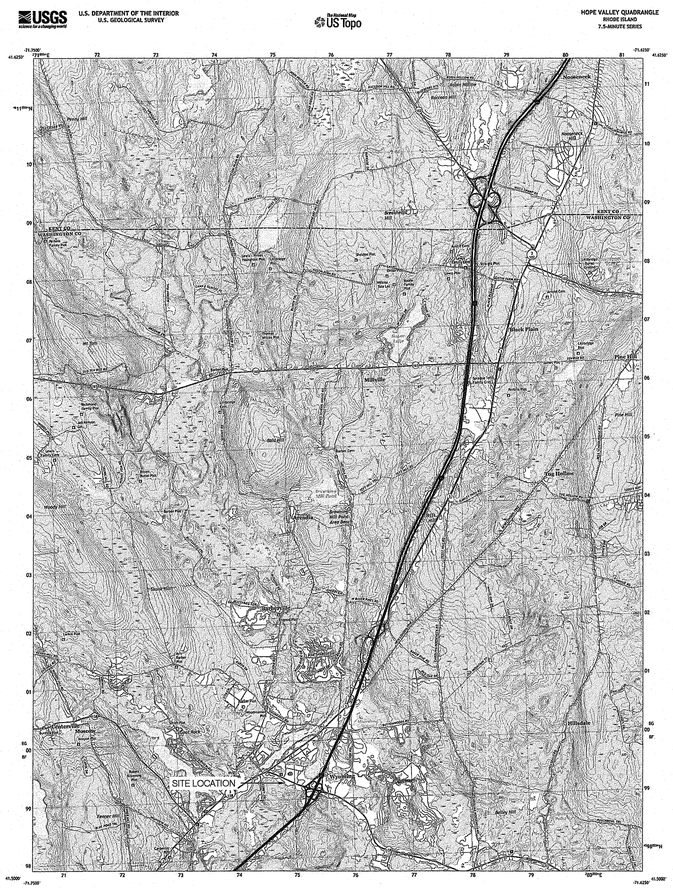
GDRAGON, LLC INDOOR HORTICULTURE FACILITY

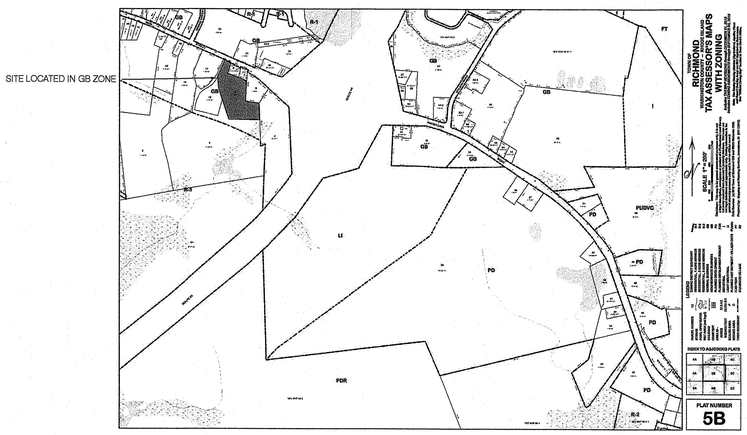
APPLICATION FOR
DEVELOPMENT PLAN REVIEW

INITIAL SUBMISSION - 3/27/20

REVISION - 11/12/2020

LOCATION
1195 MAIN STREET
RICHMOND RI, 02898





Environmental Management

DEC 09 2020

Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

SHEET 1 OF 12 | C-100

Narragansett Engineering Inc.
nei-cds.com
Civil · Survey · Structural · Environmental · Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
COVER SHEET

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
11/13/20

NEAL K. HINGORANY
No. 2915
PROFESSIONAL
LAND SURVEYOR
11.13.20
REV. 0

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

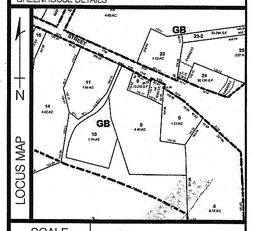
PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:

C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

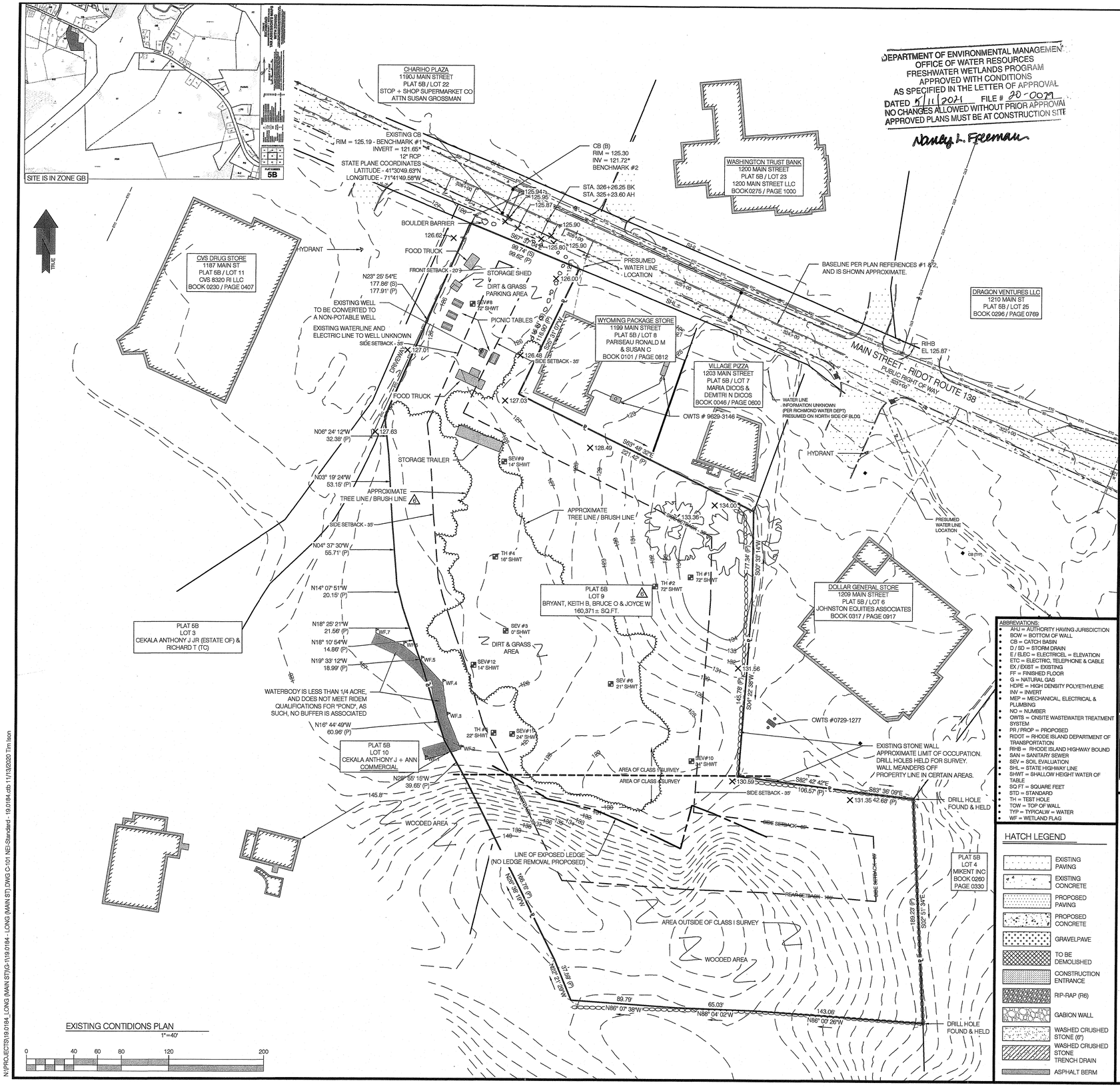
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS



SCALE NOT TO SCALE | C-100

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-119.0184 - LONG (MAIN ST).DWG C-100 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison



EXISTING CONTIDIONS PLAN
1"=40'

0 40 60 80 120 200

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST)G-1.DWG C-101 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison

SURVEY NOTES:

1. ZONING INFORMATION SHOW FROM RECORD INFORMATION, MAPS AND / OR GIS. ZONING DATA MAY VARY BASED ON USE, LOT SIZE, ORIENTATION AND OTHER FACTORS AND IS SHOWN FOR REFERENCE INFORMATION ONLY.
2. ZONING DATA MUST BE CONFIRMED WITH ZONING OFFICIAL AND / OR LEGAL COUNSEL FOR USE IN DESIGN OR PERMITTING.
3. COORDINATE SYSTEM IS RI3800 / NAVD 88.
4. TOPOGRAPHY IS MIX OF ON GROUND SHOTS, RECORD DATA AND UAV DATA.
5. ALL PROPOSED ITEMS MUST BE LAID OUT BY REGISTERED SURVEYOR AS NOTED.
6. PLAN IS NOT AS-BUILT UTILITY PLAN.
7. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT OF PROBATE SEARCH, AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
8. LOCATION OF SOME SUBSURFACE MAINS, SURFACE FEATURES, AND LATERALS ARE MAY BE OMITTED. CONTRACTOR TO CALL DIG SAFE AND/OR APPLICABLE UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. DIG SAFE TEL.#: 1-800-344-7233 (1-800-DIG-SAFE).
   A. WATER - WATER MAIN PER PLAN REFERENCE #2. LATERAL LOCATIONS UNKNOWN, AND MAY BE SHOWN APPROXIMATE.
   B. SEPTIC - PLAT 5B / LOT 8 SHOWN PER ISDS #9629-3146 - ALL OTHERS OMITTED.
   C. GAS - NO UNDERGROUND GAS IN AREA.
   D. ELECTRIC - OVERHEAD SHOWN FROM GIS DATA, NO UNDERGROUND CONDUIT OR DIRECT BURIED CABLE IN AREA PER REQUEST FROM NATIONAL GRID DATED 01/09/2020.
   E. STORM DRAIN - PER PLAN REFERENCES #1 & 2. SOME CATCH BASINS SHOWN FROM GIS AND UAV DATA AND FIELD INSPECTION.

PLAN REFERENCES:

1. PLAN ENTITLED "SURVEY OF LAND PREPARED FOR BRUCE BRYANT OWNER OF RECORD, PLAT 5B, LOT 9 RICHMOND, RI" PREPARED BY ARM ENGINEERING INC., SCALE 1" = 30', STAMPED AND SEALED BY ROBERT J. CURRAN - (UNDATED)
2. PLAN SET ENTITLED "SR HIGHWAY IMPROVEMENTS, ROUTE 138 SIDEWALKS, FROM INTERSTATE ROUTE 95 TO HOPKINTON T/L, TOWNS OF RICHMOND/HOPKINTON, COUNTY OF WASHINGTON" PREPARED BY CROSSMAN ENGINEERING, INC., REVISION 1, DATED 3/17/86.
3. PLAN SET ENTITLED "BRIDGE GROUP 54A 1-95 KINGSTON ROAD" PREPARED BY COMMONWEALTH ENGINEERING AND CONSULTANTS, STAMPED 3/12/19. SEE ADDITIONAL REFERENCES BELOW

DEED RESEARCH & PLAN REFERENCE

NO.	PLAT	LOT	BOOK	PAGE	OWNER OF RECORD	DEED	OTHER
4	5B	9	40	974	BRYANT KEITH B + BRUCE O & JOYCE W.	X	
5		8	328	431	NRP INC	X	
6		10	N/A	N/A	CEKALA ANTHONY J + ANN	X	
7		11	230	407	CVS 8320 RI LLC	X	
8		7	46	600	DICOS DEMITRI N + MARIA (JT)	X	
9			1	21	LAND CONVEYED TO STANLEY PONICHTERA		X
10					R.I. DEPARTMENTOF TRANSPORTATION PLAT 2045		X
11					R.I. DEPARTMENTOF TRANSPORTATION PLAT 2045 A		X
12					R.I. DEPARTMENTOF TRANSPORTATION PLAT 470		X
13					R.I. DEPARTMENTOF TRANSPORTATION PLAT 470 A		X

WETLAND DELINEATION:
WETLAND DELINEATION BY BRANDON FANEUF, LICENSE NUMBER D4059, ECOSYSTEM SOLUTIONS, INC. PERFORMED - 01/10/2020

BENCHMARK NOTE:
NEI WILL ALWAYS PROVIDE A MINIMUM OF TWO SITE BENCHMARKS. CONTRACTOR TO VERIFY ALL BENCHMARKS EXIST PRIOR TO CONSTRUCTION. ELEVATIONS OF ALL BENCHMARKS TO BE SHOT IN FIELD (WITH SUITABLE EQUIPMENT) AND DIFFERENTIAL TO BE VERIFIED, IF VERTICAL DIFFERENTIAL EXCEEDS 0.05' IT SHALL BE IMMEDIATELY REPORTED TO NEI. DIFFERENTIAL IN EXCESS OF 0.05' INDICATES THAT BENCHMARKS MAY HAVE BEEN DISTURBED AND ARE NOT SUITABLE FOR USE.

MEANDER NOTE:
STONE WALLS MEANDER, PROPERTY LIMITS DISPLAYED ARE THE BEST FIT BASED ON RECORDED PLANS AND DEEDS. THE ACTUAL CENTERLINE OF THE STONE WALLS ARE THE PROPERTY LIMITS UNLESS NOTED OTHERWISE; LINEWORK IS NOT A COMPLETELY PRECISE LIMIT IN CASES WHERE WALLS MEANDER FROM THE CENTERLINE.

UTILITY SURVEY QUALITY:

1. UTILITIES ARE SHOWN BASED ON BEST AVAILABLE INFORMATION, INCLUDING LOCATION OF SURFACE FEATURES AND REVIEW OF UNDERGROUND UTILITY RECORDS. LIMITED STORMWATER STRUCTURES WERE OPENED FOR INSPECTION, PRIMARILY FOR STORMWATER TIE INS.
2. THIS PLAN IS NOT AN AS BUILT UTILITY PLAN, EXCEPT FOR SPECIFIC STRUCTURES NOTED.
3. THIS UTILITY PLAN IS VALID FOR THE SPECIFIC PURPOSE STATED ON THE PLANS.
4. BE ADVISED, EVEN PLAN OR DIGSAFE MARKED UTILITIES ARE EXPECTED TO VARY BY 4' IN EITHER DIRECTION.
5. THIS DATA MOST CLOSELY CORRELATES WITH ASCE 38-02 UTILITY QUALITY LEVEL C:
   Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information.

UNMANNED AERIAL VEHICLE (UAV) NOTES:

1. THIS PLAN IS BASED ON A PRIVATE UAV FLIGHT PROVIDED BY NARRAGANSETT ENGINEERING INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON. THE UAV FLIGHT TOOK PLACE ON DECEMBER 12TH, 2019 ; RMS ERROR OF GROUND CONTROL POINTS (COMPUTED) : 0.02 IMAGES WERE TAKEN AT 150ft. ABOVE GROUND LEVEL, PIXEL SIZE IS 0.08" EXPECTED VERTICAL TOLERANCE (RMS ERROR, Z: 0.04)
2. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS. COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
3. ELEVATIONS WERE COMPUTED FROM A PRIVATE UAV FLIGHT USING PHOTOGRAMMETRY SOFTWARE AND TESTED AGAINST FOUR GROUND CONTROL POINTS WITH AN AVERAGE VERTICAL ACCURACY OF .08 ft. THERE MAY BE ANOMALIES IN THE DATA AND SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
4. ORTHOGRAPHY PHOTO DEVELOPED BY DATA AND PICTURES COLLECTED BY THE UAV TO ACCURATELY INTERPOLATE AND DEPICT THE SITE.
5. UAV FLOWN BY FAA CERTIFIED PILOT AND WAS PROPERLY INSURED DURING FLIGHT.

ABBREVIATIONS:

- AHJ = AUTHORITY HAVING JURISDICTION
- BOW = BOTTOM OF WALL
- CB = CATCH BASIN
- D / SD = STORM DRAIN
- E / ELEC = ELECTRICAL = ELEVATION
- ETC = ELECTRIC, TELEPHONE & CABLE
- EX / EXIST = EXISTING
- FF = FINISHED FLOOR
- G = NATURAL GAS
- HDPE = HIGH DENSITY POLYETHYLENE
- INV = INVERT
- MEP = MECHANICAL, ELECTRICAL & PLUMBING
- NO = NUMBER
- OWTS = ONSITE WASTEWATER TREATMENT SYSTEM
- PR / PROP = PROPOSED
- RIDOT = RHODE ISLAND DEPARTMENT OF TRANSPORTATION
- RIHB = RHODE ISLAND HIGHWAY BOUND
- SAN = SANITARY SEWER
- SEV = SOIL EVALUATION
- SHL = STATE HIGHWAY LINE
- SHWT = SHALLOW HEIGHT WATER OF TABLE
- SQ.FT = SQUARE FEET
- STD = STANDARD
- TH = TEST HOLE
- TOW = TOP OF WALL
- TYP = TYPICALW = WATER
- WF = WETLAND FLAG

HATCH LEGEND

- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- GRAVELPAVE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
- GABION WALL
- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

18.20.010 – TABLE of DIMENSIONAL REGULATIONS

Zoning District	Use	Lot size: (in acres equal to 43,560 s.f)	Lot frontage (feet)	Front yard depth (feet)	Rear yard depth (feet)	Side yard depth (feet)	Maximum building coverage
GB	Permitted uses	1	150	20	30	35	25%

18.20.010 – TABLE of DIMENSIONAL REGULATIONS (Part 2)

Zoning District	Use	Maximum height of main structure	Maximum height of accessory structure	Side and rear yard depth + accessory structure	Maximum ground floor area - retail uses only	Maximum height and number of stories - retail uses only	Notes
GB	Permitted uses	40	35	10	80,000#	40 / 2	*see 18.20.040

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 106.00 GRADE CONTOUR - EXISTING
- 106.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
- SAN SANITARY SEWER (S)
- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
- SD STORM DRAIN (SD)
- SUBDIVISION LINE - EXISTING
- W WATER
- WETLAND LIMIT
- CATCH BASIN
- DRILL HOLE
- ELECTRIC BOX (ETC)
- FIRE HYDRANT
- GATE VALVE
- GRANITE BOUND, EXISTING
- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
- MH MANHOLE (MH-TYPE)
- REBAR / STEEL PIPE FOUND
- SPIKE
- X 5.10 SPOT GRADE - EXISTING
- X 6.6 SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
- SURVEY MONUMENT TO BE SET
- SURVEY MARKER TO BE SET
- TH # TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

SHEET 2 OF 12 — C-101

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SHEET TITLE
EXISTING CONDITIONS PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

CERTIFICATION
THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON APRIL 28th, 2018, AS FOLLOWS:

CLASS I (PARTIAL) AS NOTED
CLASS III (PHYSICAL FEATURES)
CLASS IV
TOPOGRAPHIC SURVEY T-1
"THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE."

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: FOR THE PREPARATION OF A CLASS I AND CLASS IV LIMITED CONTENT SURVEY PLAN.

NEAL K. HINGORANY
No. 2515
PROFESSIONAL LAND SURVEYOR
NEAL HINGORANY REG. 2515 — 11.13.20 REV. 6

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
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PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
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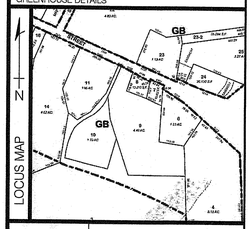
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

Department of Environmental Management
DEC 22 2020
Office of Water Resources



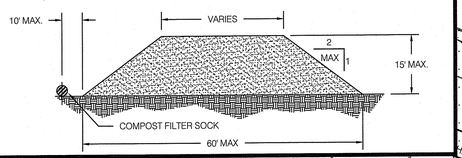
SCALE 1" = 40'

C-101

TEMPORARY SEDIMENT STOCKPILE

N.T.S.

NOTES:
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PREPARE PLAN INDICATING LOCATIONS OF SEDIMENT STOCKPILES FOR APPROVAL BY THE ENGINEER OR APPROPRIATE REGULATORY AUTHORITY.
2. STOCKPILE SHALL NOT EXCEED GIVEN DIMENSIONS WITHOUT APPROVAL BY ENGINEER OR APPROPRIATE REGULATORY AUTHORITY.
3. STOCKPILED MATERIAL NOT TO BE USED WITHIN 14 CALENDAR DAYS SHALL BE PLANTED WITH TEMPORARY SEED MIX PER RIDOT STD M.18.10.5.



CHARIHO PLAZA
1190J MAIN STREET
PLAT 5B / LOT 22
STOP + SHOP SUPERMARKET CO
ATTN SUSAN GROSSMAN

EXISTING CB
RIM = 125.29 - BENCHMARK #1
STATE PLANE COORDINATES
LATITUDE - 41°30'49.63"N
LONGITUDE - 71°41'49.58"W
INVERT OUT= 121.65*
PROTECT CATCH BASIN DURING CONSTRUCTION

CB (B)
RIM = 125.30
INV = 121.72*
BENCHMARK #2

REMOVE AND DISPOSE OF SIDEWALK, DRIVEWAY AND CURBS
ALL REMOVAL SHALL BE OF FULL SIDEWALK PANELS AND CURBS ONLY

PLAT 5B / LOT 23
1200 MAIN STREET LLC
BOOK0275 / PAGE 1000

FILTER STONE BERM,
RIDOT M.01.03, TABLE 1, COLUMN V, FILTER STONE
MODIFIED RIP-RAP, RIDOT M10.03.2

HYDRANT

CVS DRUG STORE
1187 MAIN ST
PLAT 5B / LOT 11
CVS 8320 RI LLC
BOOK 0230 / PAGE 0407

REMOVE BOULDERS FROM SITE

PRESUMED WATER LINE LOCATION

EXISTING WELL TO BE CONVERTED TO A NON-POTABLE WELL
EXISTING WATERLINE AND ELECTRIC LINE TO WELL UNKNOWN

BASIN DEPTH MEASURING STAFF

SHED TO BE DEMOLISHED OR REMOVED

CONSTRUCTION ENTRANCE PER RIDOT STD. 9.9.0 (50' OR MAXIMUM PRACTICABLE)

WYOMING PACKAGE STORE
1199 MAIN STREET
PLAT 5B / LOT 8
PARISEAU RONALD M & SUSAN C
BOOK 0101 / PAGE 0812

VILLAGE PIZZA
1203 MAIN STREET
PLAT 5B / LOT 7
MARIA DICOS & DEMITRI N DICOS
BOOK 0046 / PAGE 0600

OWTS # 9629-3146

OWTS UNKNOWN

PROTECT BRUSH AND TREES ALONG PROPERTY LIMITS TO ALLOW FOR FUTURE SCREENING

MAIN STREET - RIDOT ROUTE 138
PUBLIC RIGHT OF WAY

RIHB
EL 125.87

WATER LINE
INFORMATION UNKNOWN
(PER RICHMOND WATER DEPT)
PRESUMED ON NORTH SIDE OF BLDG

HYDRANT

EXISTING TREE TO REMAIN
PROTECT DURING CONSTRUCTION PER RIDOT 51.1.0

EXISTING TREE TO BE REMOVED
(COORDINATE w/ ABUTTER)

SIDE SETBACK - 35'

BIORETENTION AREAS
STAKE AND PROTECT. LIMIT DISTURBANCE (TYP)

SOIL STOCKPILE AREA
(TYP)

PROTECT EXISTING SWALE FROM EROSION AFFECTS DURING CONSTRUCTION. UTILIZE TEMPORARY VEGETATION PROCEDURES AND OR CHECK DAMS AS REQUIRED.

