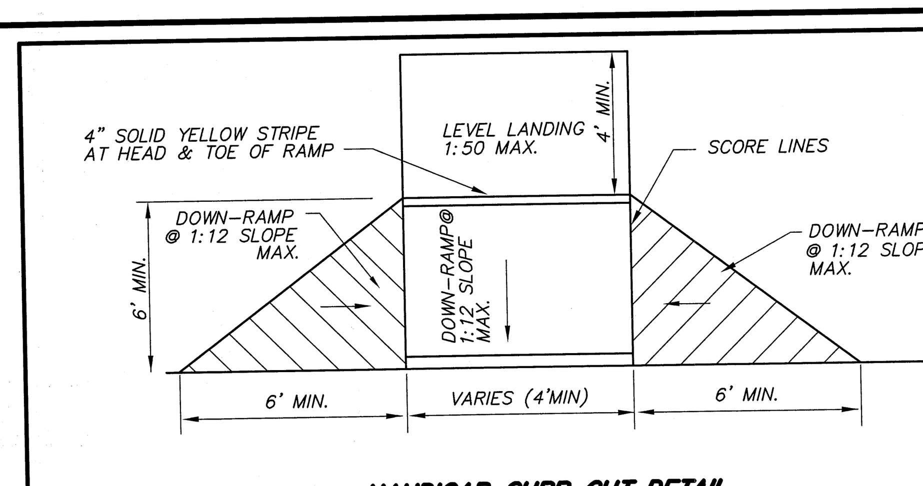




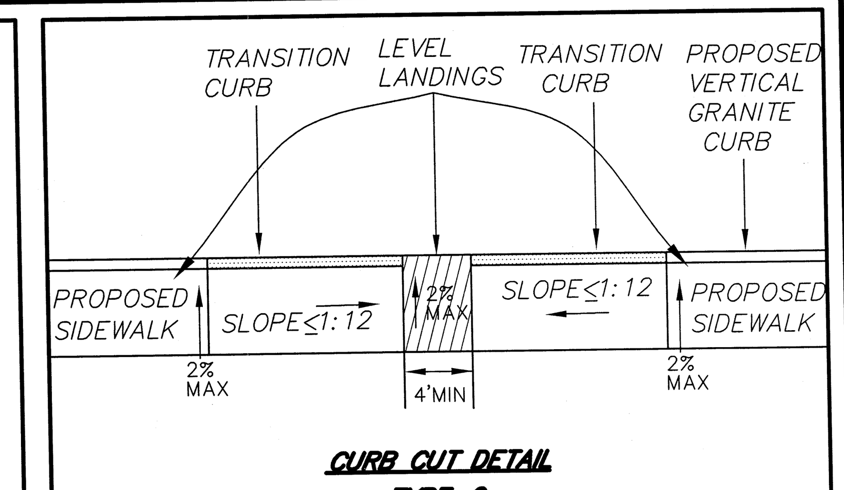
CEMENTED STONE MASONRY
RETAINING WALL
NOT TO SCALE



