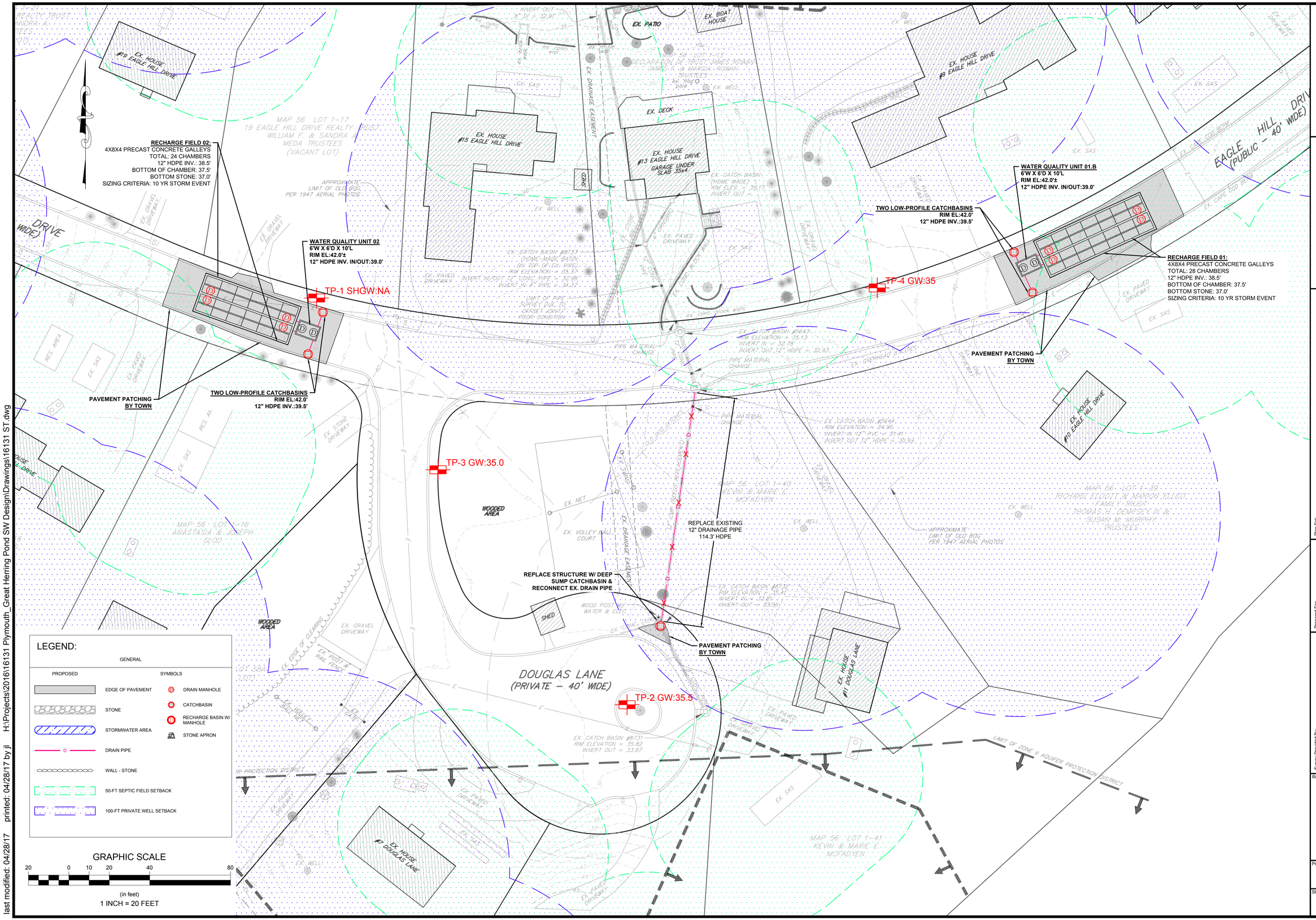

Revisions

Rev.	Date	By	Appr.	Description

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Checked By: RAC
Drawn By: MCOL
Designed By: MCOL
Date: DRAFT

Plan Set:
STORMWATER IMPROVEMENTS
EAGLE HILL DRIVE
PLYMOUTH, MASSACHUSETTS

Plan Title:
CONCEPT PLAN (1)

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Registration:
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Project Number: 16131
Sheet : 1 of 4
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Plan Set: STORMWATER IMPROVEMENTS
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Sheet : 2 of 4