REMOVE TREES AND BRUSH AND DEBRIS UNLESS NOTED

CONCRETE WASHOUT STATION
SEE DETAIL ON SHEET C-107

TREE PROTECTION AREA
STAKE AND PROTECT. LIMIT DISTURBANCE (TYP)

DOLLAR GENERAL STORE
1209 MAIN STREET
PLAT 5B / LOT 6
JOHNSTON EQUITIES ASSOCIATES
BOOK 0317 / PAGE 0917

OWTS #0729-1277

EXISTING STONE WALL
APPROXIMATE LIMIT OF OCCUPATION.
DRILL HOLES HELD FOR SURVEY.
WALL MEANDERS OFF PROPERTY LINE IN CERTAIN AREAS.

SIDE SETBACK - 35'

PLAT 5B
LOT 10
CEKALA ANTHONY J + ANN
COMMERCIAL

WOODED AREA

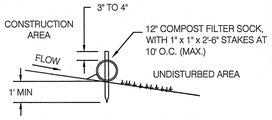
LINE OF EXPOSED LEDGE
(NO LEDGE REMOVAL PROPOSED)

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

DEMOLITION PLAN
1"=30'

0 30 45 60 90 150

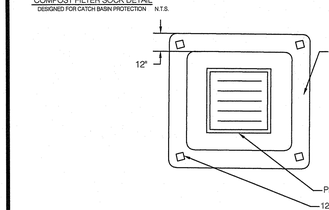
SEDIMENT BARRIER
COMPOST FILTER SOCK DETAIL
REF. SECTION 206.02.4 OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
N.T.S.

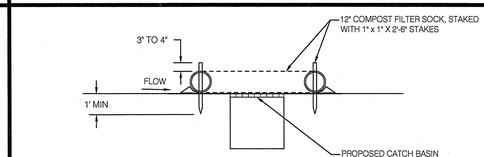


A. INSTALLATION. COMPOST FILTER SOCKS SHALL BE CONSTRUCTED AT THE LOCATIONS, AND IN ACCORDANCE WITH THE DETAILS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. THE FOLLOWING STIPULATIONS ALSO APPLY:
1. COMPOST FILTER SOCKS MAY BE EITHER FABRICATED ON SITE OR DELIVERED TO THE SITE.
2. COMPOST MEDIA SHALL CONFORM TO AASHTO MP 9-06 AND RIDOT SECTION 206.
3. TRENCHING IS NOT REQUIRED. COMPOST FILTER SOCKS SHALL BE PLACED OVER THE TOP OF GROUND. WOODEN STAKES SHALL BE DRIVEN THROUGH THE CENTER OF THE FILTER SOCKS TO ANCHOR THEM TO THE GROUND. TO ENSURE OPTIMUM PERFORMANCE, HEAVY VEGETATION SHALL BE CUT DOWN OR REMOVED, AND EXTREMELY UNEVEN SURFACES SHALL BE GRADED TO ENSURE THAT THE COMPOST FILTER SOCK UNIFORMLY CONTACTS THE GROUND SURFACE.
4. FILTER SOCKS SHALL BE PLACED IN A CONTINUOUS LINE. WHERE ENDS INTERSECT THEY SHALL BE SLEEVED TO CREATE AN INTERLOCK WITH A TWO (2) FOOT OVERLAP. AFTER ONE SECTION IS FILLED AND THE ENDS TIED OFF, THE NEXT SECTION SHALL BE PULLED OVER THE TIED OFF END OF THE PREVIOUS SECTION, TO CREATE A 2 FOOT OVERLAP. THE OVERLAP SHALL BE STAKED. THE INTERSECTING OVERLAPS SHALL BE CONSTRUCTED TO ENSURE THAT STORMWATER DOES NOT BREAK THROUGH AT THESE INTERSECTION POINTS.

B. REMOVAL. THIS WORK, IF REQUIRED, SHALL INCLUDE THE REMOVAL OF THE COMPOST FILTER SOCK AND STAKES. UNLESS BIODEGRADABLE, THE MESH FILTER SOCK MATERIAL SHALL BE CUT OPEN AND THE MESH REMOVED. IN GENERAL, THE COMPOST FILTER MATERIAL MAY BE LEFT IN PLACE, HOWEVER THE MATERIAL WILL BE RAKED OUT LEVELED TO SURROUNDING GRADES, THEN SEEDED. PRIOR TO SUCH REMOVAL, HOWEVER, ALL SILT, MUD AND DEBRIS ENTRAPPED OUTSIDE OF THE COMPOST FILTER SOCK SHALL BE REMOVED AND THE AREA CLEANED UP IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 212 OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

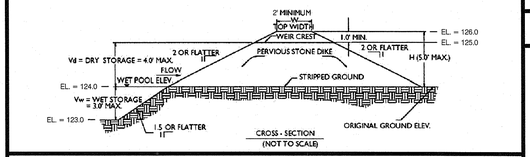
SEDIMENT BARRIER
COMPOST FILTER SOCK DETAIL
DESIGNED FOR CATCH BASIN PROTECTION N.T.S.



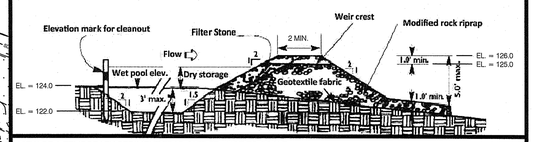


SEE INTERNAL MANUFACTURED INLET FILTER DETAIL ON SHEET C-108 ⚠6

MINIMUM TOP WIDTH FOR TEMPORARY SEDIMENT TRAP EMBANKMENTS BASED ON HEIGHT OF EMBANKMENT



VIEW OF A TEMPORARY SEDIMENT TRAP OUTLET - NOT TO SCALE



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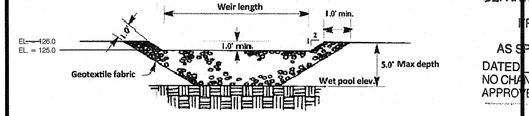
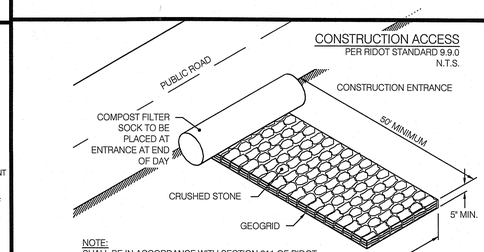


CONSTRUCTION ACCESS
PER RIDOT STANDARD 9.9.0
N.T.S.



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

ABBREVIATIONS:
- AHJ = AUTHORITY HAVING JURISDICTION
- BOW = BOTTOM OF WALL
- CB = CATCH BASIN
- D / SD = STORM DRAIN
- E / ELEC = ELECTRICEL = ELEVATION
- ETC = ELECTRIC, TELEPHONE & CABLE
- EX / EXIST = EXISTING
- FF = FINISHED FLOOR
- G = NATURAL GAS
- HDPE = HIGH DENSITY POLYETHYLENE
- INV = INVERT
- MEP = MECHANICAL, ELECTRICAL & PLUMBING
- NO = NUMBER
- OWTS = ONSITE WASTEWATER TREATMENT SYSTEM
- PR / PROP = PROPOSED
- RIDOT = RHODE ISLAND DEPARTMENT OF TRANSPORTATION
- RIHB = RHODE ISLAND HIGHWAY BOUND
- SAN = SANITARY SEWER
- SEV = SOIL EVALUATION
- SHL = STATE HIGHWAY LINE
- SHWT = SHALLOW HEIGHT WATER OF TABLE
- SQ FT = SQUARE FEET
- STD = STANDARD
- TH = TEST HOLE
- TOW = TOP OF WALL
- TYP = TYPICALW = WATER
- WF = WETLAND FLAG

HATCH LEGEND

EXISTING PAVING
EXISTING CONCRETE
PROPOSED PAVING
PROPOSED CONCRETE
GRAVELPAVE
TO BE DEMOLISHED
CONSTRUCTION ENTRANCE
RIP-RAP (R6)
GABION WALL
WASHED CRUSHED STONE (6")
WASHED CRUSHED STONE TRENCH DRAIN
ASPHALT BERM

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 103.00 GRADE CONTOUR - EXISTING
- 100.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
- SAN SANITARY SEWER (S)
- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
- SD STORM DRAIN (SD)
- SUBDIVISION LINE - EXISTING
- W WATER
- WETLAND LIMIT

- CATCH BASIN
- DRILL HOLE
- ELECTRIC BOX (ETC)
- FIRE HYDRANT
- GATE VALVE
- GRANITE BOUND, EXISTING
- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
- MH MANHOLE (MH:TYPE)
- REBAR / STEEL PIPE FOUND
- SPIKE
- X 5.10 SPOT GRADE - EXISTING
- X 6.6 SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
- MONUMENT TO BE SET SURVEY MONUMENT TO BE SET
- MARKER TO BE SET SURVEY MARKER TO BE SET
- TH # TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

INSTALLATION REQUIREMENTS:
1. CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.
2. EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. COMPACTION RATE OF 95% MAXIMUM DENSITY (MODIFIED PROCTOR METHOD) REQUIRED.
3. STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATIVE COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION.
4. CARRY OUT CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.

INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS:
1. INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE STONE OUTLET OR WEIR CREST SHOULD BE MAINTAINED AT LEAST 1 FOOT BELOW THE CREST OF THE EMBANKMENT. ALSO CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.
2. WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
3. THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED. IF IT IS TO BE REMOVED, THEN THE PLANS SHOULD SHOW HOW THE SITE OF THE TEMPORARY SEDIMENT TRAP IS TO BE GRADED AND STABILIZED AFTER REMOVAL.

A RIPDES REQUIRED SESC REPORT WILL BE PROVIDED WITH SUBMITTAL. ⚠6

N:\PROJECTS\19.0184_LONG (MAIN ST)\0-119.0184 - LONG (MAIN ST).DWG C-102 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison

SHEET 3 OF 12 — C-102

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
SEDIMENTATION AND EROSION CONTROL AND DEMO PLAN
GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
⚠6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:

C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No 1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

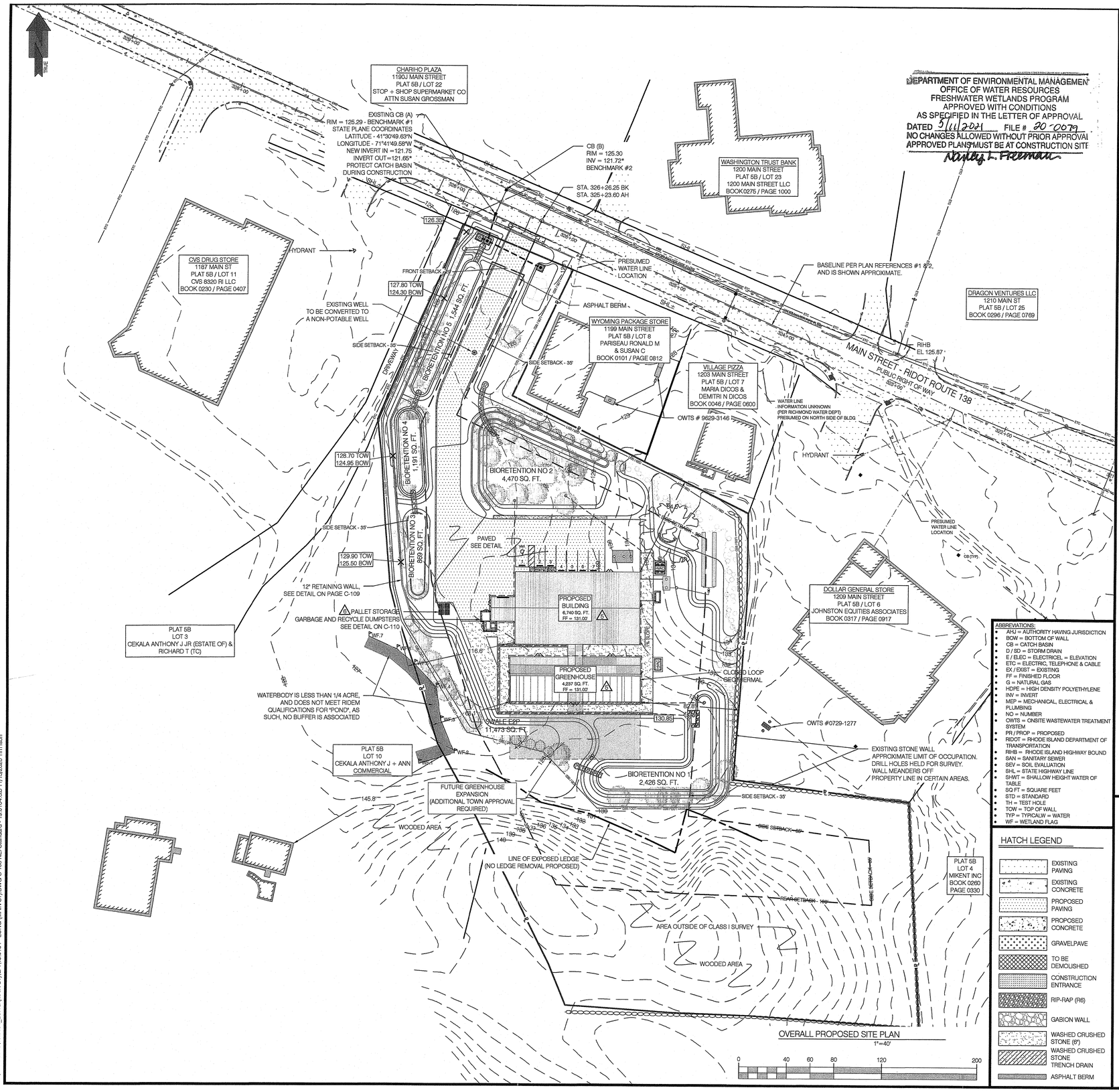
SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

RI Department of Environmental Management
DEC 22 2020
Office of Water Resources

LOCUS MAP

SCALE 1" = 30'

C-102



DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

GENERAL RESIDENTIAL OR LIGHT COMMERCIAL SITE CONSTRUCTION NOTES:
1. SOIL EVALUATIONS BE PERFORMED FOR ANY BASEMENTS OR SUBSURFACE AREAS, AND FOR STORMWATER MITIGATION DESIGN.
2. STORM WATER MITIGATION FOR WATER QUALITY (1") BE INSTALLED IN THE FORM OF SWALES OR SIMILAR, ALONG WITH GUTTERS, LEADERS, AND DOWNSPOUTS TO SYSTEM REFER TO RI SINGLE FAMILY STORM-WATER MANUAL. HTTP://WWW.DEM.RI.GOV/PROGRAMS/BENVIRON/WATER/PERMITS/RIPDES/STWATER/PDFS/SWSINFAM.PDF
3. GRADING SHALL BE UNDERTAKEN AS DIRECTED ON PLAN. SLOPES SHALL NOT EXCEED 3:1 UNLESS NOTED OTHERWISE.
4. ALL WALLS, OR REVETMENTS TO HAVE APPROPRIATE BACKFILL AND DRAINAGE BEHIND. WALLS OVER 3' MAY REQUIRE DESIGN BY AN RI PROFESSIONAL ENGINEER.
5. CARE SHALL BE TAKEN TO DIRECT DRAINAGE AWAY FROM STRUCTURE AND ABUTTERS.
6. ALL PROPOSED UTILITIES TO CONFORM TO LOCAL CODE INSTALLATION REQUIREMENTS.
7. ALL FILL SHALL BE FREE OF ORGANICS, DEBRIS, STONES GREATER THAN 6" AND WELL BE COMPACTED IN 8" LIFTS AND TO BE 95% MODIFIED PROCTOR COMPACTION.
8. ALL WORK SHALL BE DONE IN SUBSTANTIAL CONFORMANCE WITH RI CONSUMER PROTECTION CONSTRUCTION STANDARDS.
REF TO SECTION 1 AND SECTION TO FOR SITE AND GRADING STANDARDS.
HTTP://WWW.CRB.RI.GOV/DOCUMENTS/CONSTRUCTION-STANDARDS.PDF

WETLAND DELINEATION:
WETLAND DELINEATION BY BRANDON FANEUF, LICENSE NUMBER D4059, ECOSYSTEM SOLUTIONS, INC.
PERFORMED - 01/10/2020

BENCHMARK NOTE:
NEI WILL ALWAYS PROVIDE A MINIMUM OF TWO SITE BENCHMARKS. CONTRACTOR TO VERIFY ALL BENCHMARKS EXIST PRIOR TO CONSTRUCTION. ELEVATIONS OF ALL BENCHMARKS TO BE SHOT IN FIELD (WITH SUITABLE EQUIPMENT) AND DIFFERENTIAL TO BE VERIFIED, IF VERTICAL DIFFERENTIAL EXCEEDS 0.09' IT SHALL BE IMMEDIATELY REPORTED TO NEI. DIFFERENTIAL IN EXCESS OF 0.05' INDICATES THAT BENCHMARKS MAY HAVE BEEN DISTURBED AND ARE NOT SUITABLE FOR USE.

LANDSCAPING, LIGHTING AND ASSOCIATED ELEMENTS:
1. THESE ITEMS ARE NOT INCLUSIVE, BUT WILL BE PART OF MUNICIPAL DEVELOPMENT PLAN REVIEW APPLICATION.

18.20.010 – TABLE of DIMENSIONAL REGULATIONS

Zoning District	Use	Lot size (in acres equal to 43,560 sf)	Lot frontage (feet)	Front yard depth (feet)	Rear yard depth (feet)	Side yard depth (feet)	Maximum b covera
GB	Permitted uses	1	150	20	50	35	25%

18.20.010 – TABLE of DIMENSIONAL REGULATIONS (Part 2)

Zoning District	Use	Maximum height of main structure (feet)	Maximum height of accessory structure (feet)	Side and rear yard depth - accessory structure (feet)	Maximum ground floor area - retail uses only (square feet)	Minimum height and number of stories - retail uses only (feet/stories)	Notes

Use Code	Use Description	R-3	R-2	R-1	Neighb. Bus.	Gen. Bus.	Lt. Ind.	Ind.	PD	PUD-VC	Flex Tech	SV	Agr. OL	Aqu. OL	Notes
20	AGRICULTURAL														
212	Horticulture	P	P	P	P	P	P	P	P	P	P	P	P	U	See RIGL § 45-24-37
214	Indoor horticulture	P	P	P	P	P	P	P	P	P	P	P	P	U	See § 18.54.020

LOT COVERAGE - PROPOSED		
LOT SIZE	160,435	SQ. FT.
PROPOSED GREENHOUSE	4,237	SQ. FT.
PROPOSED PROCESSING BUILDING	6,740	SQ. FT.
TOTAL PROPOSED BUILDINGS	10,977	SQ. FT.
PROPOSED COVERAGE	6.8%	<25% MAXIMUM COVERAGE

NOTES REGARDING CONFORMANCE WITH MANUAL:

-NO TREES OR PLANTINGS ARE PROPOSED IN STATE ROW. ALL LANDSCAPE DESIGN ELEMENTS SHOWN ON THE PLAN ARE SCHEMATIC AS RELATED TO SITE CLEARING AND DRAINAGE DESIGN. PLANS SHALL BE PROVIDED BY AN RI LANDSCAPE ARCHITECT FOR MUNICIPAL PERMITTING.

-AS PER 4.7.F - WORK WITHIN STATE ROW IS LESS THAN 25,000.

-OWNER / CONTRACTOR TO REFER TO SECTION 4.8 INSURANCE REQUIREMENTS OF THE DOT PAPA MANUAL FOR INSURANCE REQUIREMENTS PRIOR TO CONSTRUCTION.
AND SECTION 4.7FOR BOND REQUIREMENTS

... E. THE APPLICANT, IN THE CASE OF COMMERCIAL APPLICATIONS, IS REQUIRED TO SUBMIT DETAILED COMPUTATIONS AND SITE-GRADING PLANS FOR DRAINAGE CONDITIONS EXISTING AND PROPOSED WHEN APPLYING FOR A PERMIT. THESE COMPUTATIONS SHOULD BE MADE CONSIDERING A STORM OF TWENTY-FIVE (25) - YEAR FREQUENCY WITH A DURATION EQUAL TO THE TIME OF CONCENTRATION. THESE COMPUTATIONS AND PLANS SHALL BE APPROVED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER. IF STORM DRAINAGE WILL NOT AFFECT THE STATE HIGHWAY DRAINAGE SYSTEM, A STATEMENT OF NO IMPACT SHOULD BE SUBMITTED WITH A APPLICATION APPROVED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER, OR A RHODE ISLAND REGISTERED LAND SURVEYOR WHEN THE PROPERTY IN QUESTION IS GRADED AWAY FROM THE STATE HIGHWAY DRAINAGE SYSTEM. F. DRAINAGE APPURTENANCES - ALL FACILITIES, PIPES, DRAINS, CATCH BASINS, MANHOLES AND OTHER APPURTENANCES WILL BE AS INDICATED IN "RHODE ISLAND DEPARTMENT OF TRANSPORTATION, STANDARD DETAILS." G. THE APPLICANT SHALL BE RESPONSIBLE TO SHOW NO INCREASE TO PEAK FLOW AND TOTAL VOLUME OF RUN OFF FROM EXISTING CONDITIONS ENTERING THE STATE HIGHWAY DRAINAGE SYSTEM IN A TWENTY-FIVE (25) YEAR STORM, UNLESS IN THE CASE OF TOTAL VOLUME THE APPLICANT CAN DEMONSTRATE UNCONDITIONALLY THAT THERE WILL BE NO IMPACT TO THE RECEIVING (WATER) BODY(IES). IN ADDITION, IF A CONNECTION TO THE STATE DRAINAGE SYSTEM IS PROPOSED, THE APPLICANT SHALL ADDRESS WATER QUALITY IMPACTS THROUGH INCORPORATION OF STRUCTURAL STORMWATER TREATMENT PRACTICES AND THROUGH THE USE OF BEST MANAGEMENT PRACTICES (BMPS). DESIGN AND CONSTRUCTION OF ALL STORMWATER MITIGATION SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENTS "STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL"
THE DESIGNER, BEING AN RI REGISTERED PE POSITS THAT ALL DRAINAGE DESIGN ELEMENTS CONFORM OR EXCEED THESE RIDOT PAP MANUAL REQUIREMENTS, INCLUDING 25 YEAR STORM MITIGATION AND WATER QUALITY REQUIREMENTS, INCLUDING THE PROPOSED CONNECTION TO THE STATE DRAINAGE SYSTEM AND REQUISITE TREATMENT PRACTICES PER RISDISM.