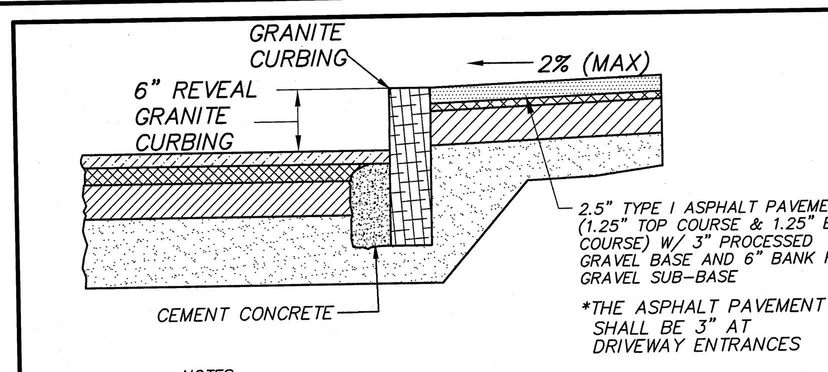
FIRE HYDRANT DETAIL
NTS



HANDICAP CURB CUT DETAIL
TYPE-1
NOT TO SCALE

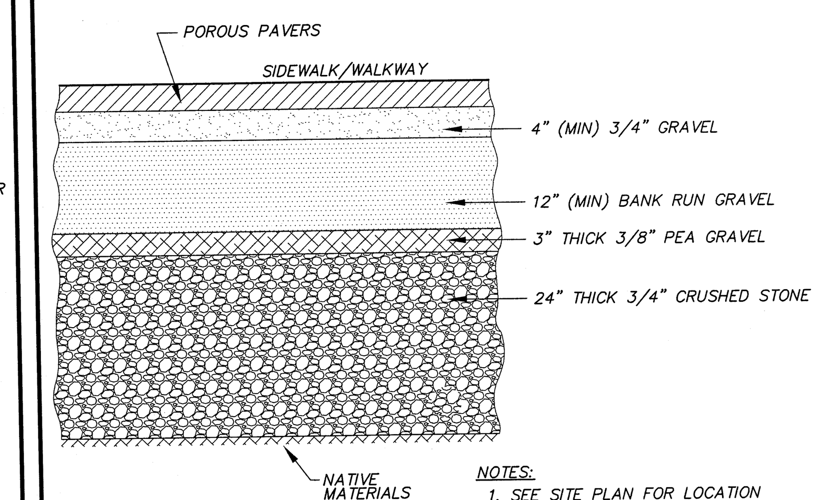


CURB CUT DETAIL
TYPE-2
NOT TO SCALE



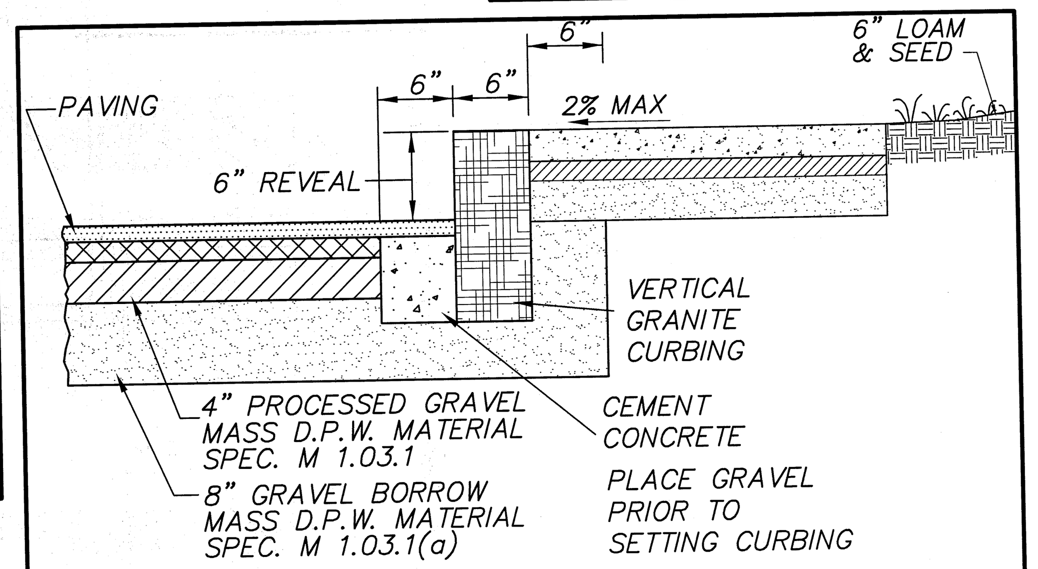
NOTES:
1. CUT NEAT LINE 150mm FROM CURB LINE AND REMOVE BINDER, BASE AND STONE, REPLACE WITH CEMENT CONCRETE
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE TO THE DEPT. UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS; ALL TEST REQUIREMENTS ARE WAIVED. BITUMINOUS CONCRETE IS NOT TO BE USED AS A SUBSTITUTE.
2. PAYMENT FOR CEMENT CONCRETE WILL BE INCLUDED IN THE PRICE PER METER OF CURBING