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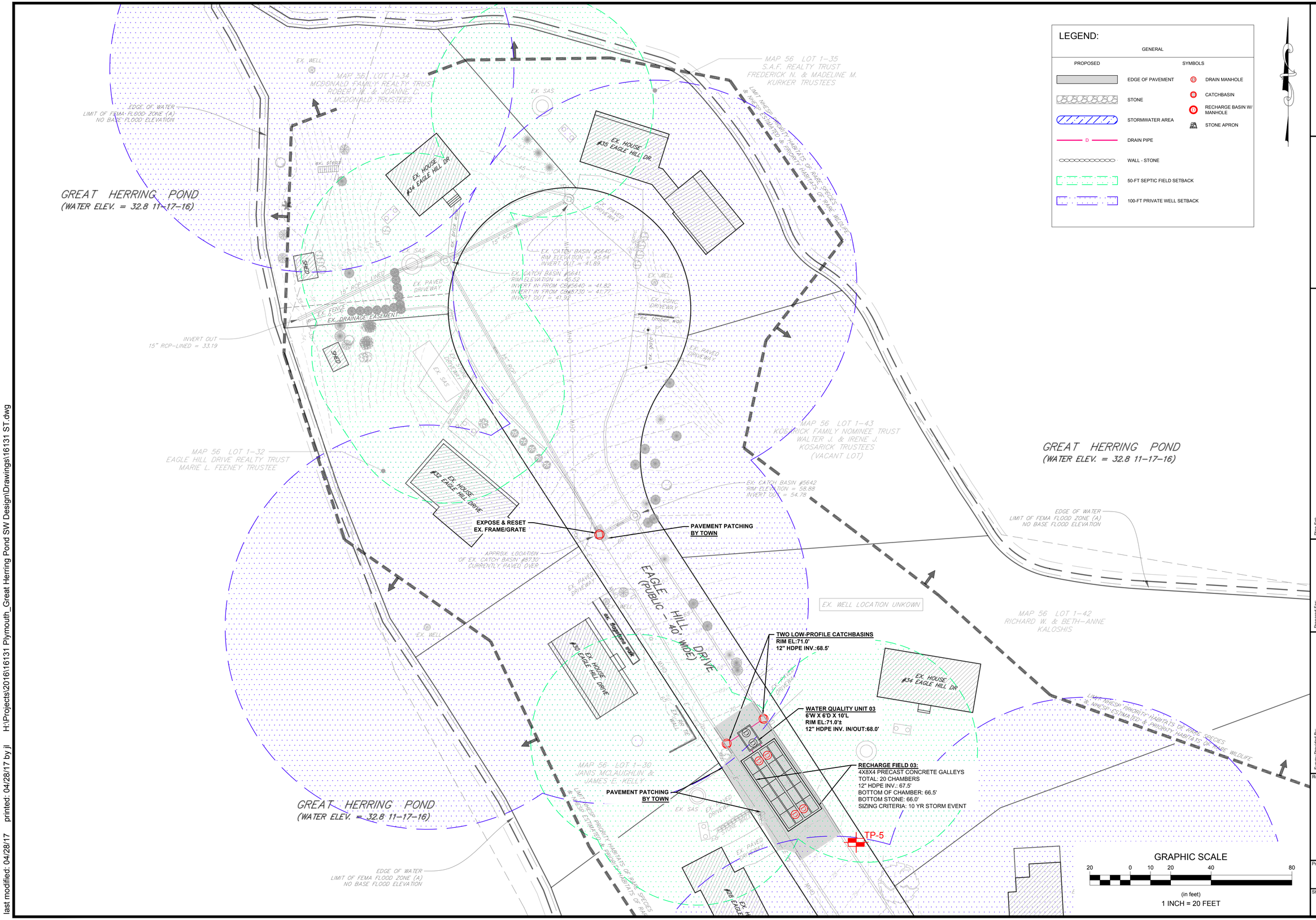

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Checked By: RAC
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Designed By: MCOL
Date: DRAFT

Plan Set: STORMWATER IMPROVEMENTS
EAGLE HILL DRIVE
PLYMOUTH, MASSACHUSETTS

Plan Title: CONCEPT PLAN (3)

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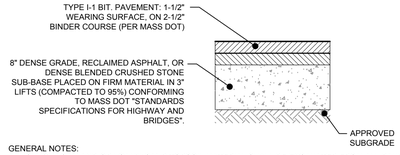
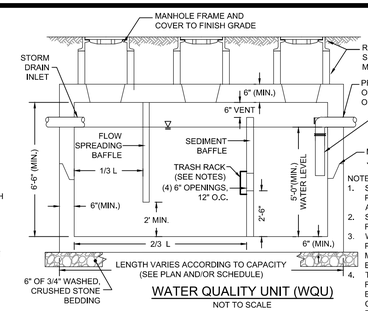