EDGE CLEARANCE DISTANCES EXCEED MINIMUM REQUIREMENTS PER MANUAL (20, RURAL COMMERCIAL)
DRIVEWAY WIDTH DOES NOT EXCEED STATE MAXIMUM (20' - TWO WAY, COMMERCIAL)

REFER RIDOT PAPA MANUAL IN CASE OF ANY OMISSIONS OR ERRORS:
HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/PERMITS/PAPA_MANUAL.PDF

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

Environmental Management
DEC 22 2020
Office of Water Resources

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HATCH LEGEND

	EXISTING PAVING
	EXISTING CONCRETE
	PROPOSED PAVING
	PROPOSED CONCRETE
	GRAVELPAVE
	TO BE DEMOLISHED
	CONSTRUCTION ENTRANCE
	RIP-RAP (R6)
	GABION WALL
	WASHED CRUSHED STONE (6")
	WASHED CRUSHED STONE TRENCH DRAIN
	ASPHALT BERM

LEGEND

BRUSH LINE (APPROXIMATE)	CATCH BASIN
100.00' DIMENSION - EXISTING	DRILL HOLE
100.00' (D) DIMENSION - PLAN / DEED	ELECTRIC BOX (ETC)
100.00' DIMENSION - PROPOSED	FIRE HYDRANT
100.00' (S) DIMENSION - SURVEY	GATE VALVE
EDGE OF PAVEMENT - EXISTING	GRANITE BOUND, EXISTING
EDGE OF PAVEMENT - PROPOSED	LOW WATER LINE
OHE ELECTRIC - OVERHEAD (OHE)	LIMIT OF DISTURBANCE MARKER
ETC ELECTRIC - TELEPHONE - CABLE (ETC)	MANHOLE (MH:TYPE)
UGE ELECTRIC - UNDERGROUND (UGE)	REBAR / STEEL PIPE FOUND
FENCE - METAL	SPIKE
FENCE - WOOD	X 5.10 SPOT GRADE - EXISTING
FLOW ARROWS	X 6.6 SPOT GRADE - PROPOSED
GAS GAS (G)	STRUCTURE, EXISTING
100.00 GRADE CONTOUR - EXISTING	STRUCTURE, PROPOSED
100.00 GRADE CONTOUR - PROPOSED	SURVEY MONUMENT TO BE SET
HVF HIGH VISIBILITY FENCE (HVF)	SURVEY MARKER TO BE SET
LOD LIMIT OF DISTURBANCE (LOD)	TH # TEST HOLE / SOIL EVALUATION
LOD / SED LOD / SED	TREE
PROPERTY LINE - ABUTTING	UTILITY POLE
PROPERTY LINE - EXISTING	WATER SHUT OFF
PROPERTY LINE - PROPOSED	WETLAND FLAG LOCATION
SAN SANITARY SEWER (S)	TOW = TOP OF WALL
SED SEDIMENT CONTROL (SED)	BOW = BOTTOM OF WALL
SETBACKS	
STONE WALL	
SD STORM DRAIN (SD)	
SUBDIVISION LINE - EXISTING	
W WATER	
WETLAND LIMIT	

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3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET 4 OF 12 — C-103

SHEET TITLE
OVERALL PROPOSED SITE PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
FOR ALL ENGINEERING ELEMENTS
11/13/20

NEAL K. HINGORANY
No. 24875
PROFESSIONAL
LAND SURVEYOR
FOR ALL SURVEY ELEMENTS
11.13.20
REV. 12

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
1	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:

C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

SCALE 1" = 40' — C-103

N:\PROJECTS\19.0184 - LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-103 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison

18.26.110 PARKING AND LOADING

A. BUILDINGS AND USES SHALL PROVIDE THE NUMBER OF PARKING SPACES REQUIRED BY CHAPTER 18.29 OF THIS TITLE. THE PLANNING BOARD SHALL HAVE THE AUTHORITY TO REDUCE THE REQUIRED NUMBER OF PARKING SPACES FOR ANY USE OR STRUCTURE. IF SUCH A REDUCTION IS APPROVED, THE REASON FOR THE REDUCTION SHALL BE STATED IN THE PRELIMINARY PLAN DECISION. SHARED PARKING SHALL BE PERMITTED.

29. INDOOR HORTICULTURE - 1 PER 2,000 SQ. FT. OF GROSS FLOOR AREA; 5 MINIMUM.

18.29.020 DESIGN REQUIREMENTS

PARKING AND LOADING AREAS SHALL BE DESIGNED ACCORDING TO THE FOLLOWING REQUIREMENTS:

A. THE DESIGN SHALL PROVIDE SAFE TRAFFIC CIRCULATION, SEPARATION OF PEDESTRIAN AND VEHICULAR TRAFFIC, AND ACCESSIBILITY BY EMERGENCY VEHICLES.
B. REQUIRED PARKING SHALL BE LOCATED ON THE SAME LOT AS THE USE IT SERVES OR ON AN ADJACENT LOT.
C. ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN THE NUMBER, SIZE AND DESIGN REQUIRED BY CURRENT FEDERAL REGULATIONS PROMULGATED UNDER THE AMERICANS WITH DISABILITIES ACT, AS AMENDED.
D. PARKING SHALL BE LOCATED ON THE SIDE OR REAR OF BUILDINGS EXCEPT WHERE PHYSICAL SITE CONSTRAINTS MAKE SUCH A LOCATION IMPOSSIBLE
E. EACH LOT SHALL HAVE NO MORE THAN TWO DRIVEWAYS ENTERING AND EXITING TO A STREET. TO MINIMIZE THE NUMBER OF ACCESS POINTS TO PUBLIC STREETS, ADJOINING PARKING AREAS ON THE SAME OR ADJACENT LOTS SHOULD BE CONNECTED. PROPERTY OWNERS ARE STRONGLY ENCOURAGED TO REDUCE THE NUMBER OF STREET ENTRANCE AND EXIT POINTS BY ARRANGING TO SHARE ENTRANCES WITH OTHER USES ON THE SAME LOT OR ADJACENT LOTS.
F. PROPOSED AND EXISTING DRIVEWAYS SHALL BE LOCATED AT LEAST FIFTY (50) FEET APART UNLESS THE DIMENSIONS OF THE LOT MAKE SUCH A SEPARATION IMPOSSIBLE. ON CORNER LOTS, THE PRINCIPAL POINT OF ACCESS SHALL BE FROM THE SECONDARY STREET.
G. THE DESIGN SHALL CONFORM TO SECTIONS 13.5 (STREET DIMENSIONS AND DESIGN), 13.7.3 (PEDESTRIAN WALKWAYS), 14.1 (CONSTRUCTION SPECIFICATIONS), AND 14.5 (PEDESTRIAN WALKWAYS ADJACENT TO STREETS) OF THE LAND DEVELOPMENT AND SUBDIVISION REGULATIONS TO THE EXTENT THOSE PROVISIONS ARE APPLICABLE.
H. PARKING AND LOADING AREAS SHALL HAVE A SURFACE OF DUST-FREE MATERIAL. GRASSED AREAS MAY BE USED FOR OCCASIONAL AND OVERFLOW PARKING. IMPERVIOUS PARKING AREAS, INCLUDING GRAVEL AND PAVED, SHALL COMPLY WITH THE CURRENT EDITION OF THE R. I. STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL ADOPTED BY THE R. I. DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND THE R. I. COASTAL RESOURCES MANAGEMENT COUNCIL.
I. STANDARD PARKING SPACES SHALL BE AT LEAST NINE (9) FEET WIDE AND EIGHTEEN (18) FEET LONG. ANGLED PARKING IS PERMITTED.
J. ONE-WAY AISLES SHALL BE AT LEAST TWELVE (12) FEET WIDE. TWO-WAY AISLES SHALL BE AT LEAST TWENTY (20) FEET WIDE.
K. LIGHT FIXTURES IN AND ADJACENT TO PARKING AREAS SHALL BE THOSE APPROVED BY THE INTERNATIONAL DARK-SKY ASSOCIATION (IDA). LAMPS SHALL HAVE A MAXIMUM OF 250 WATTS.
(ORD. DATED 5-16-17)

DEVELOPMENT NOTES:

18.16.020 USE CODE DESCRIPTIONS. THE FOLLOWING DESCRIPTIONS ARE INTENDED TO ASSIST THE ZONING ENFORCEMENT OFFICER IN APPLYING THE USE CODE TABLE IN 18.16.010 BY ILLUSTRATING THE RANGE OF SPECIFIC USES COVERED BY EACH USE CODE. THE DESCRIPTIONS ARE NOT INTENDED TO BE EXCLUSIVE. SPECIFIC DIMENSIONAL REQUIREMENTS FOR SOME USES ARE CONTAINED IN CHAPTER 18.20, DIMENSIONAL REGULATIONS, AND IN CHAPTER 18.36, SPECIAL REGULATIONS.

212 *HORTICULTURE.* INCLUDES GROWING OF VEGETABLES, GRAIN, HAY, FRUIT, TURF, TREES, FLOWERS, HERBS, MUSHROOMS, AND ORNAMENTAL PLANTS.

214 *INDOOR HORTICULTURE.* INCLUDES COMMERCIAL CULTIVATION OF PLANTS, INCLUDING BUT NOT LIMITED TO VEGETABLES, FRUIT, FLOWERS, HERBS, MUSHROOMS, ORNAMENTAL PLANTS, AND MEDICAL MARIJUANA, IN A FULLY-ENCLOSED PERMANENT STRUCTURE, AND PROCESSING AND/OR PACKAGING REQUIRED BY LAW TO TAKE PLACE ON THE SAME SITE AS THE CULTIVATION, AS AN ACCESSORY USE TO THE CULTIVATION OF A MEDICAL MARIJUANA CULTIVATION OPERATED BY A COMPASSION CENTER THAT IS NOT LOCATED ON THE SAME LOT AS THE COMPASSION CENTER SHALL BE CONSIDERED A PRINCIPAL USE AND IS INCLUDED IN THIS USE CODE.
(ORD. DATED 1-2-18)

MAJOR LAND DEVELOPMENT PROJECT - A LAND DEVELOPMENT PROJECT THAT CONSISTS OF MORE THAN FIVE DWELLING UNITS, OR INCLUDES NON-RESIDENTIAL DEVELOPMENT, OR A LAND DEVELOPMENT PROJECT FOR WHICH THE APPLICANT REQUESTS WAIVER OF ANY OF THESE REGULATIONS.
(ADOPTED 9/9/03, AMENDED 10/27/15, AMENDED 4/25/17)

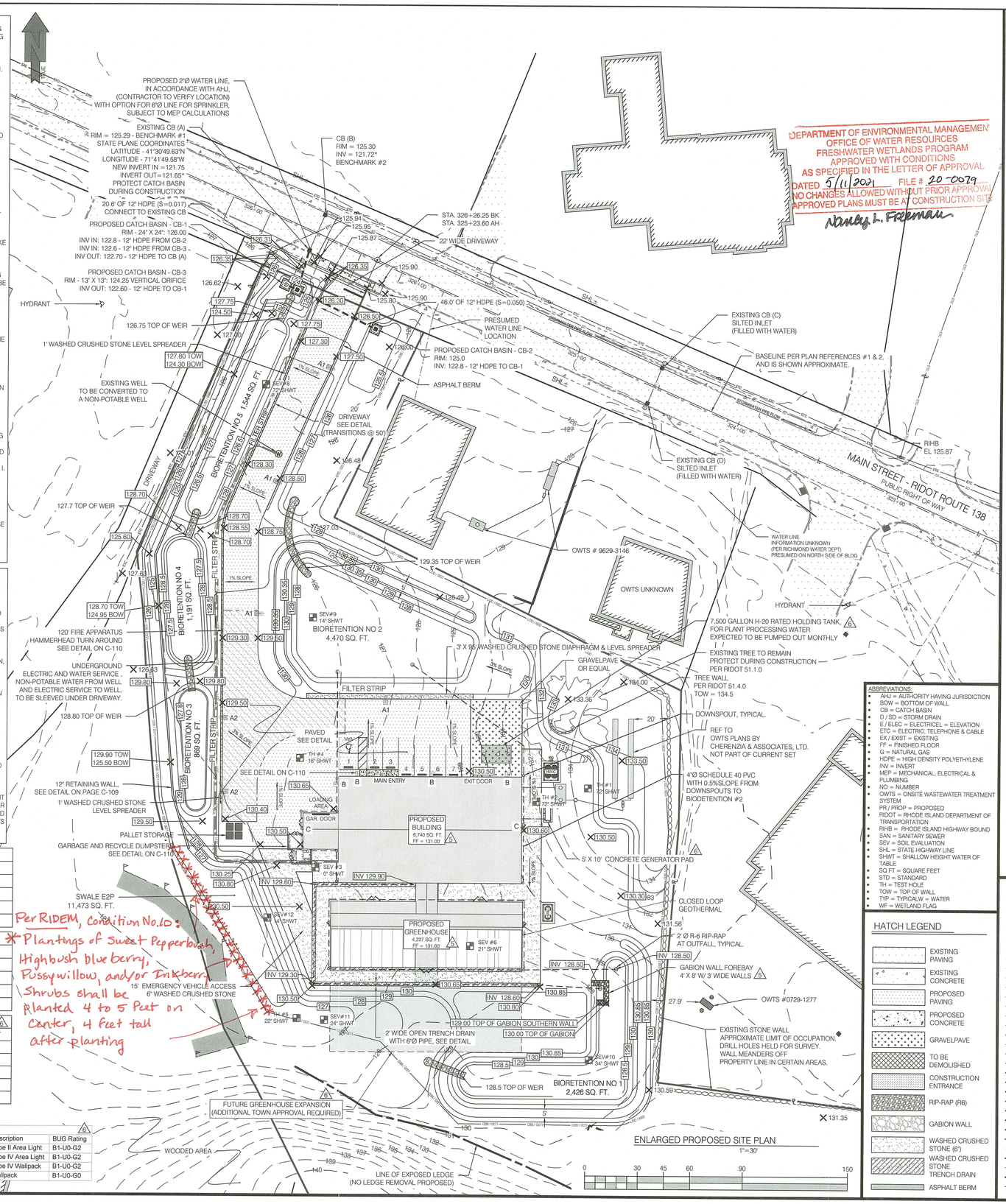
IMPERVIOUS COVERAGE – INITIAL SUBMISSION		
LOT SIZE	160,435	SQ. FT.
PROPOSED GREENHOUSE	4,728	SQ. FT.
PROPOSED PROCESSING BUILDING	3,000	SQ. FT.
DRIVEWAY & PARKING	15,147	SQ. FT.
IMPERVIOUS COVERAGE	14.3%	

IMPERVIOUS COVERAGE – CURRENT SUBMISSION		
LOT SIZE	160,435	SQ. FT.
PROPOSED GREENHOUSE	4,237	SQ. FT.
PROPOSED PROCESSING BUILDING	6,740	SQ. FT.
DRIVEWAY & PARKING	13,995	SQ. FT.
IMPERVIOUS COVERAGE	15.6%	

DEVELOPED LOT PERCENTAGES	SQUARE FEET	PERCENT
AREA	69,978	43.6%
OUTSIDE OF LOD	58,044	36.2%
GRASS - INSIDE LOD	24,972	15.6%
BUILDING – PAVING – WALL – CONCRETE	7,441	4.6%
GRAVEL	160,435	100%
TOTAL		

Luminaire Schedule

Symbol	Tag	Qty	Label	Arrangement	LLF	Description	BUG Rating
	A1	4	ALED2T50Y	SINGLE	1.000	Type II Area Light	B1-U0-G2
	A2	2	ALED4T50Y	SINGLE	1.000	Type IV Area Light	B1-U0-G2
	B	4	WPLED4T50FXY	SINGLE	1.000	Type IV Wallpack	B1-U0-G2
	C	2	SLIM12YD10	SINGLE	1.000	Wallpack	B1-U0-G0



ENLARGED PROPOSED SITE PLAN
1"=30'
0 30 45 60 90 150

ABBREVIATIONS:
- AHJ = AUTHORITY HAVING JURISDICTION
- BOW = BOTTOM OF WALL
- CB = CATCH BASIN
- D / SD = STORM DRAIN
- E / ELEC = ELECTRICEL = ELEVATION
- ETC = ELECTRIC, TELEPHONE & CABLE
- EX / EXIST = EXISTING
- FF = FINISHED FLOOR
- G = NATURAL GAS
- HDPE = HIGH DENSITY POLYETHYLENE
- INV = INVERT
- MEP = MECHANICAL, ELECTRICAL & PLUMBING
- NO = NUMBER
- OWTS = ONSITE WASTEWATER TREATMENT SYSTEM
- PR / PROP = PROPOSED
- RIDOT = RHODE ISLAND DEPARTMENT OF TRANSPORTATION
- RIHB = RHODE ISLAND HIGHWAY BOUND
- SAN = SANITARY SEWER
- SEV = SOIL EVALUATION
- SHL = STATE HIGHWAY LINE
- SHWT = SHALLOW HEIGHT WATER OF TABLE
- SQ FT = SQUARE FEET
- STD = STANDARD
- TH = TEST HOLE
- TOW = TOP OF WALL
- TYP = TYPICALW = WATER
- WF = WETLAND FLAG

HATCH LEGEND

EXISTING PAVING
EXISTING CONCRETE
PROPOSED PAVING
PROPOSED CONCRETE
GRAVELPAVE
TO BE DEMOLISHED
CONSTRUCTION ENTRANCE
RIP-RAP (R6)
GABION WALL
WASHED CRUSHED STONE (6")
WASHED CRUSHED STONE TRENCH DRAIN
ASPHALT BERM

GENERAL RESIDENTIAL OR LIGHT COMMERCIAL SITE CONSTRUCTION NOTES:

1. SOIL EVALUATIONS BE PERFORMED FOR ANY BASEMENTS OR SUBSURFACE AREAS, AND FOR STORMWATER MITIGATION DESIGN.
2. STORM WATER MITIGATION FOR WATER QUALITY (1") BE INSTALLED IN THE FORM OF SWALES OR SIMILAR, ALONG WITH GUTTERS, LEADERS, AND DOWNSPOUTS TO SYSTEM REFER TO RI SINGLE FAMILY STORM-WATER MANUAL. HTTP://WWW.DEM.RI.GOV/PROGRAMS/BENVIRON/WATER/PERMITS/RIPDES/STWATER/PDFS/SWSINFAM.PDF
3. GRADING SHALL BE UNDERTAKEN AS DIRECTED ON PLAN. SLOPES SHALL NOT EXCEED 3:1 UNLESS NOTED OTHERWISE.
4. ALL WALLS, OR REVETMENTS TO HAVE APPROPRIATE BACKFILL AND DRAINAGE BEHIND. WALLS OVER 3' MAY REQUIRE DESIGN BY AN RI PROFESSIONAL ENGINEER.
5. CARE SHALL BE TAKEN TO DIRECT DRAINAGE AWAY FROM STRUCTURE AND ABUTTERS.
6. ALL PROPOSED UTILITIES TO CONFORM TO LOCAL CODE INSTALLATION REQUIREMENTS.
7. ALL FILL SHALL BE FREE OF ORGANICS, DEBRIS, STONES GREATER THAN 6" AND WELL BE COMPACTED IN 8" LIFTS AND TO BE 95% MODIFIED PROCTOR COMPACTION.
8. ALL WORK SHALL BE DONE IN SUBSTANTIAL CONFORMANCE WITH RI CONSUMER PROTECTION CONSTRUCTION STANDARDS. REF TO SECTION 1 AND SECTION TO FOR SITE AND GRADING STANDARDS. HTTP://WWW.CRB.RI.GOV/DOCUMENTS/CONSTRUCTION-STANDARDS.PDF

WETLAND DELINEATION:
WETLAND DELINEATION BY BRANDON FANEUF, LICENSE NUMBER D4059, ECOSYSTEM SOLUTIONS, INC.
PERFORMED - 01/10/2020

BENCHMARK NOTE:
NEI WILL ALWAYS PROVIDE A MINIMUM OF TWO SITE BENCHMARKS. CONTRACTOR TO VERIFY ALL BENCHMARKS EXIST PRIOR TO CONSTRUCTION. ELEVATIONS OF ALL BENCHMARKS TO BE SHOT IN FIELD (WITH SUITABLE EQUIPMENT) AND DIFFERENTIAL TO BE VERIFIED, IF VERTICAL DIFFERENTIAL EXCEEDS 0.05' IT SHALL BE IMMEDIATELY REPORTED TO NEI. DIFFERENTIAL IN EXCESS OF 0.05' INDICATES THAT BENCHMARKS MAY HAVE BEEN DISTURBED AND ARE NOT SUITABLE FOR USE.

LANDSCAPING, LIGHTING AND ASSOCIATED ELEMENTS:
1. THESE ITEMS ARE NOT INCLUSIVE, BUT WILL BE PART OF MUNICIPAL DEVELOPMENT PLAN REVIEW APPLICATION.

18.20.010 – TABLE of DIMENSIONAL REGULATIONS

Zoning District	Use	Lot size (in acres equal to 43,560 sf)	Lot frontage (feet)	Front yard depth (feet)	Rear yard depth (feet)	Side yard depth (feet)	Maximum l covera
GB	Permitted uses	1	150	20	50	35	25%

18.20.010 – TABLE of DIMENSIONAL REGULATIONS (Part 2)

Zoning District	Use	Maximum height of main structure (feet)	Maximum height of accessory structure (feet)	Side and rear yard depth accessory structure (feet)	Maximum ground floor area - retail uses only (square feet)	Maximum height and number of stories - retail uses only (feet, stories)	Notes

Use Code	Use Description	R-3	R-2	R-1	Neigh. Bus.	Gen. Bus.	Lt. Ind.	Ind.	PD	PUD-VC	Flex Tech	SV	Agr. OL	Aqu. OL	Notes
20	**AGRICULTURAL**														
212	Horticulture	P	P	P	P	P	P	P	P	P	P	P	U		See RIGL § 45-24-37
214	Indoor horticulture	P	P	P	P	P	P	P	P	P	P	P	U		See § 18.54.020

LOT COVERAGE - PROPOSED		
LOT SIZE	160,435	SQ. FT.
PROPOSED GREENHOUSE	4,237	SQ. FT.
PROPOSED PROCESSING BUILDING	6,740	SQ. FT.
TOTAL PROPOSED BUILDINGS	10,977	SQ. FT.
PROPOSED COVERAGE	6.8%	<25% MAXIMUM COVERAGE

NOTES REGARDING CONFORMANCE WITH MANUAL:

-NO TREES OR PLANTINGS ARE PROPOSED IN STATE ROW. ALL LANDSCAPE DESIGN ELEMENTS SHOWN ON THE PLAN ARE SCHEMATIC AS RELATED TO SITE CLEARING AND DRAINAGE DESIGN. PLANS SHALL BE PROVIDED BY AN RI LANDSCAPE ARCHITECT FOR MUNICIPAL PERMITTING.

-AS PER 4.7.F - WORK WITHIN STATE ROW IS LESS THAN 25,000.