TYPICAL BITUMINOUS SIDEWALK AND VERTICAL GRANTITE CURBING DETAIL
NTS

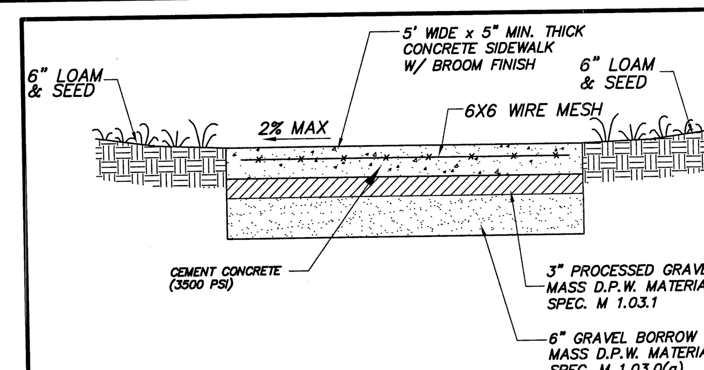


NOTES:
1. SEE SITE PLAN FOR LOCATION

POROUS PAVEMENT DETAIL
NOT TO SCALE



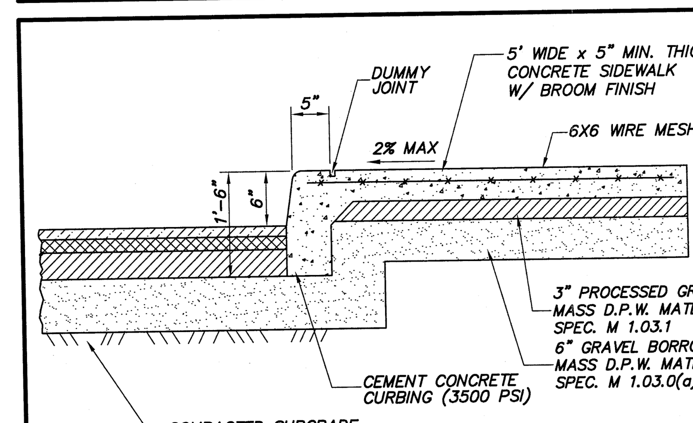
VERTICAL GRANITE CURBING DETAIL
NOT TO SCALE



NOTES:
1. ALL CONCRETE SIDEWALKS SHALL BE 5" THICK.
2. CONSTRUCTION JOINTS SHALL BE SPACED AT INTERVALS EQUAL TO SIDEWALK WIDTH FOR SIDEWALKS LESS THAN 10'-0" WIDE UNLESS OTHERWISE NOTED.
3. FOR 10' OR WIDER SIDEWALKS SPACE CONTRACTION JOINTS AT 5'-0" INTERVALS AND A LONGITUDINAL CONTRACTION JOINT IN THE CENTER OF THE SIDEWALK.
4. CONTRACTION JOINTS SHALL BE 1" DEEP AND EDGED WITH A 1/8" RADIUS.
5. USE 1/2" EXPANSION MATERIAL WHERE CONCRETE SIDEWALK ABUTS CONCRETE STRUCTURE AND NOT MORE THAN 20 FEET LONGITUDINALLY ACROSS THE WEEK.
6. ALL GRAVEL IS TO BE COMPACTED TO 95% MAX. DRY DENSITY.

CONCRETE SIDEWALK DETAIL
NTS

FILE: CONC SW NO CURB.DWG



NOTES:
1. ALL CONCRETE SIDEWALKS SHALL BE 5" THICK.
2. CONSTRUCTION JOINTS SHALL BE SPACED AT INTERVALS EQUAL TO SIDEWALK WIDTH FOR SIDEWALKS LESS THAN 10'-0" WIDE UNLESS OTHERWISE NOTED.
3. FOR 10' OR WIDER SIDEWALKS SPACE CONTRACTION JOINTS AT 5'-0" INTERVALS AND A LONGITUDINAL CONTRACTION JOINT IN THE CENTER OF THE SIDEWALK.
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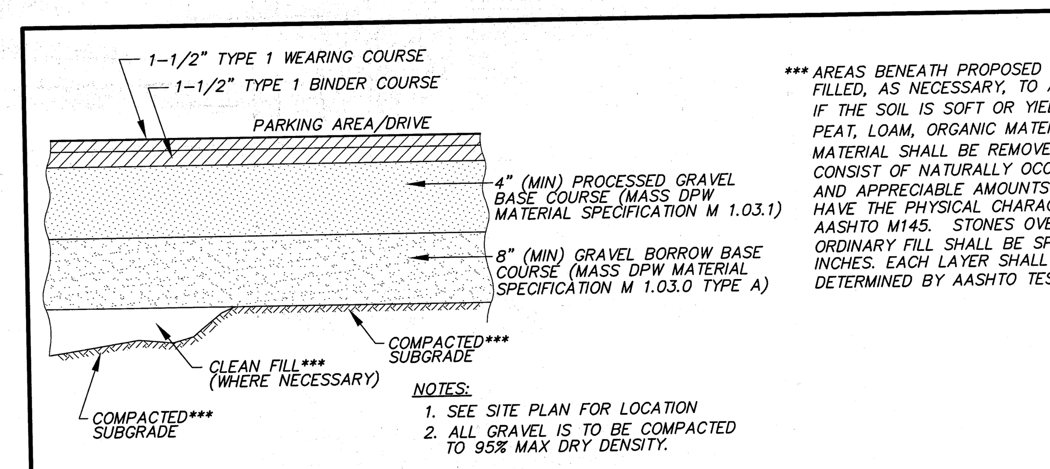
5. USE 1/2" EXPANSION MATERIAL WHERE CONCRETE SIDEWALK ABUTS CONCRETE STRUCTURE AND NOT MORE THAN 20 FEET LONGITUDINALLY ACROSS THE WEEK.
5. ALL GRAVEL IS TO BE COMPACTED TO 95% MAX. DRY DENSITY.