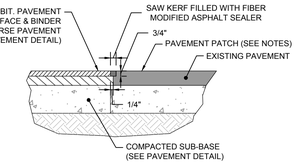
GENERAL NOTES:
1. SANDY-LOAM AND/OR LOAMY-SAND TOPSOIL MATERIAL SHALL BE EXCAVATED FROM ALL PAVED AREAS PRIOR TO SUB-BASE INSTALLATION.
2. SUB-GRADE (EXISTING MATERIAL) SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND/OR COURSE SAND, FREE FROM LOAM AND CLAY TO A DEPTH NOT LESS THAN 4-FT BELOW THE FINISH PAVEMENT SURFACE.
3. SUBGRADE FILL SHALL BE COMPACTED TO 95% COMPACTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. SEE SITE LAYOUT PLAN FOR PAVEMENT WIDTH AND LOCATION
5. SEE GRADING PLANS FOR PAVMENT SLOPE AND CROSS SLOPE
6. PRIOR TO INSTALLING THE WEARING COURSE THE EXISTING BINDER COURSE SURFACE SHALL BE SWEPT COMPLETELY CLEAN BY A STREET SWEEPING MACHINE AND A TACK COAT SHALL BE INSTALLED TO A LEVEL APPROVED BY THE ENGINEER.

TYPICAL BITUMINOUS PAVEMENT
NOT TO SCALE



NOTES:
1. SEE SCHEDULE FOR PROPOSED DIMENSIONS AND INVERT ELEVATIONS.
2. STRUCTURE DESIGNED FOR H-2O LOADING.
3. WQU BY OLDCASTLE PRECAST (REHOBOTH, MA) OR APPROVED EQUIVALENT.
4. TRASH RACK SHALL BE FLAT SERIES STORMRAX BY CONTECH CONSTRUCTION PRODUCTS INC. OR APPROVED EQUIVALENT.

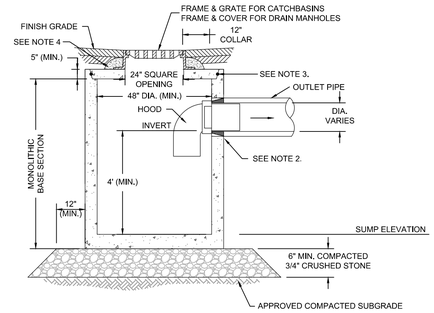
WATER QUALITY UNIT (WQU)
NOT TO SCALE



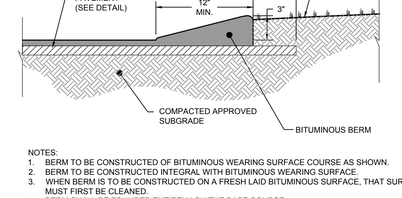
NOTES:
1. EXISTING BITUMINOUS PAVEMENT SHALL BE REMOVED TO A CLEAN STRAIGHT EDGE VIA SAW CUTTING. THE SAW CUT SHALL BE COMPLETED PERPENDICULAR TO THE ROADWAY/SIDEWALK.
2. PRIOR TO INSTALLING THE WEARING COURSE THE EXISTING VERTICAL PAVEMENT SURFACE SHALL BE SWEPT COMPLETELY CLEAN.
3. AFTER PROPER COMPACTION (SEE PAVEMENT DETAIL) SAW CUT NEW PAVEMENT ABUTMENT 3/4" DEEP AND FILL WITH FIBER MODIFIED ASPHALT SEALER AS SHOWN.

TYPICAL PAVEMENT PATCH DETAIL
NOT TO SCALE

NOTES:
1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL 12" WIDE MORTAR BED. ADJUST TO GRADE WITH PRECAST CONCRETE RISER, MORTAR, OR BRICK.
5. FRAME AND GRATE/COVER SHALL BE LOW PROFILE WITH A HEIGHT OF 4-INCHES & CONFORM TO MASSACHUSETTS STANDARDS HEAVY DUTY (H20). EAST JORDAN IRON WORKS OF EQUAL.
6. HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP (MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM) OR APPROVED EQUIVALENT.
7. STRUCTURE SHALL BE SCITUATE PRECAST OR APPROVED EQUAL.