-OWNER / CONTRACTOR TO REFER TO SECTION 4.8 INSURANCE REQUIREMENTS OF THE DOT PAPA MANUAL FOR INSURANCE REQUIREMENTS PRIOR TO CONSTRUCTION.
AND SECTION 4.7FOR BOND REQUIREMENTS

... E. THE APPLICANT, IN THE CASE OF COMMERCIAL APPLICATIONS, IS REQUIRED TO SUBMIT DETAILED COMPUTATIONS AND SITE-GRADING PLANS FOR DRAINAGE CONDITIONS EXISTING AND PROPOSED WHEN APPLYING FOR A PERMIT. THESE COMPUTATIONS SHOULD BE MADE CONSIDERING A STORM OF TWENTY-FIVE (25) - YEAR FREQUENCY WITH A DURATION EQUAL TO THE TIME OF CONCENTRATION. THESE COMPUTATIONS AND PLANS SHALL BE APPROVED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER. IF STORM DRAINAGE WILL NOT AFFECT THE STATE HIGHWAY DRAINAGE SYSTEM, A STATEMENT OF NO IMPACT SHOULD BE SUBMITTED WITH A APPLICATION APPROVED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER, OR A RHODE ISLAND REGISTERED LAND SURVEYOR WHEN THE PROPERTY IN QUESTION IS GRADED AWAY FROM THE STATE HIGHWAY DRAINAGE SYSTEM. F. DRAINAGE APPURTENANCES - ALL FACILITIES, PIPES, DRAINS, CATCH BASINS, MANHOLES AND OTHER APPURTENANCES WILL BE AS INDICATED IN "RHODE ISLAND DEPARTMENT OF TRANSPORTATION, STANDARD DETAILS." G. THE APPLICANT SHALL BE RESPONSIBLE TO SHOW NO INCREASE TO PEAK FLOW AND TOTAL VOLUME OF RUN OFF FROM EXISTING CONDITIONS ENTERING THE STATE HIGHWAY DRAINAGE SYSTEM IN A TWENTY-FIVE (25) YEAR STORM, UNLESS IN THE CASE OF TOTAL VOLUME THE APPLICANT CAN DEMONSTRATE UNCONDITIONALLY THAT THERE WILL BE NO IMPACT TO THE RECEIVING [WATER] BODY(IES). IN ADDITION, IF A CONNECTION TO THE STATE DRAINAGE SYSTEM IS PROPOSED, THE APPLICANT SHALL ADDRESS WATER QUALITY IMPACTS THROUGH INCORPORATION OF STRUCTURAL STORMWATER TREATMENT PRACTICES AND THROUGH THE USE OF BEST MANAGEMENT PRACTICES (BMPS). DESIGN AND CONSTRUCTION OF ALL STORMWATER MITIGATION SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S "STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL"
THE DESIGNER, BEING AN RI REGISTERED PE POSITS THAT ALL DRAINAGE DESIGN ELEMENTS CONFORM OR EXCEED THESE RIDOT PAP MANUAL REQUIREMENTS, INCLUDING 25 YEAR STORM MITIGATION AND WATER QUALITY REQUIREMENTS, INCLUDING THE PROPOSED CONNECTION TO THE STATE DRAINAGE SYSTEM AND REQUISITE TREATMENT PRACTICES PER RISDISM.

EDGE CLEARANCE DISTANCES EXCEED MINIMUM REQUIREMENTS PER MANUAL (20, RURAL COMMERCIAL) DRIVEWAY WIDTH DOES NOT EXCEED STATE MAXIMUM (20' - TWO WAY, COMMERCIAL)

REFER RIDOT PAPA MANUAL IN CASE OF ANY OMISSIONS OR ERRORS:
HTTP://WWW.DOT.RI.GOV/DOCUMENTS/DOINGBUSINESS/PERMITS/PAPA_MANUAL.PDF

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

Environmental Management DEC 2 2 2020 Office of Water Resources

LEGEND

BRUSH LINE (APPROXIMATE)
100.00' DIMENSION - EXISTING
100.00' (D) DIMENSION - PLAN / DEED
100.00' DIMENSION - PROPOSED
100.00' (S) DIMENSION - SURVEY
EDGE OF PAVEMENT - EXISTING
EDGE OF PAVEMENT - PROPOSED
OHE ELECTRIC - OVERHEAD (OHE)
ETC ELECTRIC - TELEPHONE - CABLE (ETC)
UGE ELECTRIC - UNDERGROUND (UGE)
FENCE - METAL
FENCE - WOOD
FLOW ARROWS
GAS GAS (G)
109.00 GRADE CONTOUR - EXISTING
109.00 GRADE CONTOUR - PROPOSED
HVF HIGH VISIBILITY FENCE (HVF)
LOD LIMIT OF DISTURBANCE (LOD)
LOD / SED LOD / SED
PROPERTY LINE - ABUTTING
PROPERTY LINE - EXISTING
PROPERTY LINE - PROPOSED
SAN SANITARY SEWER (S)
SED SEDIMENT CONTROL (SED)
SETBACKS
STONE WALL
SD STORM DRAIN (SD)
SUBDIVISION LINE - EXISTING
W WATER
WETLAND LIMIT

CATCH BASIN
DRILL HOLE
ELECTRIC BOX (ETC)
FIRE HYDRANT
GATE VALVE
GRANITE BOUND, EXISTING
LOW WATER LINE
LIMIT OF DISTURBANCE MARKER
MH MANHOLE (MH:TYPE)
REBAR / STEEL PIPE FOUND
SPIKE
X 5.10 SPOT GRADE - EXISTING
X 6.6 SPOT GRADE - PROPOSED
STRUCTURE, EXISTING
STRUCTURE, PROPOSED
MONUMENT TO BE SET SURVEY MONUMENT TO BE SET
MARKER TO BE SET SURVEY MARKER TO BE SET
TH # TEST HOLE / SOIL EVALUATION
TREE
UTILITY POLE
WSO WATER SHUT OFF
WETLAND FLAG LOCATION
TOW = TOP OF WALL
BOW = BOTTOM OF WALL

Per RIDEM, Condition No. 10:
* Plantings of Sweet Pepperbush, Highbush blueberry, Pussywillow, and/or Inkberry Shrubs shall be planted 4 to 5 feet on center, 4 feet tall after planting

Narragansett Engineering Inc.
nei-cds.com
Civil · Survey · Structural · Environmental · Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET 5 OF 12 — C-104

SHEET TITLE
ENLARGED PROPOSED SITE PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS No. 13474 REGISTERED PROFESSIONAL ENGINEER CIVIL
11/13/20

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
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PURPOSE:
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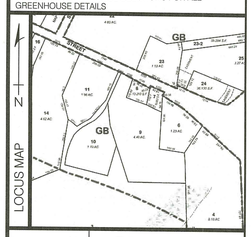
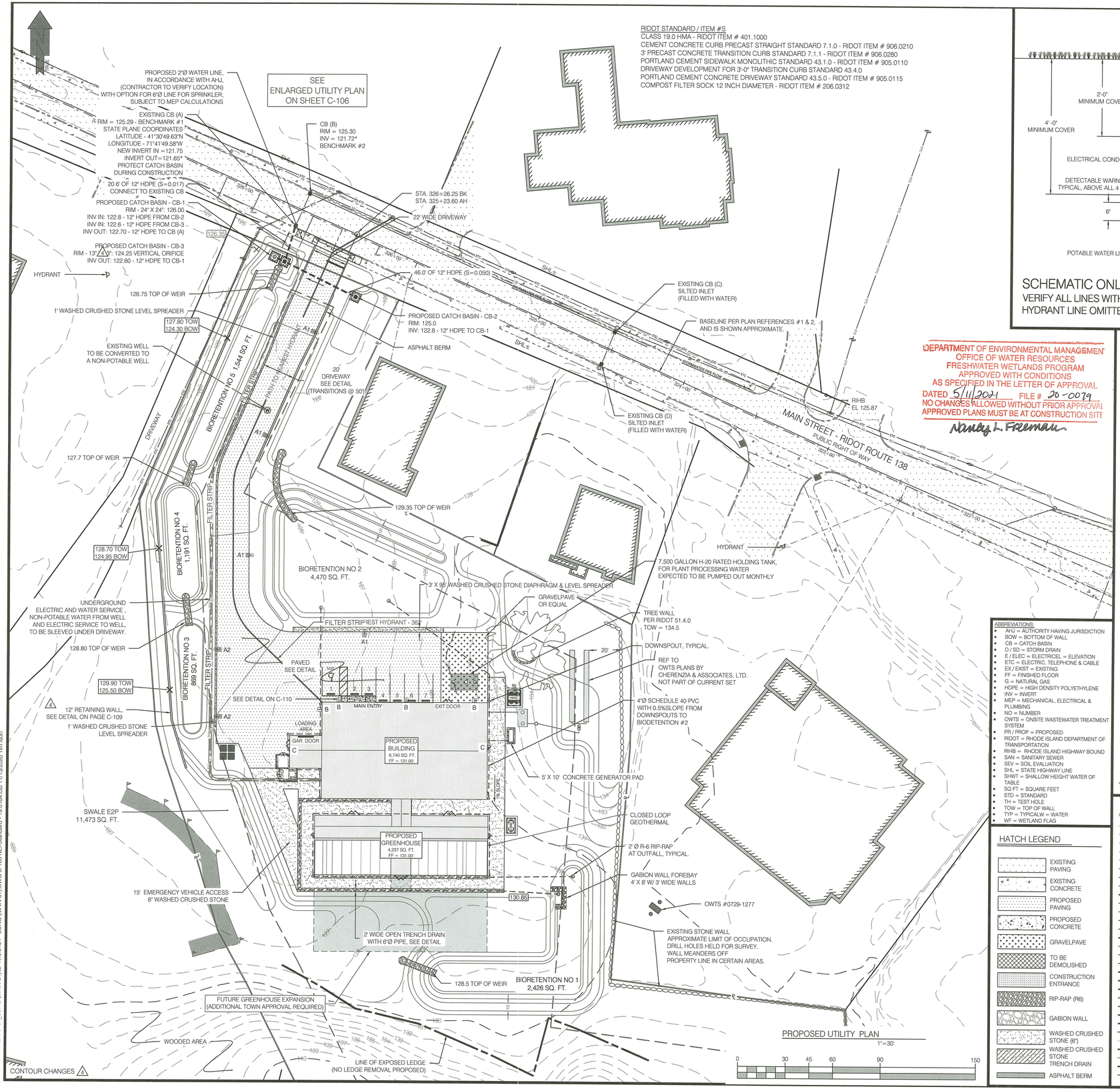
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

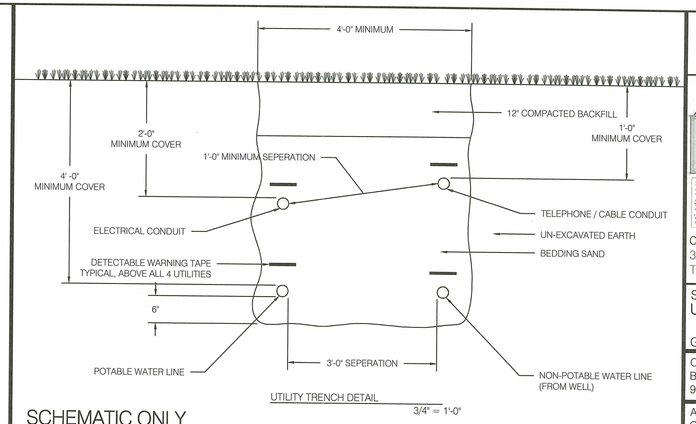


SCALE 1" = 30' — C-104

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-11\19.0184 - LONG (MAIN ST).DWG C-104 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison



RIDOT STANDARD / ITEM #S
CLASS 19.0 HMA - RIDOT ITEM # 401.1000
CEMENT CONCRETE CURB PRECAST STRAIGHT STANDARD 7.1.0 - RIDOT ITEM # 906.0210
3' PRECAST CONCRETE TRANSITION CURB STANDARD 7.1.1 - RIDOT ITEM # 906.0280
PORTLAND CEMENT SIDEWALK MONOLITHIC STANDARD 43.1.0 - RIDOT ITEM # 905.0110
DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB STANDARD 43.4.0
PORTLAND CEMENT CONCRETE DRIVEWAY STANDARD 43.5.0 - RIDOT ITEM # 905.0115
COMPOST FILTER SOCK 12 INCH DIAMETER - RIDOT ITEM # 206.0312



UTILITY TRENCH DETAIL
3/4" = 1'-0"

SCHEMATIC ONLY
VERIFY ALL LINES WITH AHJ PRIOR CONSTRUCTION
HYDRANT LINE OMITTED - MAY BE REQUIRED

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/4/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

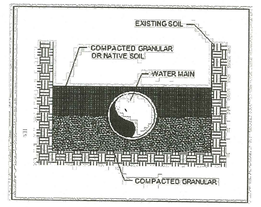


Fig. 4-1 – AWWA TYPE 5 TRENCH

400.1.4 Trench Excavation and Backfill: Water mains and services shall be installed with a minimum cover of 4'-6" to the crown of the pipe in an AWWA "Type 5 Trench" (See Fig. 4-1). Where unsuitable material is found at or below the grade of the placement of the pipe or fitting, said material shall be removed to the required width and depth and replaced with thoroughly compacted bank run or processed gravel. Material shall be deposited across the full width and length of the trench in layers of not more than twelve (12) inches in depth, *before* compaction. Each layer shall be compacted to 95% Standard Proctor to a minimum depth of the street subgrade.

Temporary and permanent pavement shall be installed over the freshly backfilled trench in an existing street or sidewalk using hot bituminous concrete. Pavement installation shall be installed in accordance with applicable State and Local Municipal standards and requirements.

A Providence Water guidance document

4-1

Environmental Management
DEC 22 2020
Office of Water Resources

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- SQ FT = SQUARE FEET
- STD = STANDARD
- TH = TEST HOLE
- TOW = TOP OF WALL
- TYP = TYPICALW = WATER
- WF = WETLAND FLAG

HATCH LEGEND
- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- GRAVELPAVE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
- GABION WALL
- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

LEGEND
- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 105.00 GRADE CONTOUR - EXISTING
- 100.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
- SAN SANITARY SEWER (S)
- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
- SD STORM DRAIN (SD)
- SUBDIVISION LINE - EXISTING
- W WATER
- WETLAND LIMIT
- CATCH BASIN
- DRILL HOLE
- ELECTRIC BOX (ETC)
- FIRE HYDRANT
- GATE VALVE
- GRANITE BOUND, EXISTING
- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
- MANHOLE (MH:TYPE)
- REBAR / STEEL PIPE FOUND
- SPIKE
- X 5.10 SPOT GRADE - EXISTING
- X 6.6 SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
- MONUMENT TO BE SET
- SURVEY MONUMENT TO BE SET
- MARKERS TO BE SET
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- TH # TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

SHEET 6 OF 12 — C-105

NEI Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
UTILITY PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

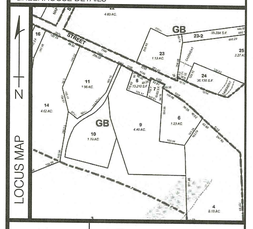
No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

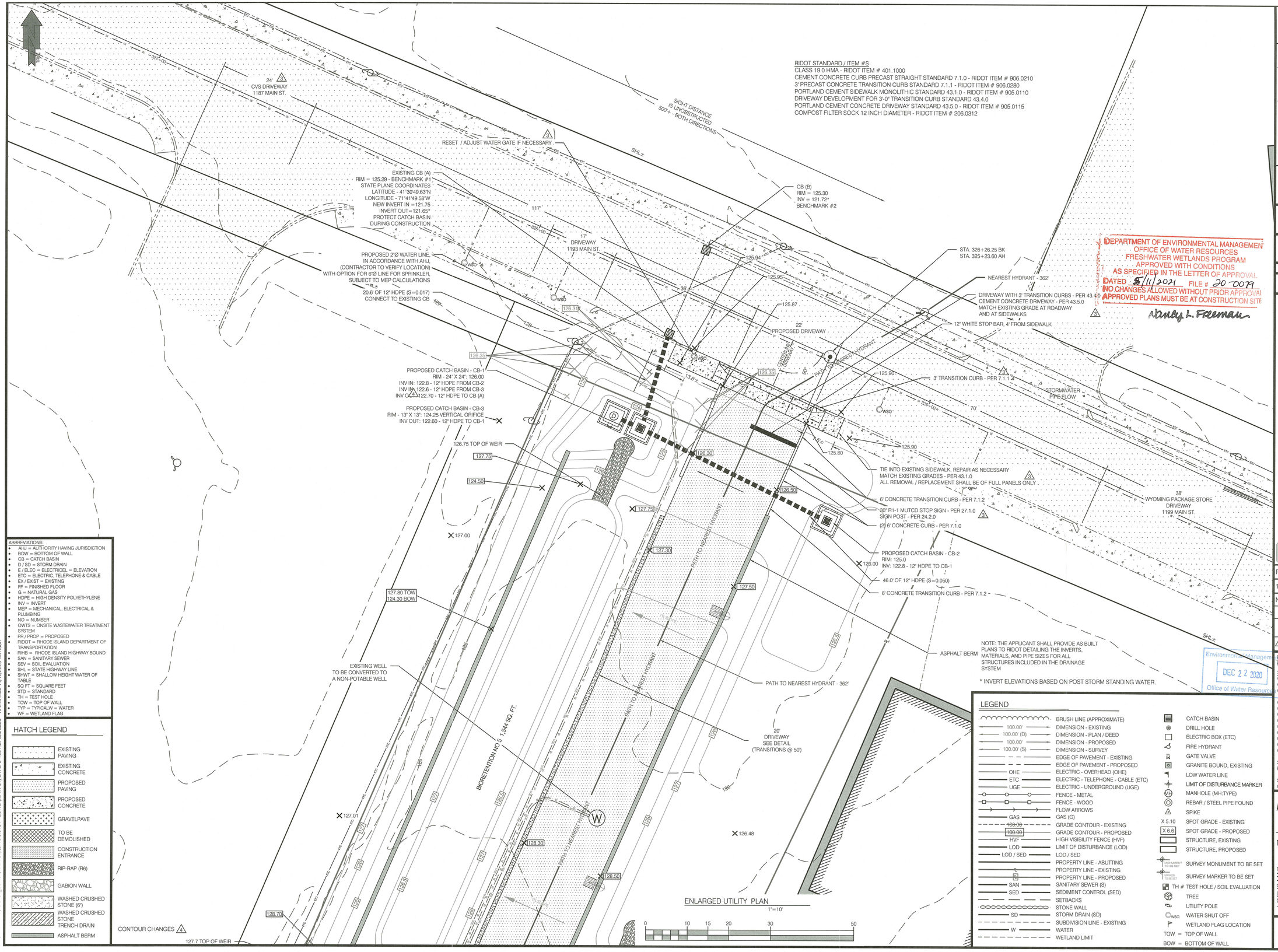
SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS



SCALE 1" = 30'

C-105

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-119.0184 - LONG (MAIN ST).DWG C-105 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison



ABBREVIATIONS:
- AHJ = AUTHORITY HAVING JURISDICTION
- BOW = BOTTOM OF WALL
- CB = CATCH BASIN
- D / SD = STORM DRAIN
- E / ELEC = ELECTRICEL = ELEVATION
- ETC = ELECTRIC, TELEPHONE & CABLE
- EX / EXIST = EXISTING
- FF = FINISHED FLOOR
- G = NATURAL GAS
- HDPE = HIGH DENSITY POLYETHYLENE
- INV = INVERT
- MEP = MECHANICAL, ELECTRICAL & PLUMBING
- NO = NUMBER
- OWTS = ONSITE WASTEWATER TREATMENT SYSTEM
- PR / PROP = PROPOSED
- RIDOT = RHODE ISLAND DEPARTMENT OF TRANSPORTATION
- RIHB = RHODE ISLAND HIGHWAY BOUND
- SAN = SANITARY SEWER
- SEV = SOIL EVALUATION
- SHL = STATE HIGHWAY LINE
- SHWT = SHALLOW HEIGHT WATER OF TABLE
- SQ FT = SQUARE FEET
- STD = STANDARD
- TH = TEST HOLE
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- GATE VALVE
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- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
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3102 East Main Road, Portsmouth RI 02871
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SHEET 7 OF 12 — C-106

SHEET TITLE
UTILITY PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
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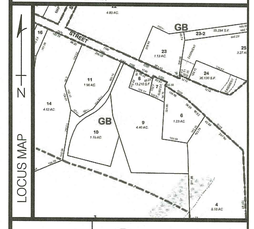
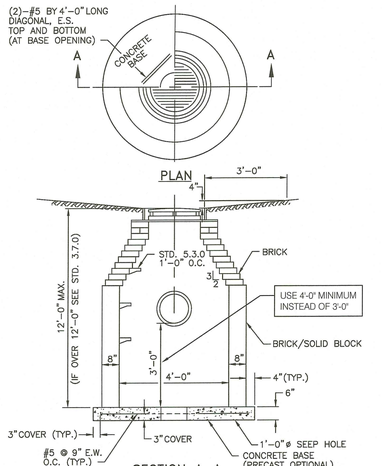


SCALE 1" = 10' — C-106

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-119.0184 - LONG (MAIN ST).DWG C-106 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison



SECTION A–A

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. 1/2" CEMENT MORTAR PLASTER COAT REQUIRED ON ALL INSIDE AND OUTSIDE SURFACES.
3. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

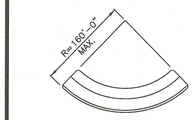
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

BRICK/SOLID BLOCK TYPE "R" CATCH BASIN

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 3.4.3



CIRCULAR CURB

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'-0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'-0" RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

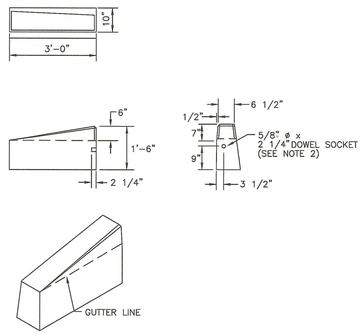
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

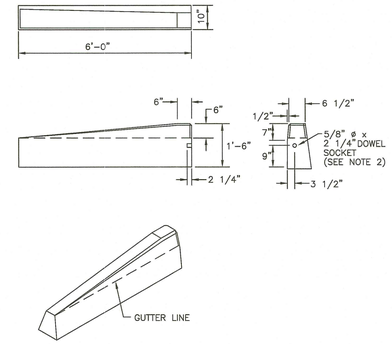
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05
2	MLP	08/01/10

3'–0" PRECAST CONCRETE TRANSITION CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.1.1



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

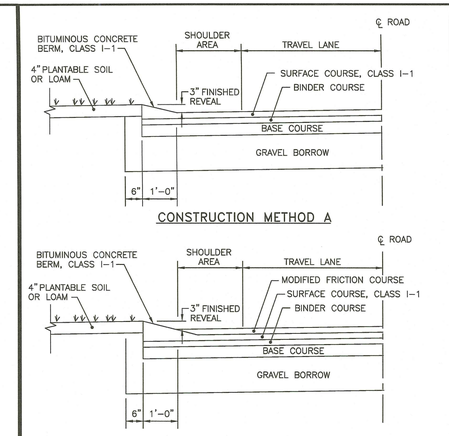
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

6'–0" PRECAST CONCRETE TRANSITION CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.1.2



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

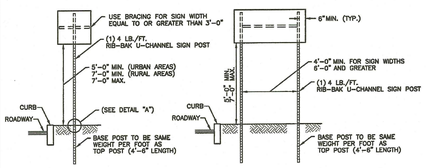
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

BITUMINOUS BERM

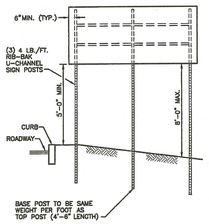
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.5.1

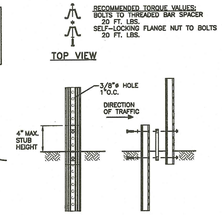


SIGNS UP TO 12 SQ. FT.