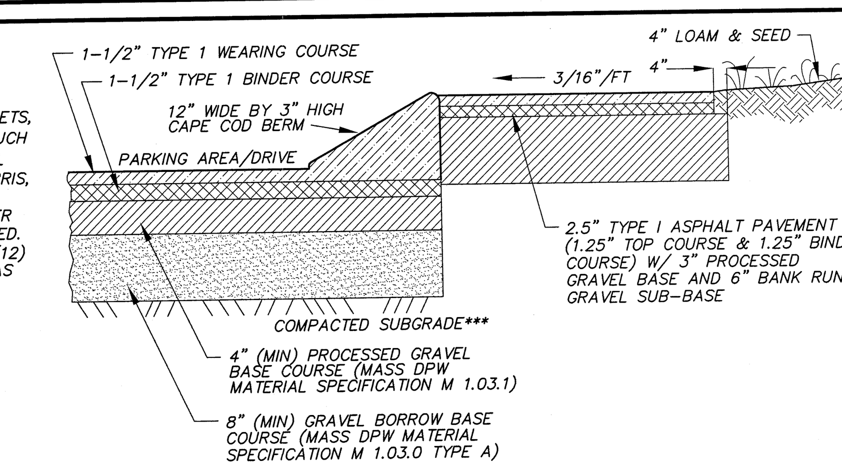
CONCRETE SIDEWALK W/ CURB DETAIL
NTS



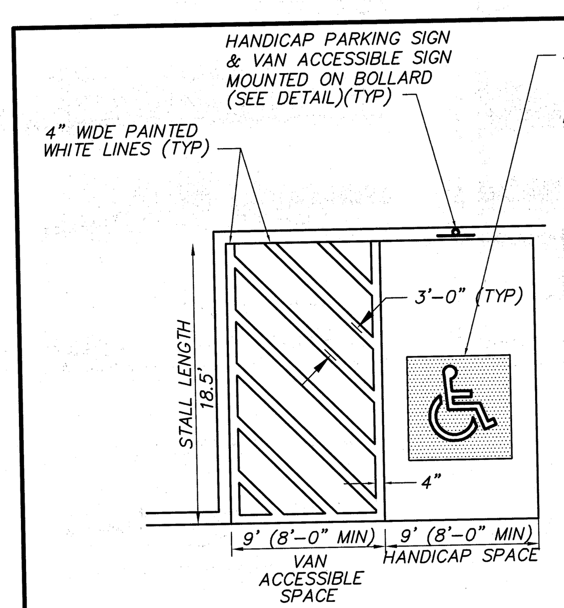
NOTES:
1. SEE SITE PLAN FOR LOCATION
2. ALL GRAVEL IS TO BE COMPACTED TO 95% MAX DRY DENSITY.

BITUMINOUS CONCRETE PAVEMENT DETAIL
NOT TO SCALE

*** AREAS BENEATH PROPOSED PAVED SURFACES AND SHOULDERS SHALL BE EXCAVATED OR FILLED, AS NECESSARY, TO A SUBGRADE PARALLEL TO THE PROPOSED FINISHED GRADE. IF THE SOIL IS SOFT OR YIELDING, OR CONTAINS ROCKS OR BOULDERS, CLAY, SAND POCKETS, PEAT, LOAM, ORGANIC MATERIAL OR OTHER MATERIAL DETRIMENTAL TO THE SUBGRADE, SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH ORDINARY FILL. ORDINARY FILL SHALL CONSIST OF NATURALLY OCCURRING SOIL FREE OF LOGS, STUMPS, ROOTS, BOULDERS, DEBRIS, AND APPRECIABLE AMOUNTS OF COMPRESSIBLE OR ORGANIC SOILS. ORDINARY FILL SHALL HAVE THE PHYSICAL CHARACTERISTICS OF SOILS DESIGNATED A-1, A-2-4, OR A-3 UNDER AASHTO M145. STONES OVER SIX (6) INCHES IN GREATEST DIMENSION SHALL BE EXCLUDED. ORDINARY FILL SHALL BE SPREAD AND COMPACTED IN LAYERS NOT EXCEEDING TWELVE (12) INCHES. EACH LAYER SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO TEST DESIGNATION T99, METHOD D.