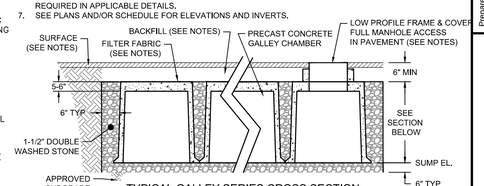
PRECAST CONCRETE LOW PROFILE CATCH BASIN (CB) & DRAIN MANHOLE (DMH) WITH HOOD
NOT TO SCALE



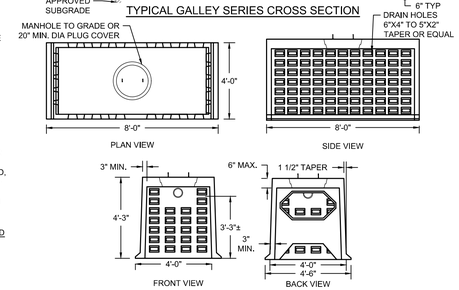
NOTES:
1. BERM TO BE CONSTRUCTED OF BITUMINOUS WEARING SURFACE COURSE AS SHOWN.
2. BERM TO BE CONSTRUCTED INTEGRAL WITH BITUMINOUS WEARING SURFACE.
3. WHEN BERM IS TO BE CONSTRUCTED ON A FRESH LAID BITUMINOUS SURFACE, THAT SURFACE MUST FIRST BE CLEANED.
4. BERM SHALL BE FOUNDED ENTIRELY ON THE BASE COURSE.
5. FINISH GRADE AT THE BACK OF THE BERM IS TO BE BROUGHT TO THE TOP OF THE BACK EDGE OF BERM.

TYPICAL BITUMINOUS BERM DETAIL
NOT TO SCALE

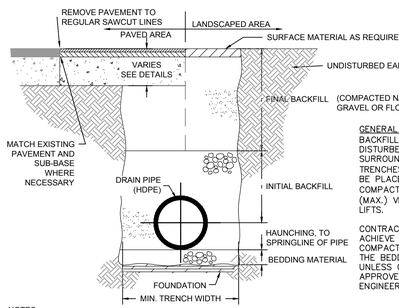
NOTES:
1. STRUCTURE CONSTRUCTED FOR H20 LOADING. ALL CONCRETE 4,000 PSI MINIMUM AT 28 DAYS.
2. PROVIDE KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
3. FRAME AND COVER TO CONFORM TO MASSACHUSETTS DOT STANDARDS. FRAME SET IN A FULL BED OF 12" WIDE MORTAR BED. ADJUST TO GRADE WITH PRECAST CONCRETE RISER.
4. MANHOLES PROVIDED FOR AT A MINIMUM BEGINNING AND END GALLEYS OR AS SHOWN ON THE DRAWINGS. OUTSIDE PAVEMENT SEE DRAWINGS.
5. GEOTEXTILE FILTER FABRIC: MIRAFI 140N OR EQUIVALENT. FABRIC PLACED OVER THE TOP & SIDES OF STONE/CHAMBER SYSTEM.
6. BACKFILL ABOVE CHAMBERS - PAVEMENT: BASE MATERIAL, OUTSIDE PAVEMENT: COMMON FILL/LOAM AS REQUIRED IN APPLICABLE DETAILS.
7. SEE PLANS AND/OR SCHEDULE FOR ELEVATIONS AND INVERTS.



TYPICAL GALLEY SERIES CROSS SECTION



TYPICAL 4X8X4 RECHARGE DRAINAGE GALLEY DETAIL
NOT TO SCALE



GENERAL BACKFILL: BACKFILL (INCLUDING DISTURBED AREAS SURROUNDING TRENCHES) SHALL BE PLACED AND COMPACTED IN 12" (MAX.) VERTICAL LIFTS.

CONTRACTOR SHALL ACHIEVE 95% COMPACTION FOR THE BEDDING UNLESS OTHERWISE APPROVED BY THE ENGINEER.

NOTES:
1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A SUITABLE COMPACTED GRAVEL MATERIAL OR AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING, HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL CONSIST OF CLEAN, HARD, PARTICLES OF GRAVEL MEETING THE FOLLOWING:

SIEVE SIZE	PERCENT PASSING
3/8"	85-95
NO. 4	5-15
NO. 8	0-2

UNLESS OTHERWISE APPROVED BY ENGINEER.

MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" PIPE (100-600mm).

3. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL Ø in (mm)	MIN. RECOMMENDED TRENCH WIDTH, in (mm)
8 (200)	36 (915)
10 (250)	36 (915)
12 (300)	36 (915)
15 (375)	42 (1070)
18 (450) >	60 (1520)

4. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF PIPE TO THE GROUND SURFACE. ALL DEPTHS SHALL BE VERIFIED BY THE CONTRACTOR WITH THE PIPE MANUFACTURER PRIOR TO INSTALLATION.

SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in (mm)
H25 (FLEXIBLE PAVEMENT)	12 (300)
H25 (RIGID PAVEMENT) E80	*12 (300)
RAILWAY HEAVY CONSTRUCTION	24 (610) 48 (1220)

*TOP OF PIPE TO BOTTOM OF PAVEMENT

TYPICAL DRAIN PIPE TRENCH DETAIL
NOT TO SCALE

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EAGLE HILL DRIVE
PLYMOUTH, MASSACHUSETTS

Plan Title: DETAILS

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