SIGNS UP TO 28 SQ. FT.



SIGNS UP TO 40 SQ. FT.



INSTALLATION PROCEDURE:
1. REMOVE A SPADE FULL OF SOIL (APPROXIMATELY 2" DEEP) FROM WHERE THE BASE POST WILL BE LOCATED.
2. DRIVE THE BASE POST IN THE CENTER OF THE HOLE JUST CREATED, TO WITHIN 4" OF GRADE LEVEL.
3. PLACE ONE BOLT AND FLAT WASHER IN THE TOP HOLE OF THE BASE POST. (IF THE TOP HOLE ON THE BASE POST, OR THE BOTTOM HOLE ON THE TOP POST IS LESS THAN 3/4" FROM END OF THE POST USE THE SECOND AND SIXTH HOLES.) WITH THE THREADED BAR SPACER ALIGNED WITH TOP HOLE ON THE BACK SIDE OF THE BASE POST, SECURELY TIGHTEN THE BOLT TO 20 FT. LBS. OF TORQUE. REPEAT THIS PROCESS FOR THE LOWER BOLT.
4. NEST THE TOP POST OVER THE PROTRUDING BOLTS ON THE BASE POST. PLACE A SELF-LOCKING FLANGE NUT ON EACH BOLT AND TIGHTEN SECURELY TO 20 FT. LBS. OF TORQUE.
5. REPLACE SOIL REMOVED IN STEP 1.
6. IN TRIPLE POST INSTALLATIONS USING 4 LB./FT. POSTS IN WEAK SOIL, A 1'-0"W x 6"H SOIL PLATE IS REQUIRED.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE SILVER ANODIZED BAR SPACER IS FOR USE WITH 2, 2.5 AND 2.75 LB./FT. RIB-BAK POST GRADE SP–80 ONLY.
3. THE GOLD ANODIZED BAR SPACER IS FOR USE WITH 3 AND 4 LB./FT. RIB-BAK POST GRADE SP–80 ONLY.
4. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.
5. FOR SIGNS GREATER THAN 40 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.0, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

SIGN POST SELECTION AND INSTALLATION DETAILS U–CHANNEL POST (SIGNS UP TO 8'–0"Wx4'–0"H)

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 24.2.0

SIGN NUMBER		⊗ R1-1	⊗ R1-2	R2-1	R2-4a	R2-5a
LEGEND		STOP	RED WHITE YIELD WHITE	SPEED LIMT 00	STOP HERE ON RED 00	SPEED ZONE AHEAD
COLOR	BACKGROUND	RED	WHITE	RED	WHITE	WHITE
	COPY	WHITE	RED	WHITE	BLACK	BLACK
SIGN DIMENSION	WIDTH	24" 30" 36" 48"	36" 48" 60"	24" 30" 36" 48"	24" 30" 48"	24" 30" 48"
	HEIGHT	24" 30" 36" 48"	36" 48" 60"	30" 36" 48" 60"	30" 48" 72"	30" 48" 60"

SIGN NUMBER		R3-1	R3-2	R3-3	R3-4	R3-5
LEGEND				NO TURNS		ONLY
COLOR	BACKGROUND	WHITE	WHITE	WHITE	WHITE	YELLOW
	COPY	RED (BLACK ARROW)	RED (BLACK ARROW)	BLACK	RED (BLACK ARROW)	BLACK
SIGN DIMENSION	WIDTH	24"	24"	24"	24"	30"
	HEIGHT	24"	24"	24"	24"	30"

SIGN NUMBER		R3-6	R3-7 (R OR L)	R4-1	R4-2	R4-3
LEGEND			LEFT LANE MUST TURN LEFT	DO NOT PASS	PASS WITH CARE	SLOWER TRAFFIC KEEP RIGHT
COLOR	BACKGROUND	WHITE	WHITE	WHITE	WHITE	WHITE
	COPY	BLACK	BLACK	BLACK	BLACK	BLACK
SIGN DIMENSION	WIDTH	30"	30"	18" 24"	18" 24"	24" 36" 48"
	HEIGHT	30"	48"	24" 30"	24" 30"	48" 60"

SIGN NUMBER		R5-1	R5-1a	R5-6	R6-1a	R6-1b	R6-1 (R OR L)
LEGEND		DO NOT ENTER RED WHITE	WRONG WAY		PEDESTRIANS AND BICYCLES PROHIBITED		ONE WAY
COLOR	BACKGROUND	RED	RED	WHITE	WHITE	WHITE	BLACK–ARROW WHITE
	COPY	WHITE	WHITE	RED (BLACK BICYCLE)	BLACK	BLACK	BLACK
SIGN DIMENSION	WIDTH	30" 36" 48"	36"	24"	30"	18"	36"
	HEIGHT	24" 30" 36"	24"	18"	24"	12"	12"

SIGN NUMBER		R7-1	R7-2	R7-3	R7-4	R7-5
LEGEND		NO PARKING ANY TIME R7-1a	NO PARKING Active or Inactive R7-2a	NO PARKING ANY TIME R7-3a	NO STANDING ANY TIME R7-4a	ONE HOUR PARKING 8AM–6PM R7-5a
COLOR	BACKGROUND	WHITE	WHITE	WHITE	WHITE	WHITE
	COPY	RED	RED	RED	RED	GREEN
SIGN DIMENSION	WIDTH	18"	18"	18"	18"	18"
	HEIGHT	24"	24"	24"	24"	24"

SIGN NUMBER		R8-7	R11-1	R11-2
LEGEND		EMERGENCY STOPPING ONLY	KEEP OFF MEDIAN	ROAD CLOSED
COLOR	BACKGROUND	WHITE	WHITE	WHITE
	COPY	BLACK	BLACK	BLACK
SIGN DIMENSION	WIDTH	20" 48"	24" 36" 48"	48"
	HEIGHT	24" 30"	30" 48" 60"	30"

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. ⊗ DENOTES TYPE 3Z GRADE SHEETING.
3. REGULATORY SIGNS SHALL BE MOUNTED IN ACCORDANCE WITH STD. 29.1.0, 24.2.0 OR 24.3.0.
4. THICKNESS OF ALUMINUM SIGNS PLATES: LESS THAN 10 SQ. FT. = 0.063 IN. 10 SQ. FT. TO 30 SQ. FT. = 0.080 IN. GREATER THAN 30 SQ. FT. = 0.125 IN.
5. FOR ADDITIONAL SIGNS SEE THE M.U.T.C.D.

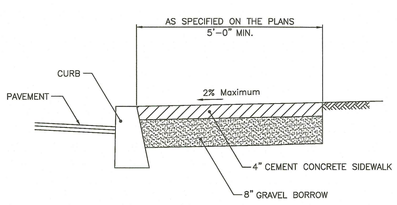
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

REGULATORY SIGNS

CHIEF ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 27.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURBS SETTING DETAIL REFERENCE STD. 7.6.0.
3. MAXIMUM CROSS SLOPE = 2%
4. MAXIMUM GRADIENT = 5%
5. PROVIDE EXPANSION JOINT AT FACE OF ABUTTING SLABS AND STRUCTURES
6. GRAVEL BORROW BASE SHALL COMPACT TO ACHIEVE SOIL DENSITY VALUES OF 95% MODIFIED PROCTOR DENSITY (AASHTO T180)
7. REINFORCE THE CONCRETE SLAB WITH WELDED WIRE FABRIC, 4x4-W4 x W4 IF REQ.
8. PROVIDE CONTROL JOINT $\frac{1}{4}$ TIMES THE DEPTH OF THE SLAB. DISTANCE BETWEEN CONTROL JOINTS TO BE 5' MAXIMUM
9. PROVIDE EXPANSION JOINT WITH PRE-MOLDED FILLER. RECESS FILLER $\frac{1}{2}$" JOINT TO BE INSTALLED AT 20' INTERVALS. PROVIDE EXPANSION JOINT AT FACE OF ABUTTING SLABS AND STRUCTURES.
10. PORTLAND CEMENT CONCRETE SIDEWALK, CLASS A (RIDOT 601.01.1) SHALL BE AN AIR-ENTRAINED 4,000 PSI, $\frac{3}{4}$" MIX.
11. GRAVEL FOR THE SIDEWALK BASE SHALL BE IN ACCORDANCE WITH M.01.09 GRADATION II

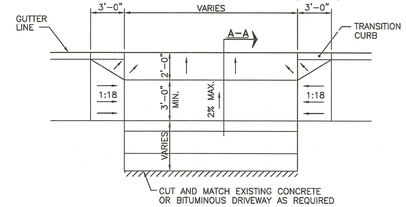
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	3/1/05
2	MLP	06/01/10

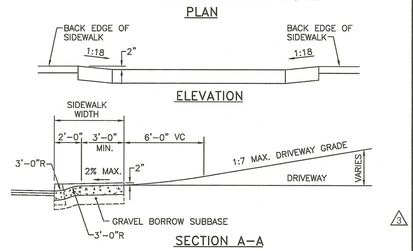
CEMENT CONCRETE SIDEWALK

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.1.0



PLAN



ELEVATION

SECTION A–A

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. WHEN DRIVEWAY IS BELOW BACK EDGE OF SIDEWALK PROFILE, STD. 43.4.1 MUST BE USED.

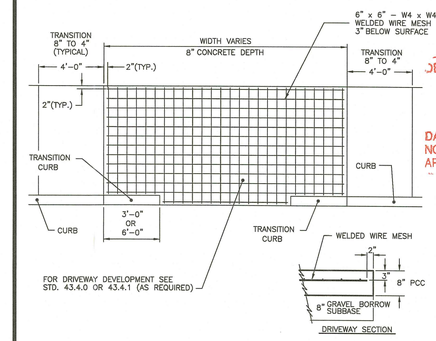
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	3/01/05
2	MLP	6/27/08
3	MLP	6/01/10

DRIVEWAY DEVELOPMENT FOR 3'–0" TRANSITION CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.4.0



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	1/10/05
2	MLP	7/21/06
3	MLP	6/01/10

CEMENT CONCRETE DRIVEWAYS

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.5.0

RIDOT HMA Matrix

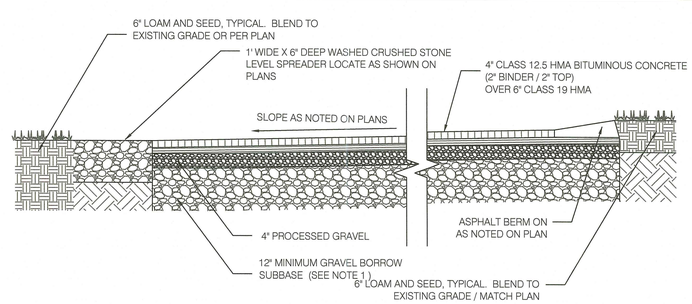
	Class NMAS	Recommended Lift Thickness Inches Min.	Max.	Typical Use
Dense Base Courses	Class 19.0 HMA	3	5	Base or other underlying layers. Preferred mix for lifts greater than or equal to 3"
	Class 12.5 HMA	2	3	Surface, Base or other underlying layers. Patching, Utilities, Waterways
Dense Surface Courses	Class 9.5 HMA	1 1/2	2 1/4	Surface, Bridges, Driveways, Leveling, Patching, Utilities, Waterways, Misc.
	Class 4.75 HMA	3/4	1 1/4	Surface, Surface for Bike Paths, Sidewalks, Leveling, Patching, Utilities, Waterways, Misc.
Special Courses and Other Courses	Friction Course (FC) Friction Course for Shoulders	1 1/2		Limited Access, Interstate Highways, High Speed Facilities
	PPEST	1		Pavement Preservation Overlay
	SMA	Varies		Base and/or Surface

HMA = Hot Mix Asphalt, NMAS = Nominal Maximum Aggregate Size, FC = Friction Course, PPEST = Paver Placed Elastomeric Surface Treatment, SMA = Stone Matrix Asphalt

Notes:
1. "Class" refers to dense HMA courses. "Class" is followed by a number representing the NMAS of the mix in millimeters.
2. Minimum lift thickness may be calculated as 4 times the NMAS. For example: Class 12.5 HMA, 4 x 12.5mm = 50 mm or 2 inches as a lift thickness (this rule excludes special courses). In general, using more lifts will provide for a smoother pavement; the largest NMAS should be used for each lift.
3. Surface course binder shall be modified for all paver placed surface courses unless otherwise designated. Other additives for binder will be specified in the Contract Documents as required, e.g. WMA, anti-stripping.
   a) The term "binder" refers to liquid asphalt.
   b) The term "modified" refers to the polymer modification of binder.

Ver 2.4 07/2019

NOTES:
1. GRAVEL BORROW SUBBASE SHALL CONFORM TO PART 300 AGGREGATE AND GRAVEL BASE AND SUBBASE COURSES, (THREE INCHES LARGEST DIMENSION) OF THE LATEST EDITION OF THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. GRAVEL BORROW SUBBASE SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY THE STANDARD AASHTO TEST DESIGNATION T99, COMPACTION TEST METHOD C AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER.
3. "TAC COAT" AS SPECIFIED IN SECTION 486.61 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED BY "TAC TRUCK" BETWEEN ASPHALT LAYERS OR AS DETERMINED BY THE ENGINEER.
4. SOILS TESTING INCLUDING SIEVE ANALYSIS, PROCTOR TESTING AND COMPACTION TESTING SHALL BE PREFORMED ONCE EVERY 100 FEET OF PAVED ROADWAY ALONG THE CENTERLINE OF THE ROADWAY OR AS DIRECTED BY THE ENGINEER.
5. SIDEWALK RAMPS MUST MEET CURRENT APPLICABLE ADA / AAB STANDARDS.



PAVING DETAIL - TYPICAL PARKING LOT / DRIVEWAY CROSS SECTION

SHEET 8 OF 12 — C-107

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
PROPOSED DETAILS No. 1

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

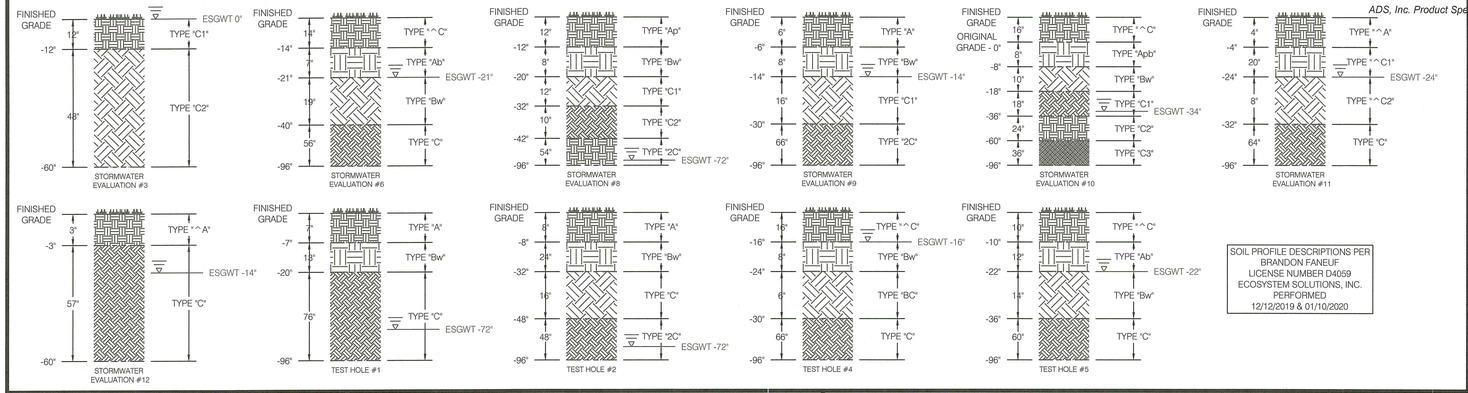
SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

Environmental Management
DEC 22 2020
Office of Water Resources

nei-cds.com

SCALE AS NOTED — C-107

N:\PROJECTS\19.0184_LONG (MAIN ST)\5-1\19.0184 - LONG (MAIN ST).DWG C-107 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison



ADS, Inc. Product Spe

SOIL PROFILE DESCRIPTIONS PER
BRANDON FANEUF
LICENSE NUMBER D4059
ECOSYSTEM SOLUTIONS, INC.
PERFORMED
12/12/2019 & 01/10/2020

Urban Commercial	10	

D. Radius of Curvature of Junction of Driveway and Pavement Rural or Urban (See §§ 4.16(A)(1) through (3) of this Part, Figures 1, 2, 3)

1. Table: Corner Radius

	Minimum Radius of Curvature (ft.)	Maximum Radius of Curvature (ft.)
Residential (Rural or Urban)	2	10
Commercial (Rural or Urban)	5	30

E. Corner Clearance (See Figure 3)

1. Where there are traffic signals at the intersection, the near side edge clearance shall be twice the far side.

2. Table: Corner Clearance

	Minimum Corner Clearance (ft.)
Rural	40
Urban	20

F. Driveway Profile - (See § 4.16(F) of this Part, Figure 4)

1. Figure 4

FIGURE 3

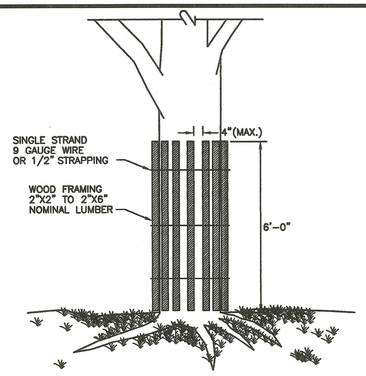
B. Driveway Width, Rural and Urban (See §§ 4.16(A)(1) through (3) of this Part, Figures 1, 2, 3)

1. Table: Driveway Width, Rural and Urban

	Minimum Driveway Width (ft.)	Maximum Driveway Width (ft.)
Residential	10	20
Commercial	-	20 (one-way use) two-way use)

C. Edge Clearance (See §§ 4.16(A)(1) through (2) of this Part, Figures 1, 2) - All portions of the driveway shall be within frontage boundary lines. For driveways with angles of about 90 degrees, the edge clearance shall not be less than the radius of curvature 7) for the junction of the driveway and pavement edges.

3. Table: Edge Clearance



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE STANDARD SPECIFICATIONS.

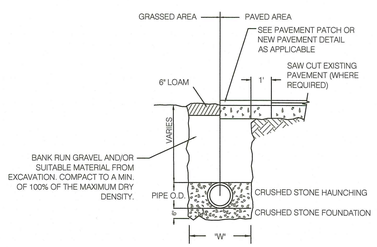
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

TREE PROTECTION DEVICE

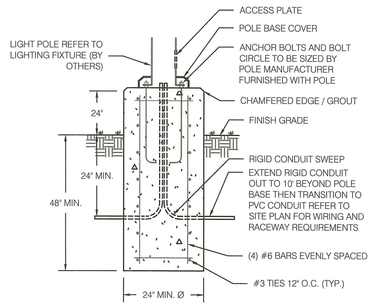
Jason R. Cybulski, CHIEF ENGINEER TRANSPORTATION — Edmund Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 51.1.0



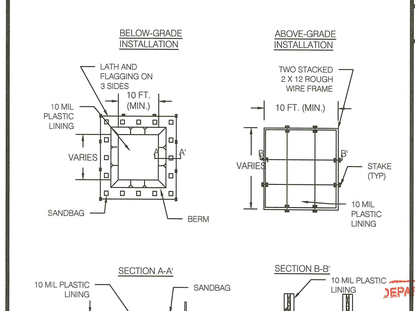
NOTES:
1. WIDTH (W) OF TRENCH IS EQUAL TO THE INSIDE DIAMETER OF THE PIPE PLUS 12".
2. SOIL UNDER CRUSHED STONE FOUNDATION SHALL BE UNDISTURBED AND COMPACTED WITH SEVERAL PASSES OF A VIBRATORY PLATE COMPACTOR.
3. CRUSHED STONE FOUNDATION 3/4" MAXIMUM SIZE, SHALL BE PLACED 6" UNDER THE PIPE AND UP TO THE PIPE GRADE, THE PIPE LAID THEREON, CRUSHED STONE PULLED AGAINST THE PIPE SIDES TO FIRMLY HOLD THE PIPE IN PLACE.
4. CRUSHED STONE HAUNCHING 3/4" MAXIMUM SIZE SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE.

ROOF & STORM DRAIN TRENCH
NOT TO SCALE



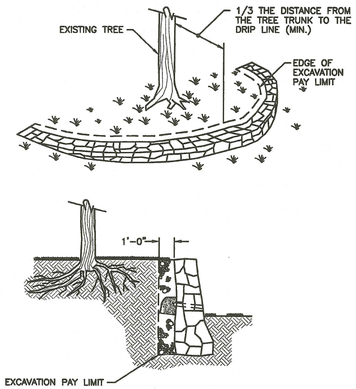
NOTES:
1. BASE DETAIL PROVIDED TO INDICATE GENERAL INTENT OF THE ELECTRICAL INSTALLATION. MODIFY BASE DEPTH AND DIAMETER TO ACCOMMODATE LIGHTING FIXTURE AND SOIL CHARACTERISTICS.
2. COORDINATE ANCHOR BOLT PLACEMENT WITH GENERAL CONTRACTOR. POLE BASE EXCAVATION FORMING, REBAR AND CONCRETE BY G.C.
3. POLE BASE DETAIL FOR INFORMATION ONLY. REFER TO SITE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.

SITE LIGHTING POLE BASE DETAIL
NOT TO SCALE



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. LOCATE A MIN. OF 50 FEET FROM STORM DRAINS, OPEN CHANNELS, WATER BODIES, AND JURISDICTIONAL WETLANDS.
3. SOIL BASE SHALL BE PREPARED FREE OF ROCKS OR OTHER DEBRIS THAT COULD CAUSE A TEAR IN THE LINER.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE AREAS SUCH AS STORM DRAINS, OPEN DITCHES, OR WATER BODIES, INCLUDING ALL JURISDICTIONAL WETLANDS.

CONCRETE WASHOUT STATION



SECTION

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION L.13 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR WALL INSTALLATION DETAILS REFERENCE STD. 10.0.1.
3. PRIOR TO EXCAVATION, THE CONTRACTOR SHALL ROOT PRUNE THE TREE. ALL ROOT PRUNING SHALL BE IN ACCORDANCE WITH SECTION L.10 OF THE R.I. STANDARD SPECIFICATIONS.