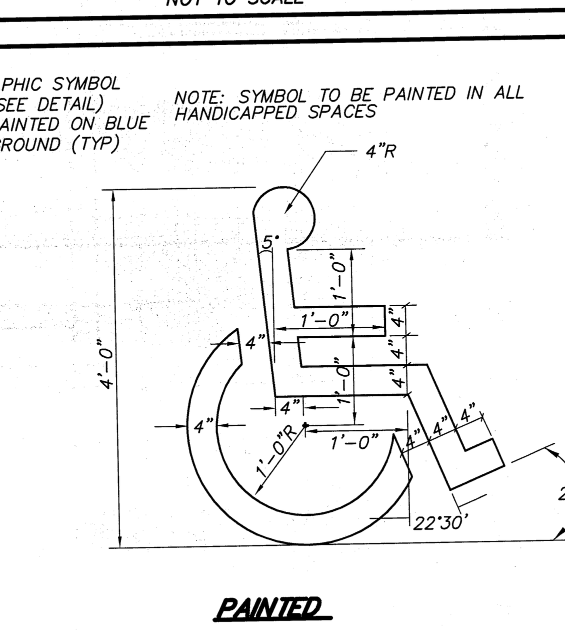


TYPICAL CAPE COD BERM & BIT. COCN. SIDEWALK DETAIL
NOT TO SCALE

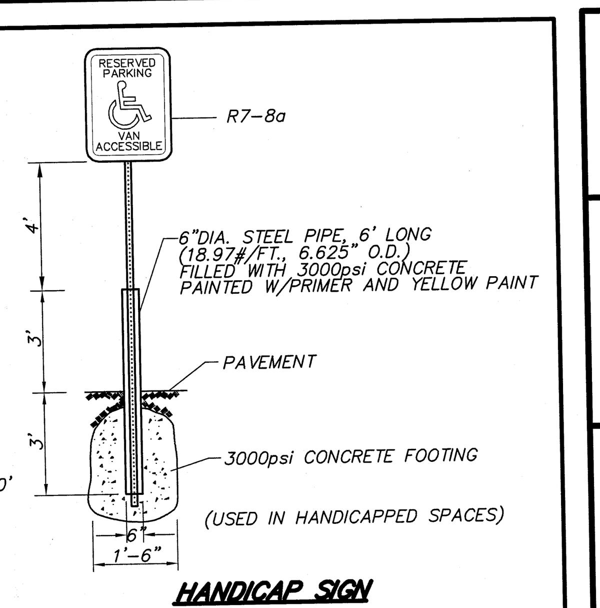


STALL STRIPING
NOT TO SCALE

NOTE: SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES



PAINTED HANDICAP SYMBOL
NOT TO SCALE



HANDICAP SIGN AND BOLLARD
NOT TO SCALE

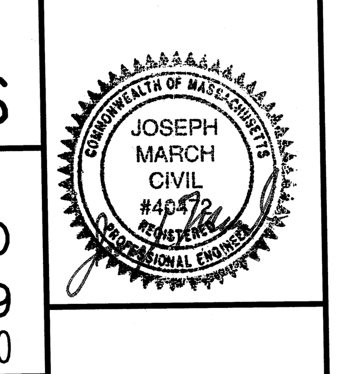
WAVE
SITE PLAN
ACTON, MASSACHUSETTS

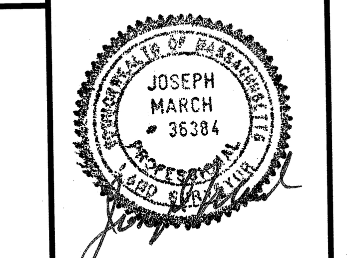
DETAIL SHEET 1
FOR: ROSENFELD
SCALE: 1"=20' JULY 31, 2009
REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

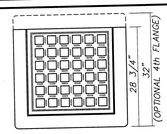
STAMSKI AND MCNARY, INC.
80 HARRIS STREET ACTON, MASSACHUSETTS
(978) 263-8585
ENGINEERING – PLANNING – SURVEYING

0 10 20 40 60 80 FT

(3320SP-WAV-E.DWG) SHEET 7 OF 8 SM-3320

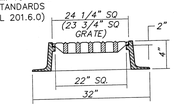






PLAN VIEW

TO CONFORM TO MASS HIGHWAY STANDARDS (SEE DETAIL 201.6.0)



SECTION VIEW

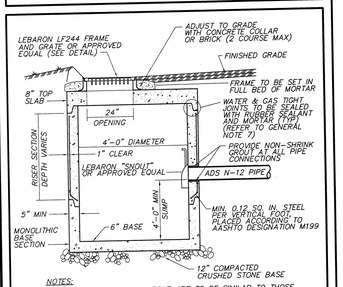
FRAME: LEBARON LF244-2
GRATE: LEBARON L24SG17

SINGLE CATCH BASIN

FULLY MACHINED AND INTERCHANGABLE FRAMES AND COVERS.
HIGH QUALITY MATERIALS AND WORKMANSHIP.
COAL TAR EPOXY PAINTED.
NO ROCK COVERS.
H-20 LOADING RATE
3 FLANGE FRAMES TO BE USED WITH CURB INLET

CATCH BASIN FRAME AND GRATE

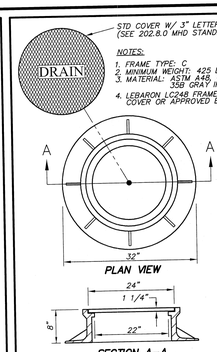
NOT TO SCALE



NOTES:
1. DETAILS NOT INDICATED ABOVE ARE TO BE SIMILAR TO THOSE SHOWN ON 201.2.0 AND 201.3.0 MASS DPW STANDARDS
2. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE MASS. HIGHWAY SPECIFICATIONS.