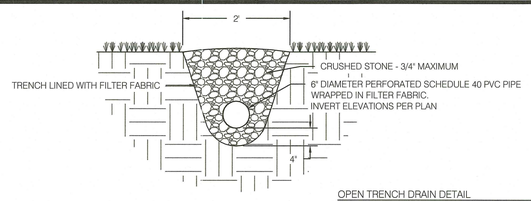
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

TREE WALL

Jason R. Cybulski, CHIEF ENGINEER TRANSPORTATION — Edmund Parker Jr., CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 51.4.0

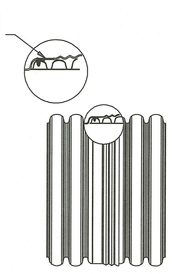


OPEN TRENCH DRAIN DETAIL
3/4" = 1'-0"

ADS, Inc. Product Specifications *Specifications ♦ 1-5*

N-12® WT IB JOINT SYSTEM

(Joint configuration & availability subject to change without notice.)



12"-60" (300-1500mm)

ADS N-12® WT IB PIPE SPECIFICATION

Scope
This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 WT IB pipe for use in gravity flow applications.

Pipe Requirements
N-12 WT IB pipe shall have a smooth interior and annular exterior corrugations.
• 12- through 60-inch (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2306.
• Manning's "n" value for use in design shall be 0.012.

Joint Performance
Pipe shall be joined with the N-12 WT IB joint meeting the requirements of AASHTO M294 or ASTM F2306.

The 4- through 60-inch (100 to 1500 mm) pipe shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

Fittings
Fittings shall conform to AASHTO M294 or ASTM F2306. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

Material Properties
Pipe and fittings shall be made of virgin polyethylene compounds that comply with the cell classification 424420C for 4- through 10-inch (100 to 250mm) diameters, or 435400C for 12- through 60-inch (300 to 1500mm) diameters, as defined and described in ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500mm) virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Section 6.1.1 and 5.1 of AASHTO M294 and ASTM F2306 respectfully.

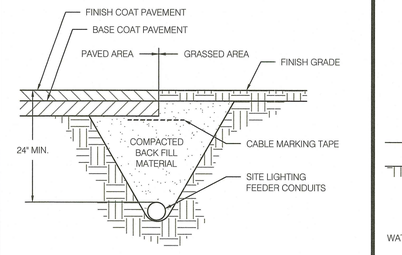
Installation
Installation shall be in accordance with ASTM D2321 and ADS installation guidelines, with the exception that minimum cover in traffic areas for 12- through 48-inch (300 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 foot (0.6 m). Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the installation guidelines.

Pipe Dimensions

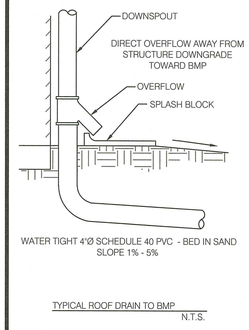
	Nominal Diameter, in (mm)												
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D.* in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (369)	18 (457)	21 (599)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)

*Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ± 1 inch. Contact Applications Engineering for exact values.

© ADS, Inc., March 2006



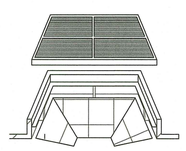
TYPICAL TRENCH/SITE LIGHTING CONDUIT
NOT TO SCALE



WATER TIGHT 4"Ø SCHEDULE 40 PVC - BED IN SAND
SLOPE 1% - 5%

TYPICAL ROOF DRAIN TO BMP
N.T.S.

INTERNAL MANUFACTURED INLET FILTER
N.T.S.



GENERAL NOTES:
1. DETAIL SHOWN IS FOR A TYPICAL APPLICATION, OTHER APPLICATIONS EXIST, AND ARE MANUFACTURED FOR SPECIFIC SIZE AND TYPE OF INLETS.
2. MANUFACTURED TYPES ARE TYPICALLY METAL FRAME AND FILTER BACK, WHILE FABRIC ONLY VERSIONS MAY ALSO BE USED. STRAW BALES PER RI DOT STD DETAIL 9.8.0 MAY BE USED IN GRASSED AREAS.

INSTALLATION:
1. INSTALLATION OF MANUFACTURED INLET FILTERS SHALL BE ACCORDING TO MANUFACTURES RECOMMENDATIONS.

MAINTENANCE:
1. THE OPERATOR MUST CLEAN, OR REMOVE AND REPLACE THE INLET PROTECTION MEASURES AS SEDIMENT ACCUMULATES, THE FILTER BECOMES CLOGGED, AND/OR AS PERFORMANCE IS COMPROMISED. ACCUMULATED SEDIMENT ADJACENT TO THE INLET PROTECTION MEASURES SHOULD BE REMOVED BY THE END OF THE SAME WORK DAY IN WHICH IT IS FOUND OR BY THE END OF THE FOLLOWING WORK DAY IF REMOVAL BY THE SAME WORK DAY IS NOT FEASIBLE.

N:\PROJECTS\19.0184_LONG (MAIN ST)\C-1190184 - LONG (MAIN ST).DWG C-108 NEI Standard - 19.0184.ctb 11/3/2020 Tim Ison

SHEET 9 OF 12 — C-108

NEI Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
PROPOSED DETAILS No 2

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 200029
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
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PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
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C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

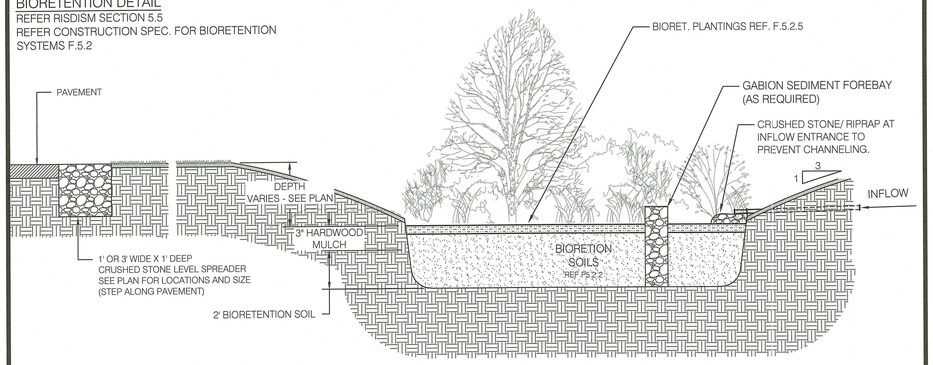
SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

Environmental Management
DEC 22 2020
Office of Water Resources

SCALE AS NOTED — C-108

BIORETENTION DETAIL

REFER RISDISM SECTION 5.5
REFER CONSTRUCTION SPEC. FOR BIORETENTION SYSTEMS F.5.2



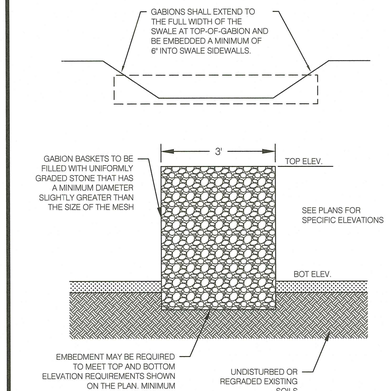
TYPICAL BIORETENTION SECTION

NEI RECOMMENDS CONSULTING WITH A LOCAL LANDSCAPE ARCHITECT FOR EACH SPECIFIC SITE;
PLANT SELECTIONS SHOULD BE BASED OFF REQUISITE CRITERIA IN RI COASTAL PLANT GUIDE.
HTTP://WEB.URI.EDU/CELS/CEOC/COASTALPLANTS/COASTALPLANTGUIDE.HTM

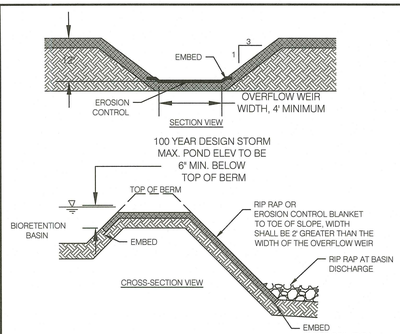
KEY NOTES PER RISDISM REQUIREMENTS:
A dense and vigorous vegetative cover shall be established over the contributing pervious drainage areas before runoff can be accepted into the facility.
- Vegetation is critical to the performance and function of bioretention areas; therefore, a planting plan must be provided that follows the general guidance in Appendix B. The permitting agency may require applicants to retain the services of a qualified professional with the educational background and/or experience to select appropriate plants.

Trees should be planted primarily along the perimeter of the facility.
- A tree density of approximately one tree per 250 ft2 (i.e., 15 ft on-center) is recommended. Shrubs and herbaceous vegetation should generally be planted at higher densities (5-10 ft on-center and 2.5 ft on center, respectively)

5.5.6 Maintenance
Required Elements
- A legally binding and enforceable maintenance agreement shall be executed between the facility owner and the responsible authority to ensure the following:
- Sediment shall be cleaned out of the sediment forebay when it accumulates to a depth of more than ½ the design depth. Vegetation within the sediment forebay shall be limited to a height of 18 inches. The sediment chamber outlet devices shall be cleaned/repaired when drawdown times exceed 36 hours. Trash and debris shall be removed as necessary.
- Silt/sediment shall be removed from the filter bed when the accumulation exceeds one inch. When the filtering capacity of the filter diminishes substantially (i.e., when water ponds on the surface of the filter bed for more than 48 hours), the top few inches of discolored material shall be removed and shall be replaced with fresh material. The removed sediments shall be disposed in an acceptable manner at an approved and permitted location.
- For unique installations in extremely tight sites or redevelopment/infill projects where pretreatment strips have been downsized, enhanced maintenance shall be required through more frequent inspections, more frequent sediment removal, and enhanced landscape maintenance.
- During the six months immediately after construction, filter practices shall be inspected following at least the first two precipitation events of at least 1.0 inch to ensure that the system is functioning properly. Thereafter, inspections shall be conducted on an annual basis and after storm events of greater than or equal the 1-year, 24-hour Type III precipitation event
- See site O&M report for additional information on required O&M practices.



FOREBAY / POND GABION BASKET DIVIDER
NOT TO SCALE



NOTES:
1. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN PRODUCTS P300 OR APPROVED EQUIVALENT.
2. EROSION CONTROL BLANKET SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.
3. AS ALTERNATE - USE RIP RAP WITH SIZES AS SHOWN ON PLANS.

EARTHEN EMERGENCY SPILLWAY - BIORETENTION PONDS 1 THROUGH 5
NOT TO SCALE

SHEET	C-109
10 OF 12	

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

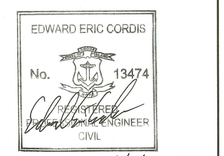
SHEET TITLE
PROPOSED DETAILS No. 3 (STORMWATER)
GREENHOUSE & FACILITY DESIGN

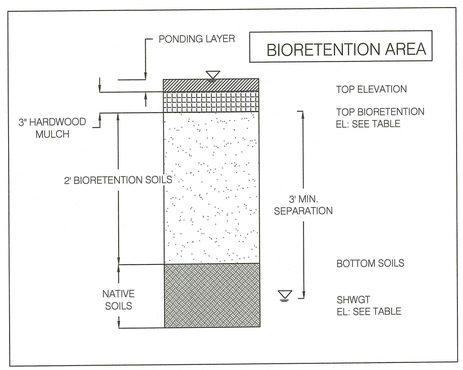
OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898





ELEVATION TABLE

BIORETENTION 1	
MEAN EX. GRADE	128.3
WATER TABLE DEPTH	34"
WATER TABLE ELEVATION	125.5
MIN TOP OF MULCH ELEV.	128.5
TOP OF MULCH PROPOSED	128.5
BOTTOM OF BIORETENTION	126.25
SHGWT SEPARATION (3' MIN.)	3'

BIORETENTION 2	
MEAN EX. GRADE	126.2
WATER TABLE DEPTH	14"
WATER TABLE ELEVATION	125
MIN TOP OF MULCH ELEV.	128
TOP OF MULCH PROPOSED	128
BOTTOM OF BIORETENTION	125.75
SHGWT SEPARATION (3' MIN.)	3'

BIORETENTION 3	
MEAN EX. GRADE	126
WATER TABLE DEPTH	14"
WATER TABLE ELEVATION	124.8
MIN TOP OF MULCH ELEV.	127.8
TOP OF MULCH PROPOSED	128.5
BOTTOM OF BIORETENTION	126.25
SHGWT SEPARATION (3' MIN.)	4.2

BIORETENTION 4	
MEAN EX. GRADE	125.9
WATER TABLE DEPTH	17"
WATER TABLE ELEVATION	124.5
MIN TOP OF MULCH ELEV.	127.5
TOP OF MULCH PROPOSED	127.5
BOTTOM OF BIORETENTION	125.25
SHGWT SEPARATION (3' MIN.)	3'

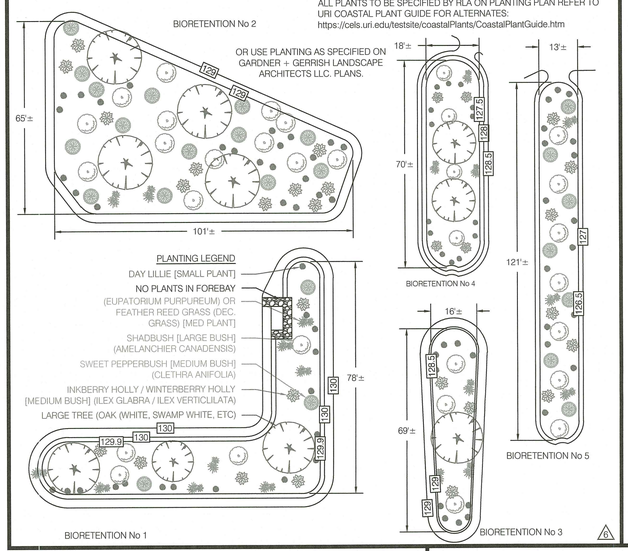
BIORETENTION 5	
MEAN EX. GRADE	126
WATER TABLE DEPTH	72"
WATER TABLE ELEVATION	120
MIN TOP OF MULCH ELEV.	123
TOP OF MULCH PROPOSED	126.5
BOTTOM OF BIORETENTION	124.25
SHGWT SEPARATION (3' MIN.)	6.9

SPECIFICATIONS

F.5.2.2 Bioretention Soil
The soil should be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The bioretention soil should be free of noxious weeds.
The bioretention system shall utilize planting soil having a composition as follows:
Sand: 85-88%
Soil fines: 8 to 12% (no more than 2% clay)
Organic Matter*: 3 to 5%
*Note: For bioretention applications with a soil depth of less than 4 feet, add 20% (by volume) of well aged (3 months), well aerated, leaf compost (or approved equivalent) to the above planting soil mixture. Where soil fines content is less than 12%, add a corresponding % of leaf compost.
A textural analysis is required to ensure the bioretention soil meets the specification listed above. The bioretention soil should also be tested for the following criteria:
pH range 5.2 - 7.0
magnesium not to exceed 32 ppm
phosphorus P2O5 not to exceed 69 ppm
potassium K2O not to exceed 78 ppm
soluble salts not to exceed 500 ppm
All bioretention areas should have a minimum of one test. Each test should consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts.
Since different labs calibrate their testing equipment differently, all testing results should come from the same testing facility.
Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

F.5.2.3 Mulch Layer Specifications.
A finely shredded, well-aged organic hardwood mulch is the preferred accepted mulch; a finely shredded, well-aged organic dark pine mulch may be accepted on a case-bycase basis. Bark dust mulches and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable.
Shredded mulch must be well aged (6-12 months) for acceptance.
Mix approximately ½ the specified mulch layer into the planting soil to a depth of approximately 4 inches to help foster a highly organic surface layer.
F.5.2.4 Compaction
It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention area is excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and storage volumes and is not acceptable. Compaction will significantly contribute to design failure. Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are performed to refracture the soil profile through the 12-in compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.
When backfilling the bioretention facility, place soil in lifts 12in or greater. Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

SCHEMATIC VIEW - DETAIL OF BIORETENTION PLANTINGS
ALL PLANTS TO BE SPECIFIED BY RLA ON PLANTING PLAN REFER TO URI COASTAL PLANT GUIDE FOR ALTERNATES:
https://cels.uri.edu/testsite/coastalPlants/CoastalPlantGuide.htm



LOAM AND SEED:

GENERAL:
1. ALL DISTURBED AREAS TO BE LOAMED AND SEEDED PER "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" AS AMENDED OR REVISED.
2. FOR NON-NATIVE PLANTING SEEDING DATES ARE APRIL 1 THROUGH JUNE 15 AND AUGUST 15 THROUGH SEPTEMBER 30, DATE MAY BE EXTENDED 15 DAYS IN NEWPORT COUNTY.
3. FOR NATIVE PLANING SEEDING DATES ARE BETWEEN AUGUST AND SEPTEMBER.

SEED BED PREPARATION:
1. LOOSEN SOIL TO A DEPTH OF THREE TO FOUR INCHES BY RAKING, DISCING, DRAGGING OR TRAVERSING WITH TRACKED MACHINERY, OVER COMPACTION SHALL BE AVOIDED CLEAT MARKS SHALL BE PERPENDICULAR TO ANTICIPATED DIRECTION OF SURFACE WATER FLOW.
2. APPLY TOPSOIL IF NECESSARY.
3. APPLY SLOW RELEASE FERTILIZER NOT TO EXCEED 1500 LBS PER ACRE OR 36 LBS PER 1,000 SF USING THE FOLLOWING PERCENTAGES BY WEIGHT;
   - 10% AVAILABLE NITROGEN (N)
   - 20% AVAILABLE PHOSPHORIC ACID (P)
   - 20% AVAILABLE POTASSIUM (K)
4. REMOVE FROM SURFACE ALL STONES LARGER THAN 2" IN DIAMETER, ALL DEBRIS, TREE ROOTS OR OTHER UNSUITABLE MATERIAL.
5. INSPECT AREA TO BE SEEDED IMMEDIATELY PRIOR TO SEEDING FOR ANY COMPACTED AREAS, IF COMPACTED AREAS EXIST SCARIFY PRIOR TO COMMENCING SEEDING.

SEEDING:
1. APPLY SELECTED SEED AT RATES PROVIDED UNIFORMLY MY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER.
2. NORMAL SEEDING DEPTH IS .25 TO .5 INCH. HYDROSEEDINGS MAY BE LEFT ON THE SOIL SURFACE.
3. WHERE FEASIBLE, EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, FIRM THE SEEDBED FOLLOWING SEEDING OPERATION WITH ROLLER, OR LIGHT DRAG.
4. SEEDING RATES SHALL BE INCREASED BY 10% WHEN USING HYDROSEEDING.
5. USE OF STRAW MULCH HELD WITH ADHESIVE MATERIALS OR 500 LBS PER ACRE OF WOOD FIBER MULCH IS RECOMMENDED FOR PROTECTION FROM SOIL EROSION.
6. IF SEEDING CAN NOT BE COMPLETED WITHIN SEEDING DATES USE MULCHING TO PROTECT SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

RECOMMENDED SEEDING:
SEED MIXTURE NO. 1

• KENTUCKY BLUE GRASS	22.5 LBS/AC	0.5 LBS/1000 SF
• CREEPING RED FESCUE	105 LBS/AC	2.5 LBS/1000 SF
• PERENNIAL RYEGRASS	22.5 LBS/AC	0.5 LBS/1000 SF

NOTES: WHERE CONFUSION OR UNCERTAINTY EXISTS IN LOAMING AND SEEDING CONSULT THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" AS AMENDED OR REVISED, ENGINEER, LANDSCAPE ARCHITECT.

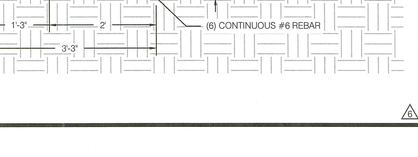
Rock Riprap Lined Waterway Design - Cut/Paste Plan

(Version WI-July-2010, Based on Design of Rock Chutes by Robinson, Rice, Kadavy, ASAE. 1998)

Client: Long — County: Washington
Designer: EEC — Checked by:
Date: 3/6/2020 — Date:

Design Values		Rock Gradation Envelope			Quantities	
D_{50} dia. = 2.0 in.		% Passing	Diameter, in. (weight, lbs.)		Rock = 1	yd^3
$Rock_{min}$ thickness = 0.4 in.		D_{100} ——	3 - 4 (2 - 5)		Geotextile (WCS-13)* = 17	yd^2
		D_{85} ——	3 - 4 (2 - 5)			
		D_{50} ——	3 - 4 (2 - 5)			
		D_{15} ——	2 - 3 (1 - 2)			
		D_{10} ——	2 - 3 (0 - 1)			
		Coefficient of Uniformity, $(D_{85}/D_{15}) < 1.7$				

Notes: * Geotextile Class I (Non-woven) shall be overlapped and anchored (18-in. minimum along sides and 24-in. minimum on the ends) — quantity not included.



Profile Along Centerline of Rock Lined Waterway

Rock Lined WW Cross Section

Profile, Cross Sections, and Quantities

NRCS — Natural Resources Conservation Service, United States Department of Agriculture

BBB=	Ins	
Tracer		3/9/20
Checker	0	1.0/100
Approver		Rev. #

Notes:

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman
nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

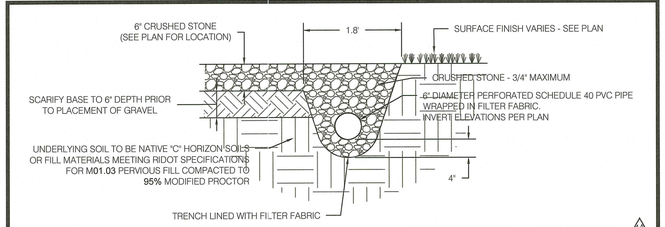
SHEET SET:

C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

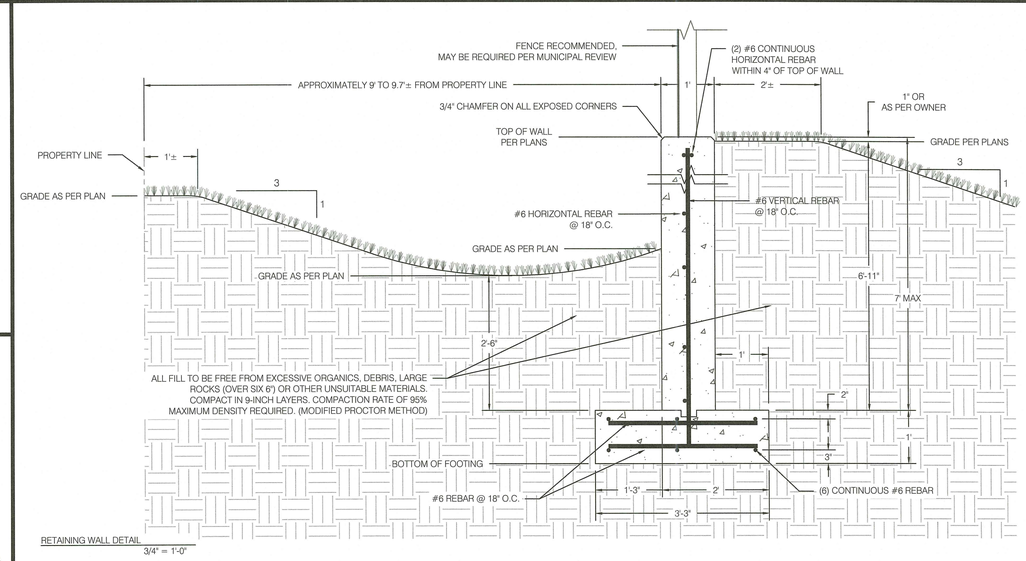
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

Environmental Management
DEC 2 2 2020
Office of Water Resources



TRENCH DRAIN DETAIL - 6" CRUSHED STONE
3/4" = 1'-0"



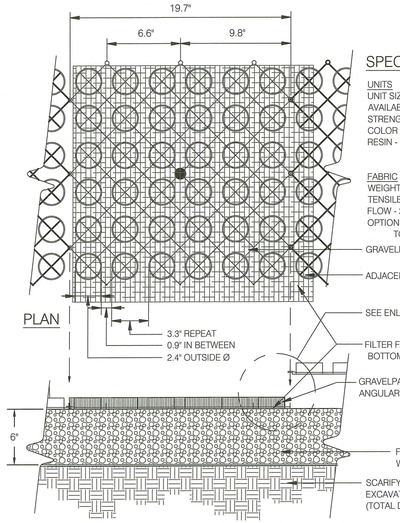
RETAINING WALL DETAIL
3/4" = 1'-0"

SCALE AS NOTED	C-109

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-119.0184 - LONG (MAIN ST).DWG C-109 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison

PROPOSED PARTIAL DRIVEWAY SURFACING AND TREATMENT

GRAVELPAVE² SYSTEM BY INVISIBLE STRUCTURES INC.
N.T.S.



SPECIFICATIONS

UNITS
UNIT SIZE - 20' X 20' X 1"
AVAILABLE IN 9 STANDARD ROLL SIZES
STRENGTH - 5720 PSI
COLOR - BLACK (STANDARD)
RESIN - 100% POST-CONSUMER RECYCLED HDPE/LDPE

FABRIC
WEIGHT - 3.5 OZ / SQ YARD
TENSILE - 120 LB / FT
FLOW - 275 GAL / MIN/ SQ FT
OPTIONS - CUSTOM FABRIC TO 6 OZ/SQ YARD AVAILABLE

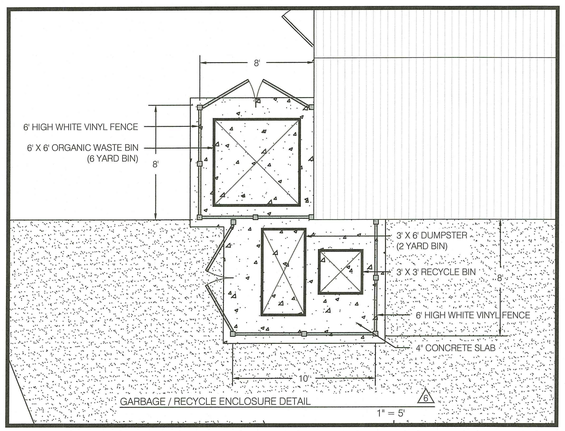
- GRAVELPAVE²
- ADJACENT GRAVELPAVE²
- SEE ENLARGEMENT BELOW
- FILTER FABRIC ATTACHED TO BOTTOM OF GRAVELPAVE²
- GRAVELPAVE² FILLED WITH 3/16" TO 3/8" ANGULAR GRAVEL, UNIFORM SIZE, WASHED*
- FILL WITH NO. 52 CRUSHED WASHED STONE & COMPACT*
- SCARIFY / REMOVE TOPSOIL, EXCAVATE ADDITIONAL 6" (TOTAL DEPTH ~10")

SECTION

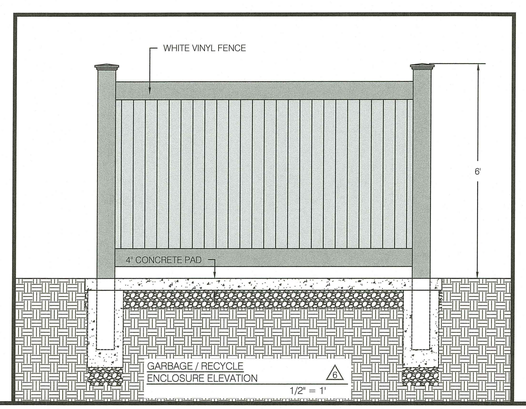
- TOP OF GRAVEL
- GRAVELPAVE² ATTACH WITH SNAP FIT FASTENERS
- FILTER FABRIC - OVERLAPPING JOINTS
- FILL RING SECTION WITH 3/16" TO 3/8" ANGULAR GRAVEL, UNIFORM SIZE, WASHED
- COMPACTED SANDY GRAVEL BASE COURSE

ENLARGEMENT

*MODIFICATIONS BY NEI, ABOVE MANUFACTURER'S RECOMMENDATIONS. 5

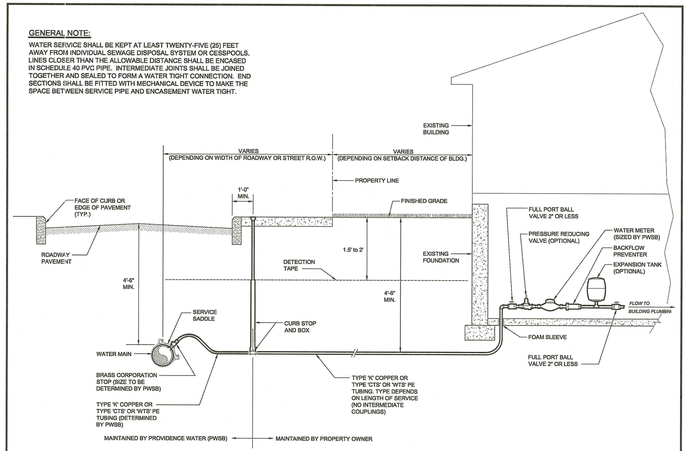


GARBAGE / RECYCLE ENCLOSURE DETAIL 6
1" = 5'



GARBAGE / RECYCLE ENCLOSURE ELEVATION 6
1/2" = 1'

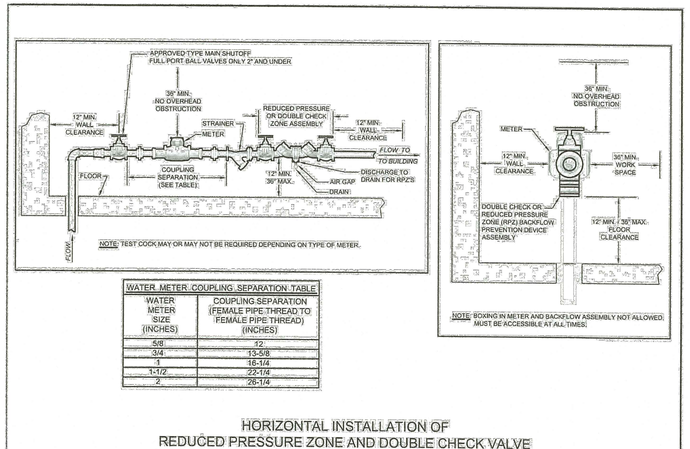
GENERAL NOTE:
WATER SERVICE SHALL BE KEPT AT LEAST TWENTY-FIVE (25) FEET AWAY FROM INDIVIDUAL SEWAGE DISPOSAL SYSTEM OR CESSPOOLS. LINES CLOSER THAN THE ALLOWABLE DISTANCE SHALL BE ENCASED IN SCHEDULE 40 PVC PIPE. INTERMEDIATE JOINTS SHALL BE JOINED TOGETHER AND SEALED TO FORM A WATER TIGHT CONNECTION. END SECTIONS SHALL BE FITTED WITH MECHANICAL DEVICE TO MAKE THE SPACE BETWEEN SERVICE PIPE AND ENCASEMENT WATER TIGHT.



RESIDENTIAL WATER SERVICE CONNECTION SCHEMATIC - ELEVATION VIEW
NOT TO SCALE

Senior Manager of Engineering — Date: 9-28-12

PROVIDENCE WATER DETAILS ADDED PER REQUEST OF RICHMOND WATER 4



WATER METER COUPLING SEPARATION TABLE

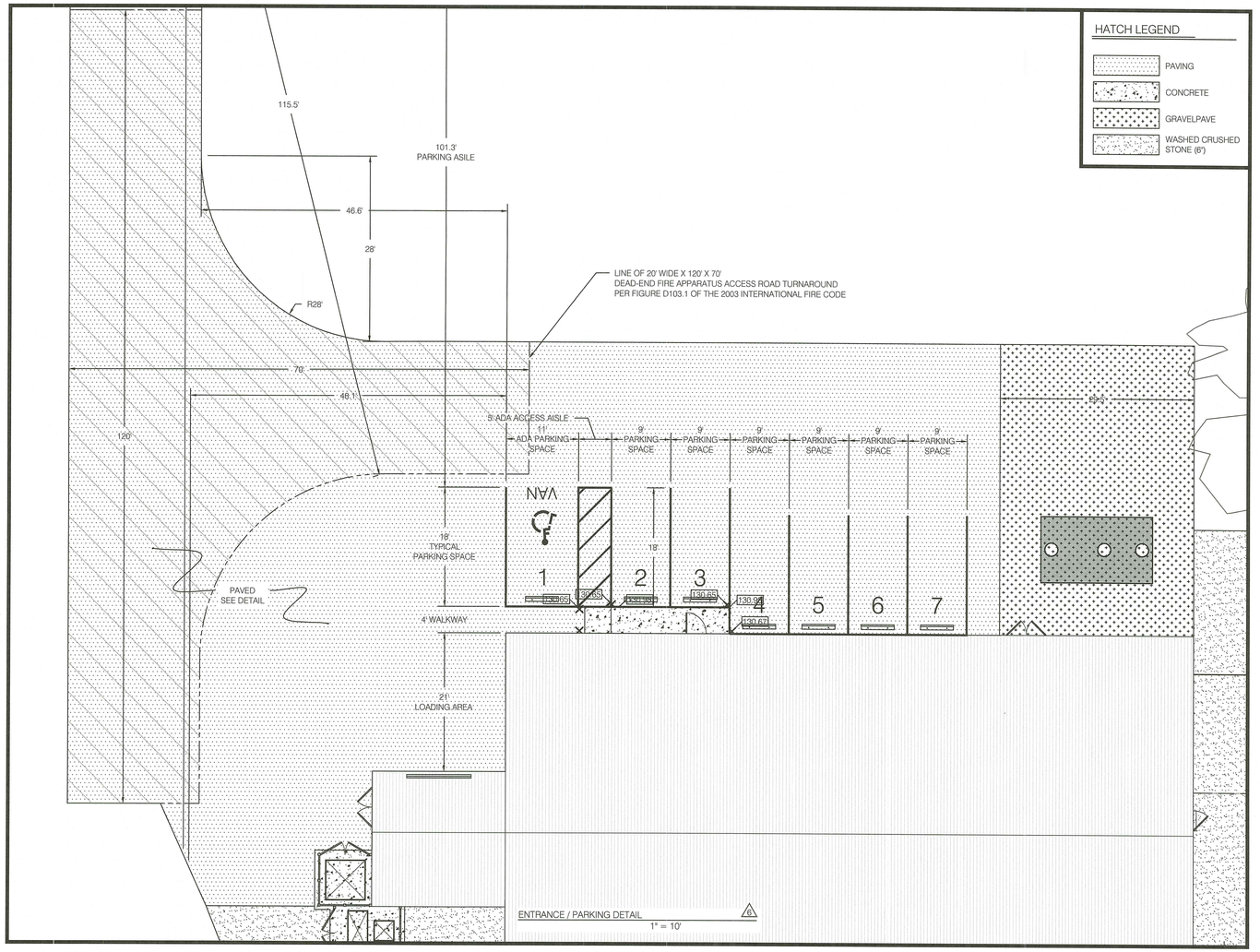
WATER METER SIZE (INCHES)	COUPLING SEPARATION (FEMALE PIPE THREAD TO FEMALE PIPE THREAD) (INCHES)
5/8"	12"
3/4"	13-5/8"
1"	16-1/4"
1-1/2"	22-1/4"
2"	26-1/4"

HORIZONTAL INSTALLATION OF
REDUCED PRESSURE ZONE AND DOUBLE CHECK VALVE
BACKFLOW PREVENTION ASSEMBLY
NOT TO SCALE

Senior Manager of Engineering — Date: 9-28-12

PROVIDENCE WATER DETAILS ADDED PER REQUEST OF RICHMOND WATER 6

SUBJECT PROPERTY IS LIGHT COMMERCIAL USE.



ENTRANCE / PARKING DETAIL 6
1" = 10'

HATCH LEGEND

- PAVING
- CONCRETE
- GRAVELPAVE
- WASHED CRUSHED STONE (6")

SHEET 11 OF 12 — C-110

Narragansett Engineering Inc.
nei-cds.com
Civil · Survey · Structural · Environmental · Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
PROPOSED DETAILS No. 4

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy L. Freeman

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - SEDIMENTATION AND EROSION CONTROL AND DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3
C-110 - PROPOSED DETAILS No 4
C-111 - PROPOSED DETAILS No 5

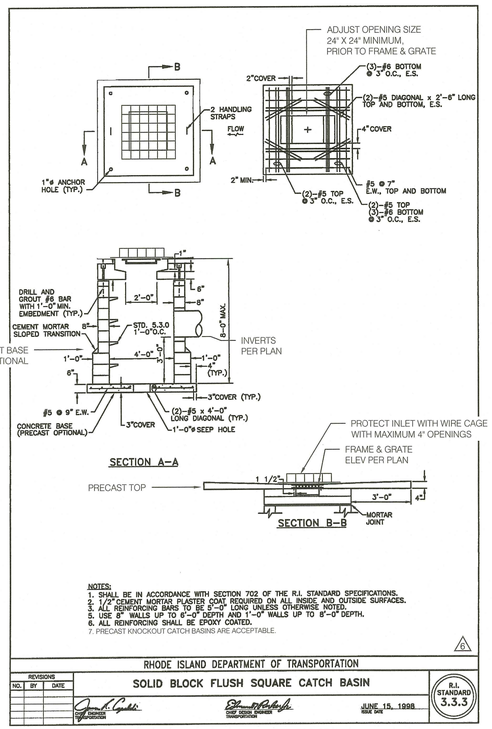
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

Environmental Management
DEC 22 2020
Office of Water Resources

SCALE AS NOTED — C-110

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-110 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. 1/2" CEMENT MORTAR PLASTER COAT REQUIRED ON ALL INSIDE AND OUTSIDE SURFACES.
3. ALL REINFORCING BARS TO BE 5'–0" LONG UNLESS OTHERWISE NOTED.
5. USE 8" WALLS UP TO 6'–0" DEPTH AND 1'–0" WALLS UP TO 8'–0" DEPTH.
6. ALL REINFORCING SHALL BE EPOXY COATED.
7. PRECAST KNOCKOUT CATCH BASINS ARE ACCEPTABLE.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

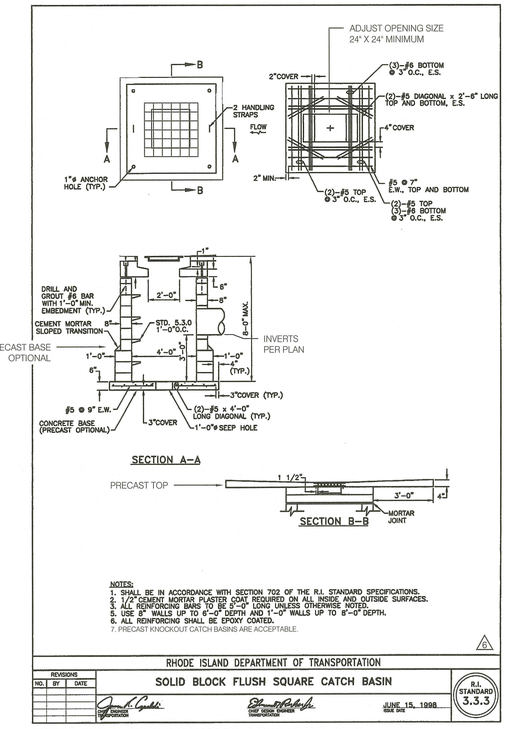
REVISIONS NO.	BY	DATE

SOLID BLOCK FLUSH SQUARE CATCH BASIN

JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 3.3.3

MODIFICATIONS TO RIDOT STANDARD 3.3.3 AS SHOWN IN RED FOR CB-1



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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

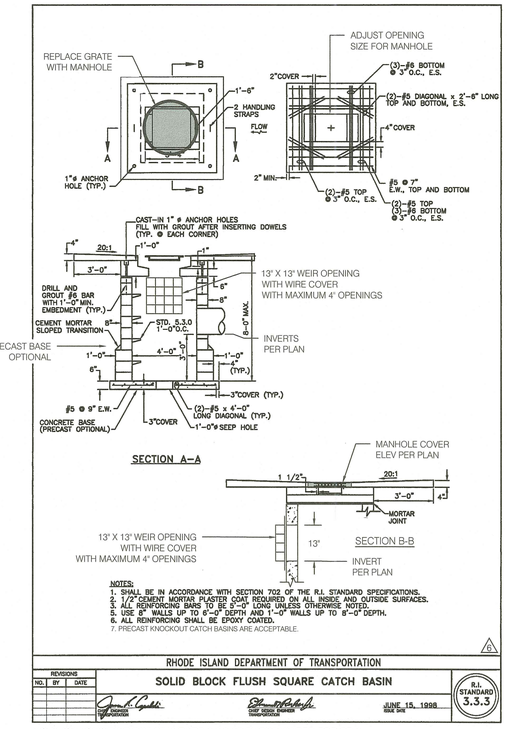
REVISIONS NO.	BY	DATE

SOLID BLOCK FLUSH SQUARE CATCH BASIN

JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 3.3.3

MODIFICATIONS TO RIDOT STANDARD 3.3.3 AS SHOWN IN RED FOR CB-2



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RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS NO.	BY	DATE

SOLID BLOCK FLUSH SQUARE CATCH BASIN

JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 3.3.3

MODIFICATIONS TO RIDOT STANDARD 3.3.3 AS SHOWN IN RED FOR CB-3

SHEET 12 OF 12

C-111

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
PROPOSED DETAILS No. 5

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
BRYANT, KEITH B, BRUCE O & JOYCE W
93 ARCADIA ROAD, HOPE VALLEY, RI 02832

APPLICANT:
GDRAGON, LLC / OWEN LONG
840 EAST SHORE RD, JAMESTOWN, RI 02835

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
11/13/20

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 5/11/2021 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy J. Freeman

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
5	09/25/20	UPDATED BUILDING SIZES, GRADING, STORMWATER & MISC DETAILS	TJI
6	11/12/20	UPDATED PER COMMENTS FROM PEER REVIEW	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:

C-100 - COVER SHEET
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SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DEC 2 2 2020
Office of Water Resources

SCALE AS NOTED

C-111

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-111 NEI-Standard - 19.0184.ctb 11/13/2020 Tim Ison

GDRAGON, LLC INDOOR HORTICULTURE FACILITY

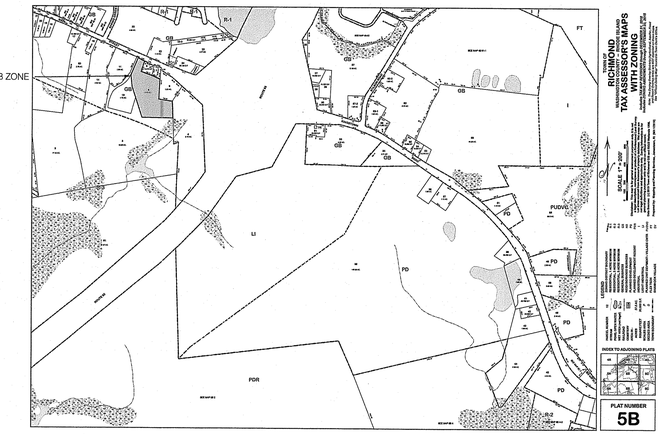
APPLICATION FOR
RI STORMWATER PERMITS

INITIAL SUBMISSION - 3/27/20

REVISION - 6/15/20

LOCATION
1195 MAIN STREET
RICHMOND RI, 02898

SITE LOCATED IN GB ZONE



Environmental Management

JUN 22 2020

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 29 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Wendy L. Freeman

SHEET 1 OF 10 | C-100

NEI Narragansett Engineering Inc.
nei-cds.com
Civil • Survey • Structural • Environmental • Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
COVER SHEET

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY
REGISTERED PROFESSIONAL ENGINEER
06/15/2020

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
1	03/05/20	REVISED ENTRY ELEMENTS PER CLASS 1 SURVEY	TJI
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
3	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET 4
C-101 - EXISTING CONDITIONS
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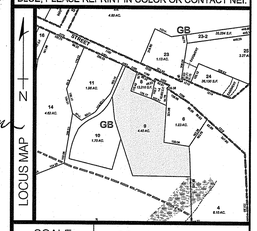
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DRAWINGS MUST BE PRINTED IN COLOR TO BE VALID. THIS NOTE SHOULD BE BLUE. IF THIS NOTE IS NOT BLUE, PLEASE REPRINT IN COLOR OR CONTACT NEI.



SCALE NOT TO SCALE | C-100

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-100 NEI-Standard - 19.0184.ctb 6/19/2020 Tim Ison

DEPARTMENT OF ENVIRONMENTAL MANAGEMEN
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 29 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Kathy L. Gregory

SITE IS IN ZONE GB

CHARIHO PLAZA
1190J MAIN STREET
PLAT 5B / LOT 22
STOP + SHOP SUPERMARKET CO
ATTN SUSAN GROSSMAN

EXISTING CB
RIM = 125.19 - BENCHMARK #1
INVERT = 121.65'
STATE PLANE COORDINATES
LATITUDE - 41°30'49.63"N
LONGITUDE - 71°41'49.58"W

CB (B)
RIM = 125.30
INV = 121.72'
BENCHMARK #2

STA. 326+26.25 BK
STA. 325+23.80 AH

WASHINGTON TRUST BANK
1200 MAIN STREET
PLAT 5B / LOT 23
1200 MAIN STREET LLC
BOOK 0275 / PAGE 1000

CVS DRUG STORE
1187 MAIN ST
PLAT 5B / LOT 11
CVS 8320 RI LLC
BOOK 0230 / PAGE 0407

HYDRANT

FRONT SETBACK - 20'

FOOD TRUCK

STORAGE SHED

SEV#6
12" SHWT

PICNIC TABLES

EXISTING WELL
TO BE CONVERTED TO
A NON-POTABLE WELL

EXISTING WATERLINE AND
ELECTRIC LINE TO WELL UNKNOWN

SIDE SETBACK - 35'

DRIVEWAY

WYOMING PACKAGE STORE
1199 MAIN STREET
PLAT 5B / LOT 8
PARISEAU RONALD M
& SUSAN C
BOOK 0101 / PAGE 0812

PRESUMED
WATER LINE
LOCATION

BASELINE PER PLAN REFERENCES #1 & 2,
AND IS SHOWN APPROXIMATE.