PRECAST CONCRETE CATCH BASIN DETAIL

NOT TO SCALE



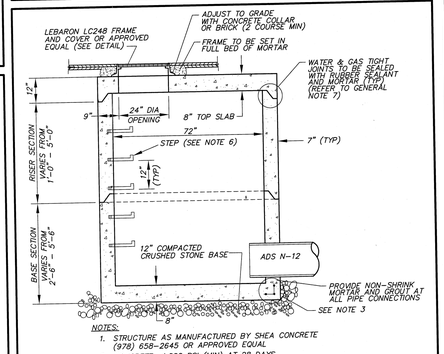
NOTES:
1. FRAME TYPE: C
2. MINIMUM WEIGHT: 425 LBS
3. MATERIAL: ASTM A48, CLASS 35B GRAY IRON
4. LEBARON LC248 FRAME AND COVER OR APPROVED EQUAL.

PLAN VIEW

SECTION A-A

MANHOLE FRAME AND COVER

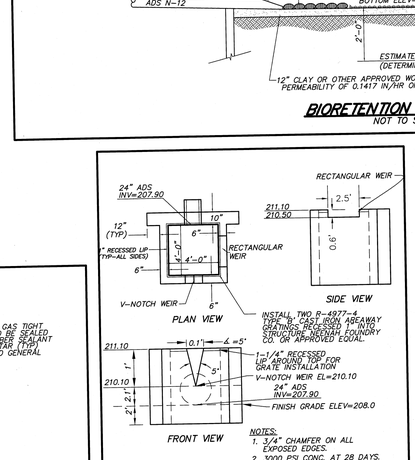
NOT TO SCALE



NOTES:
1. STRUCTURE AS MANUFACTURED BY SHEA CONCRETE (978) 658-2645 OR APPROVED EQUAL
2. CONCRETE: 4,000 PSI (MIN) AT 28 DAYS.
3. REINFORCED STEEL CONFORMS TO LATEST A.S.T.M. A185 SPEC. 0.18 SQ. IN./LINEAL FT. AND 0.18 SQ. IN. (BOTH WAYS) BASE BOTTOM.
4. H-20 DESIGN LOADING PER AASHTO, HS-20-44; ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
5. BUTYL RESIN SECTION JOINT CONFORMS TO LATEST ASTM C443 SPEC.
6. STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC STEPS SHALL CONFORM TO LATEST ASTM C478 SPEC.

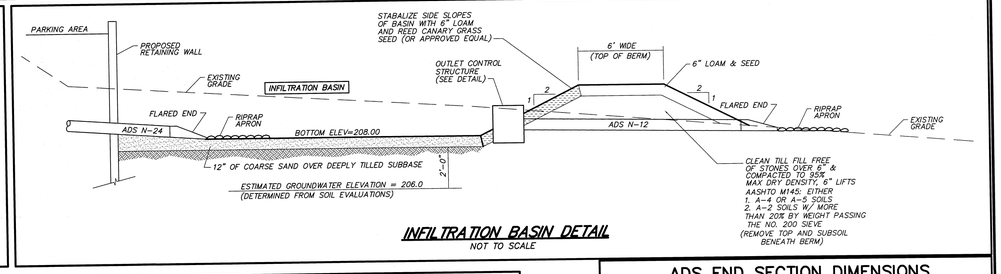
PRECAST CONCRETE MANHOLE DETAIL (DMH-3)

NOT TO SCALE



BIORETENTION AREA DETAIL

NOT TO SCALE

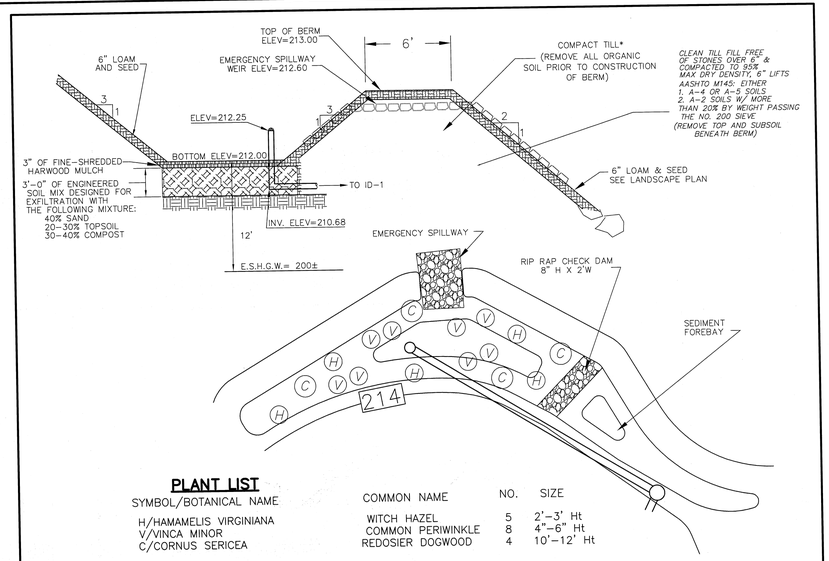


INFILTRATION BASIN DETAIL

NOT TO SCALE

OUTLET STRUCTURE DETAIL

NOT TO SCALE



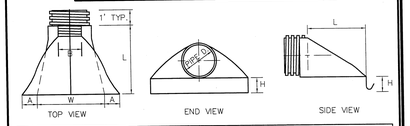
PLANT LIST

SYMBOL/BOTANICAL NAME	COMMON NAME	NO.	SIZE
H/HAMAMELIS VIRGINIANA	WITCH HAZEL	5	2'-3' Ht
V/VINCA MINOR	COMMON PERIWINKLE	8	4"-6" Ht
C/CORNUS SERICEA	REDOSIER DOGWOOD	4	10'-12' Ht

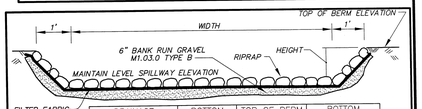
RAIN GARDEN DETAIL

NOT TO SCALE

ADS END SECTION DIMENSIONS



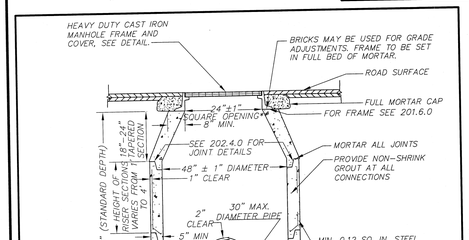
PIPE DIAMETER	PART NO.	DIMENSION (inches) A(1±)	B MAX	H(1±)	L(1/2±)	W(2±)
12" and 15"	1210 NP	6.5	10	6.5	25	29
18"	1810 NP	7.5	15	6.5	32	35
24"	2410 NP	7.5	18	6.5	36	45
36"	3610 NP	10.5	NA	7.0	53	68



DRAINAGE AREA	BOTTOM ELEVATION	TOP OF BERM ELEVATION	BOTTOM WIDTH OF WEIR
INFILTRATION BASIN	211.5	212.00	10'
RAIN GARDEN	212.60	213.00	6'

EMERGENCY SPILLWAY DETAIL

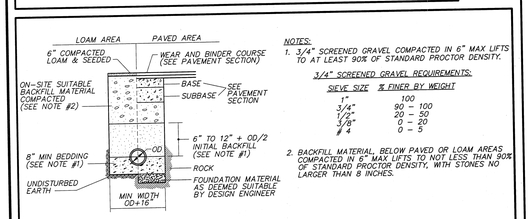
NOT TO SCALE



PRECAST CONCRETE MANHOLE DETAIL

NOT TO SCALE

NOTES
1. MANHOLE TO CONFORM TO MASS. D.P.W. STANDARD 202.4.0.
2. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
3. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE SPECIFICATIONS.



NOTES:
1. 3/4" SCREENED GRAVEL COMPACTED IN 6" MAX LIFTS TO AT LEAST 90% OF STANDARD PROCTOR DENSITY.

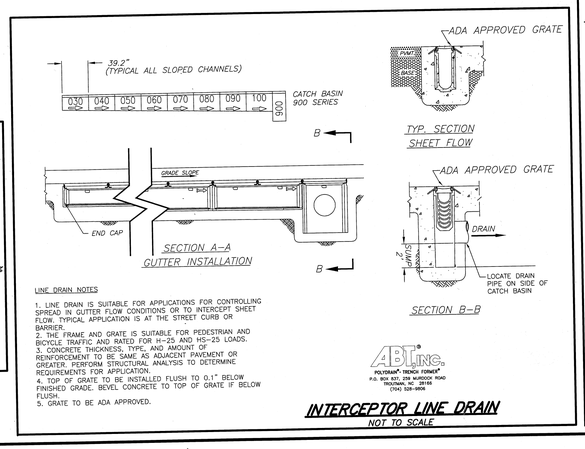
3/4" SCREENED GRAVEL REQUIREMENTS:

SIEVE SIZE	% FINER BY WEIGHT
1"	100
3/4"	90 - 100
1/2"	20 - 50
3/8"	0 - 20
# 4	0 - 5

2. BACKFILL MATERIAL, BELOW PAVED OR LOAM AREAS, COMPACTED IN 6" MAX LIFTS TO NOT LESS THAN 90% OF STANDARD PROCTOR DENSITY, WITH STONES NO LARGER THAN 8 INCHES.

TYPICAL DRAIN TRENCH DETAIL

NOT TO SCALE



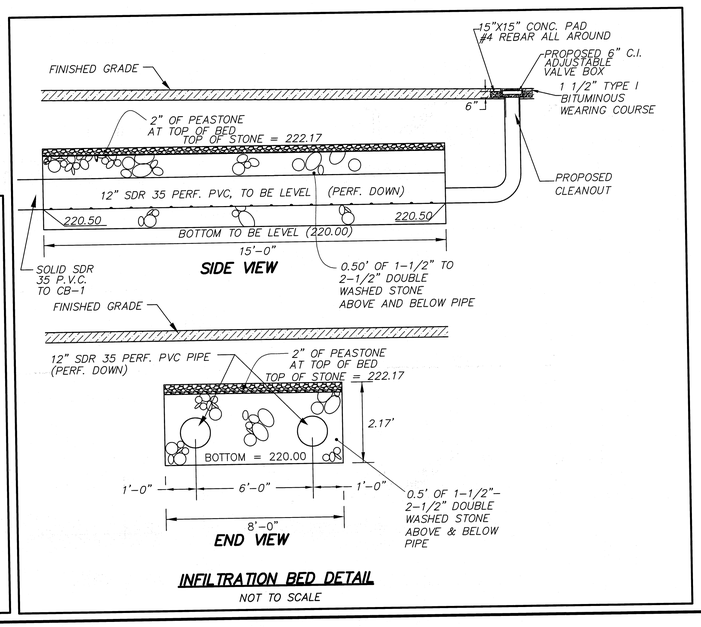
LINE DRAIN NOTES

1. LINE DRAIN IS SUITABLE FOR APPLICATIONS FOR CONTROLLING SPREAD IN GUTTER FLOW CONDITIONS OR TO INTERCEPT SHEET FLOW. TYPICAL APPLICATION IS AT THE STREET CURB OR BARRIER.
2. THE FRAME AND GRATE IS SUITABLE FOR PEDESTRIAN AND BICYCLE TRAFFIC AND RATED FOR H-25 AND HS-25 LOADS.
3. CONCRETE THICKNESS, TYPE, AND AMOUNT OF REINFORCEMENT TO BE SAME AS ADJACENT PAVEMENT OR GREATER. PERFORM STRUCTURAL ANALYSIS TO DETERMINE REQUIREMENTS FOR APPLICATION.
4. TOP OF GRATE TO BE INSTALLED FLUSH TO 0.1" BELOW FINISHED GRADE. BEVEL CONCRETE TO TOP OF GRATE IF BELOW FLUSH.
5. GRATE TO BE ADA APPROVED.

ABT INC.
POLYDRAIN® TRENCH FORMER®
P.O. BOX 837, 258 MURDOCK ROAD
TROUTMAN, NC 28166
(704) 528-9806

INTERCEPTOR LINE DRAIN

NOT TO SCALE



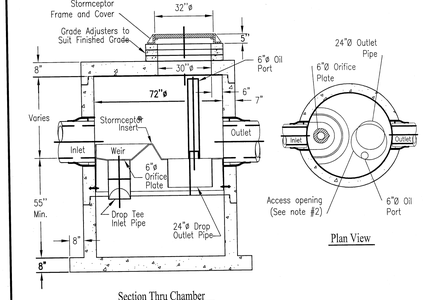
INFILTRATION BED DETAIL

NOT TO SCALE

Rinker MATERIALS

Concrete Pipe Division

STC 900 Precast Concrete Stormceptor
(900 U.S. Gallon Capacity)



Plan View

Section Thru Chamber

Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.

Rinker 028

WAVE
SITE PLAN
ACTON, MASSACHUSETTS

DETAIL SHEET 2
FOR: ROSENFELD
SCALE: 1"=20' JULY 31, 2009
REV.: DECEMBER 21, 2009 REV.: FEBRUARY 17, 2010

STAMSKI AND MCNARY, INC.
80 HARRIS STREET ACTON, MASSACHUSETTS
(978) 263-8585
ENGINEERING - PLANNING - SURVEYING

0 10 20 40 60 80 FT

(3320SP-WAV-E.DWG) SHEET 8 OF 8 SM-3320

COMMONWEALTH OF MASSACHUSETTS
JOSEPH MARCH
CIVIL
#40472
REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
JOSEPH MARCH
36384
REGISTERED LAND SURVEYOR