DRAGON VENTURES LLC
1210 MAIN ST
PLAT 5B / LOT 25
BOOK 0296 / PAGE 0769

RIHB
EL 125.87

MAIN STREET - RIDOT ROUTE 138
PUBLIC RIGHT OF WAY

VILLAGE PIZZA
1203 MAIN STREET
PLAT 5B / LOT 7
MARIA DICOS &
DEMITRI N DICOS
BOOK 0046 / PAGE 0600

OWTS # 9629-3146

OWTS UNKNOWN

WATER LINE
INFORMATION UNKNOWN
(PER RICHMOND WATER DEPT)
PRESUMED ON NORTH SIDE OF BLDG

HYDRANT

FOOD TRUCK

STORAGE TRAILER

SEV#9
14" SHWT

N06° 24' 12"W
32.38' (P)

N03° 19' 24"W
53.15' (P)

SIDE SETBACK - 35'

N04° 37' 30"W
55.71' (P)

N14° 07' 51"W
20.15' (P)

N16° 25' 21"W
21.56' (P)

N18° 10' 54"W
14.86' (P)

N19° 33' 12"W
18.99' (P)

PLAT 5B
LOT 3
CEKALA ANTHONY J JR (ESTATE OF) &
RICHARD T (TC)

WATERBODY IS LESS THAN 1/4 ACRE,
AND DOES NOT MEET RIDEM
QUALIFICATIONS FOR "POND", AS
SUCH, NO BUFFER IS ASSOCIATED

N16° 44' 49"W
60.96' (P)

PLAT 5B
LOT 10
CEKALA ANTHONY J + ANN
COMMERCIAL

N28° 59' 15"W
39.65' (P)

WOODED AREA

LINE OF EXPOSED LEDGE
(NO LEDGE REMOVAL PROPOSED)

N23° 25' 54"E
177.86' (S)
177.91' (P)

N67° 37' 04"E
99.74' (S)
99.62' (P)

S67° 37' 04"E
116.89' (S)
116.90' (P)

S23° 31' 00"W

S63° 46' 32"E
221.42' (P)

S02° 51' 34"E
189.28' (P)

S02° 33' 14"W
77.34' (P)

S04° 22' 39"W
145.78' (P)

S82° 42' 42"E
106.57' (P)

S83° 36' 09"E

N02° 38' 48"W
166.76' (P)

N02° 21' 29"W
51.58' (P)

N86° 07' 38"W
89.79'

N88° 04' 02"W
65.03'

N86° 00' 26"W
143.06'

AREA OF CLASS 1 SURVEY
AREA OF CLASS 4 SURVEY

AREA OUTSIDE OF CLASS I SURVEY

WOODED AREA

DOLLAR GENERAL STORE
1209 MAIN STREET
PLAT 5B / LOT 6
JOHNSTON EQUITIES ASSOCIATES
BOOK 0317 / PAGE 0917

PRESUMED
WATER LINE
LOCATION

OWTS #0729-1277

EXISTING STONE WALL
APPROXIMATE LIMIT OF OCCUPATION.
DRILL HOLES HELD FOR SURVEY.
WALL MEANDERS OFF
PROPERTY LINE IN CERTAIN AREAS.

DRILL HOLE FOUND
HELD

PLAT 5B
LOT 4
MIKENT INC
BOOK 0260
PAGE 0330

DRILL HOLE
FOUND & HELD

TH #1
72" SHWT

TH #2
72" SHWT

TH #4
16" SHWT

SEV #3
0" SHWT

SEV #6
21" SHWT

SEV#12
14" SHWT

TH #5
22" SHWT

SEV#11
24" SHWT

SEV#10
34" SHWT

EXISTING CONTIDIONS PLAN
1"=40'

0 40 60 80 120 200

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-101 NEI Standard - 19.0184.ctb 6/18/2020 Tim Ison

HATCH LEGEND

- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
- GABION WALL
- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 100.00 GRADE CONTOUR - EXISTING
- 100.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
- SAN SANITARY SEWER (S)
- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
- SD STORM DRAIN (SD)
- SUBDIVISION LINE - EXISTING
- W WATER
- WETLAND LIMIT
- CATCH BASIN
- DRILL HOLE
- ELECTRIC BOX (ETC)
- FIRE HYDRANT
- GV GATE VALVE
- GRANITE BOUND, EXISTING
- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
- MH MANHOLE (MH-TYPE)
- REBAR / STEEL PIPE FOUND
- SPIKE
- X 5.10 SPOT GRADE - EXISTING
- X 6.6 SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
- SURVEY MONUMENT TO BE SET
- SURVEY MARKER TO BE SET
- TH # TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

SURVEY NOTES:
1. ZONING INFORMATION SHOW FROM RECORD INFORMATION, MAPS AND / OR GIS. ZONING DATA MAY VARY BASED ON USE, LOT SIZE, ORIENTATION AND OTHER FACTORS AND IS SHOWN FOR REFERENCE INFORMATION ONLY.
2. ZONING DATA MUST BE CONFIRMED WITH ZONING OFFICIAL AND / OR LEGAL COUNSEL FOR USE IN DESIGN OR PERMITTING.
3. COORDINATE SYSTEM IS RI3800 / NAVD 88.
4. TOPOGRAPHY IS MIX OF ON GROUND SHOTS, RECORD DATA AND UAV DATA.
5. ALL PROPOSED ITEMS MUST BE LAID OUT BY REGISTERED SURVEYOR AS NOTED.
6. PLAN IS NOT AS-BUILT UTILITY PLAN.
7. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT OF PROBATE SEARCH, AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
8. LOCATION OF SOME SUBSURFACE MAINS, SURFACE FEATURES, AND LATERALS ARE MAY BE OMITTED. CONTRACTOR TO CALL DIG SAFE AND/OR APPLICABLE UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. DIG SAFE TEL.#:1-800-344-7233 (1-800-DIG-SAFE).
   A. WATER - WATER MAIN PER PLAN REFERENCE #2. LATERAL LOCATIONS UNKNOWN, AND MAY BE SHOWN APPROXIMATE.
   B. SEPTIC - PLAT 5B / LOT 8 SHOWN PER ISDS #9629-3146 - ALL OTHERS OMITTED.
   C. GAS - NO UNDERGROUND GAS IN AREA.
   D. ELECTRIC - OVERHEAD SHOWN FROM GIS DATA, NO UNDERGROUND CONDUIT OR DIRECT BURIED CABLE IN AREA PER REQUEST FROM NATIONAL GRID DATED 01/09/2020.
   E. STORM DRAIN - PER PLAN REFERENCES #1 & 2. SOME CATCH BASINS SHOWN FROM GIS AND UAV DATA AND FIELD INSPECTION.

PLAN REFERENCES:
1. PLAN ENTITLED "SURVEY OF LAND PREPARED FOR BRUCE BRYANT OWNER OF RECORD, PLAT 5B, LOT 9 RICHMOND, RI" PREPARED BY ARM ENGINEERING INC., SCALE 1" = 30', STAMPED AND SEALED BY ROBERT J. CURRAN - (UNDATED)
2. PLAN SET ENTITLED "3R HIGHWAY IMPROVEMENTS, ROUTE 138 SIDEWALKS, FROM INTERSTATE ROUTE 95 TO HOPKINTON T/L, TOWNS OF RICHMOND/HOPKINTON, COUNTY OF WASHINGTON" PREPARED BY CROSSMAN ENGINEERING, INC., REVISION 1, DATED 3/17/86.
3. PLAN SET ENTITLED "BRIDGE GROUP 54A 1-95 KINGSTON ROAD" PREPARED BY COMMONWEALTH ENGINEERING AND CONSULTANTS, STAMPED 3/12/19.
   SEE ADDITIONAL REFERENCES BELOW

DEED RESEARCH & PLAN REFERENCE

NO	PLAT	LOT	BOOK	PAGE	OWNER OF RECORD	DEED	OTHER
4	5B	9	40	974	BRYANT KEITH B + BRUCE O & JOYCE W.	X	
5		8	328	431	NRP INC	X	
6		10	N/A	N/A	CEKALA ANTHONY J + ANN	X	
7		11	230	407	CVS 8320 RI LLC	X	
8		7	46	600	DICOS DEMITRI N + MARIA (JT)	X	
9			1	21	LAND CONVEYED TO STANLEY PONIGHTERA		X
10					R.I. DEPARTMENTOF TRANSPORTATION PLAT 2045		X
11					R.I. DEPARTMENTOF TRANSPORTATION PLAT 2045 A		X
12					R.I. DEPARTMENTOF TRANSPORTATION PLAT 470		X
13					R.I. DEPARTMENTOF TRANSPORTATION PLAT 470 A		X

WETLAND DELINEATION:
WETLAND DELINEATION BY BRANDON FANEUF, LICENSE NUMBER D4069, ECOSYSTEM SOLUTIONS, INC.
PERFORMED - 01/10/2020

BENCHMARK NOTE:
NEI WILL ALWAYS PROVIDE A MINIMUM OF TWO SITE BENCHMARKS. CONTRACTOR TO VERIFY ALL BENCHMARKS EXIST PRIOR TO CONSTRUCTION. ELEVATIONS OF ALL BENCHMARKS TO BE SHOT IN FIELD (WITH SUITABLE EQUIPMENT) AND DIFFERENTIAL TO BE VERIFIED, IF VERTICAL DIFFERENTIAL EXCEEDS 0.05' IT SHALL BE IMMEDIATELY REPORTED TO NEI. DIFFERENTIAL IN EXCESS OF 0.05' INDICATES THAT BENCHMARKS MAY HAVE BEEN DISTURBED AND ARE NOT SUITABLE FOR USE.

MEANDER NOTE:
STONE WALLS MEANDER, PROPERTY LIMITS DISPLAYED ARE THE BEST FIT BASED ON RECORDED PLANS AND DEEDS. THE ACTUAL CENTERLINE OF THE STONE WALLS ARE THE PROPERTY LIMITS UNLESS NOTED OTHERWISE; LINEWORK IS NOT A COMPLETELY PRECISE LIMIT IN CASES WHERE WALLS MEANDER FROM THE CENTERLINE.

UTILITY SURVEY QUALITY:
1. UTILITIES ARE SHOWN BASED ON BEST AVAILABLE INFORMATION, INCLUDING LOCATION OF SURFACE FEATURES AND REVIEW OF UNDERGROUND UTILITY RECORDS. LIMITED STORMWATER STRUCTURES WERE OPENED FOR INSPECTION, PRIMARILY FOR STORMWATER TIE INS.
2. THIS PLAN IS NOT AN AS BUILT UTILITY PLAN, EXCEPT FOR SPECIFIC STRUCTURES NOTED.
3. THIS UTILITY PLAN IS VALID FOR THE SPECIFIC PURPOSE STATED ON THE PLANS.
4. BE ADVISED, EVEN PLAN OR DIGSAFE MARKED UTILITIES ARE EXPECTED TO VARY BY 4' IN EITHER DIRECTION.
5. THIS DATA MOST CLOSELY CORRELATES WITH ASCE 38-02 UTILITY QUALITY LEVEL C:
   Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information

UNMANNED AERIAL VEHICLE (UAV) NOTES:
1. THIS PLAN IS BASED ON A PRIVATE UAV FLIGHT PROVIDED BY NARRAGANSETT ENGINEERING INC. AND OTHER REFERENCE MATERIAL AS LISTED HEREON. THE UAV FLIGHT TOOK PLACE ON DECEMBER 12th, 2019 ; RMS ERROR OF GROUND CONTROL POINTS (COMPUTED) : 0.02 IMAGES WERE TAKEN AT 150ft. ABOVE GROUND LEVEL, PIXEL SIZE IS 0.09" EXPECTED VERTICAL TOLERANCE (RMS ERROR, Z: 0.04)
2. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS. COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN.
3. ELEVATIONS WERE COMPUTED FROM A PRIVATE UAV FLIGHT USING PHOTOGRAMMETRY SOFTWARE AND TESTED AGAINST FOUR GROUND CONTROL POINTS WITH AN AVERAGE VERTICAL ACCURACY OF .08 ft. THERE MAY BE ANOMALIES IN THE DATA AND SHOULD BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
4. ORTHOGRAPHY PHOTO DEVELOPED BY DATA AND PICTURES COLLECTED BY THE UAV TO ACCURATELY INTERPOLATE AND DEPICT THE SITE.
5. UAV FLOWN BY FAA CERTIFIED PILOT AND WAS PROPERLY INSURED DURING FLIGHT.

18.20.010 – TABLE of DIMENSIONAL REGULATIONS

Zoning District	Use	Lot size (in acres (must be 43,560 sf)	Lot frontage (feet)	Front yard depth (feet)	Rear yard depth (feet)	Side yard depth (feet)	Maximum building coverage
GB	Permitted uses	1	150	20	50	35	25%

18.20.010 – TABLE of DIMENSIONAL REGULATIONS (Part 2)

Zoning District	Use	Maximum height of main structure	Maximum height of accessory structure	Side and rear yard depth - accessory structure	Maximum ground floor area - retail uses only	Maximum height and number of stories - retail uses only	Notes
GB	Permitted uses	40	35	10	80,000*	40 / 2	*see 18.20.040

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

SHEET 2 OF 10 — C-101

Narragansett Engineering Inc.
Civil • Survey • Structural • Environmental • Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
EXISTING CONDITIONS PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O +
JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

CERTIFICATION
THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO 435-RICR00-00-1.8 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON APRIL 28th, 2018, AS FOLLOWS:

CLASS I (PARTIAL) AS NOTED
CLASS III (PHYSICAL FEATURES)
CLASS IV
TOPOGRAPHIC SURVEY T-1

"THIS COMPILATION PLAN HAS BEEN PREPARED FROM SOURCES OF INFORMATION AND DATA WHOSE POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED. THE PROPERTY LINES DEPICTED HEREON DO NOT REPRESENT A BOUNDARY OPINION, AND OTHER INFORMATION DEPICTED IS SUBJECT TO SUCH CHANGES AS AN AUTHORITATIVE FIELD SURVEY MAY DISCLOSE."

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: FOR THE PREPARATION OF A CLASS I AND CLASS IV LIMITED CONTENT SURVEY PLAN.

NEAL K. HINGORANY
No. 2515
PROFESSIONAL LAND SURVEYOR
NEAL HINGORANY REG. 2515
06.19.20

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
1	03/05/20	REVISED ENTRY ELEMENTS PER CLASS 1 SURVEY	TJI
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
3	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3

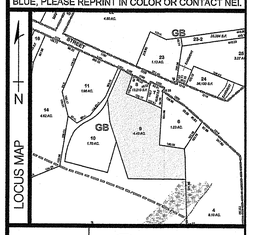
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DRAWINGS MUST BE PRINTED IN COLOR TO BE VALID. THIS NOTE SHOULD BE BLUE. IF THIS NOTE IS NOT BLUE, PLEASE REPRINT IN COLOR OR CONTACT NEI.

Environmental Management
JUN 22 2020
Water Resources

LOCUS MAP



SCALE 1" = 40'

C-101

TEMPORARY SEDIMENT STOCKPILE

N.T.S.

NOTES:
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PREPARE PLAN INDICATING LOCATIONS OF SEDIMENT STOCKPILES FOR APPROVAL BY THE ENGINEER OR APPROPRIATE REGULATORY AUTHORITY.
2. STOCKPILE SHALL NOT EXCEED GIVEN DIMENSIONS WITHOUT APPROVAL BY ENGINEER OR APPROPRIATE REGULATORY AUTHORITY.
3. STOCKPILED MATERIAL NOT TO BE USED WITHIN 14 CALENDAR DAYS SHALL BE PLANTED WITH TEMPORARY SEED MIX PER RIDOT STD M.18.10.5.

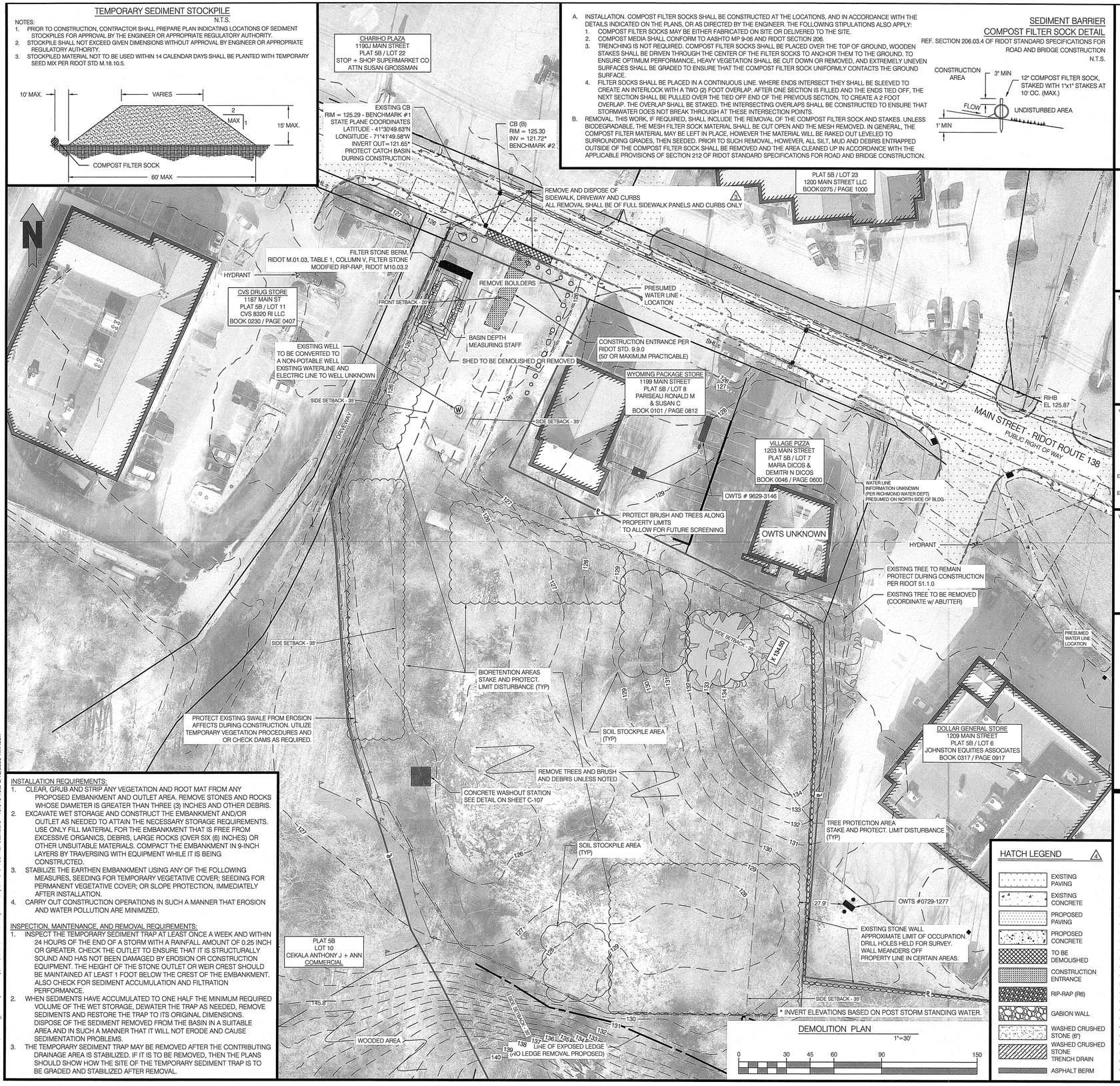
SEDIMENT BARRIER
COMPOST FILTER SOCK DETAIL

REF. SECTION 206.03.4 OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

N.T.S.

A. INSTALLATION. COMPOST FILTER SOCKS SHALL BE CONSTRUCTED AT THE LOCATIONS, AND IN ACCORDANCE WITH THE DETAILS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. THE FOLLOWING STIPULATIONS ALSO APPLY:
   1. COMPOST FILTER SOCKS MAY BE EITHER FABRICATED ON SITE OR DELIVERED TO THE SITE.
   2. COMPOST MEDIA SHALL CONFORM TO AASHTO MP 9-06 AND RIDOT SECTION 206.
   3. TRENCHING IS NOT REQUIRED. COMPOST FILTER SOCKS SHALL BE PLACED OVER THE TOP OF GROUND, WOODEN STAKES SHALL BE DRIVEN THROUGH THE CENTER OF THE FILTER SOCKS TO ANCHOR THEM TO THE GROUND. TO ENSURE OPTIMUM PERFORMANCE, HEAVY VEGETATION SHALL BE CUT DOWN OR REMOVED, AND EXTREMELY UNEVEN SURFACES SHALL BE GRADED TO ENSURE THAT THE COMPOST FILTER SOCK UNIFORMLY CONTACTS THE GROUND SURFACE.
   4. FILTER SOCKS SHALL BE PLACED IN A CONTINUOUS LINE. WHERE ENDS INTERSECT THEY SHALL BE SLEEVED TO CREATE AN INTERLOCK WITH A TWO (2) FOOT OVERLAP. AFTER ONE SECTION IS FILLED AND THE ENDS TIED OFF, THE NEXT SECTION SHALL BE PULLED OVER THE TIED OFF END OF THE PREVIOUS SECTION, TO CREATE A 2 FOOT OVERLAP. THE OVERLAP SHALL BE STAKED. THE INTERSECTING OVERLAPS SHALL BE CONSTRUCTED TO ENSURE THAT STORMWATER DOES NOT BREAK THROUGH AT THESE INTERSECTION POINTS.

B. REMOVAL. THIS WORK, IF REQUIRED, SHALL INCLUDE THE REMOVAL OF THE COMPOST FILTER SOCK AND STAKES. UNLESS BIODEGRADABLE, THE MESH FILTER SOCK MATERIAL SHALL BE CUT OPEN AND THE MESH REMOVED. IN GENERAL, THE COMPOST FILTER MATERIAL MAY BE LEFT IN PLACE, HOWEVER THE MATERIAL WILL BE RAKED OUT LEVELED TO SURROUNDING GRADES, THEN SEEDED, PRIOR TO SUCH REMOVAL, HOWEVER, ALL SILT, MUD AND DEBRIS ENTRAPPED OUTSIDE OF THE COMPOST FILTER SOCK SHALL BE REMOVED AND THE AREA CLEANED UP IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF SECTION 212 OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.



DEMOLITION PLAN

1"=30'

0 30 45 60 90 150

INSTALLATION REQUIREMENTS:
1. CLEAR, GRUB AND STRIP ANY VEGETATION AND ROOT MAT FROM ANY PROPOSED EMBANKMENT AND OUTLET AREA. REMOVE STONES AND ROCKS WHOSE DIAMETER IS GREATER THAN THREE (3) INCHES AND OTHER DEBRIS.
2. EXCAVATE WET STORAGE AND CONSTRUCT THE EMBANKMENT AND/OR OUTLET AS NEEDED TO ATTAIN THE NECESSARY STORAGE REQUIREMENTS. USE ONLY FILL MATERIAL FOR THE EMBANKMENT THAT IS FREE FROM EXCESSIVE ORGANICS, DEBRIS, LARGE ROCKS (OVER SIX (6) INCHES) OR OTHER UNSUITABLE MATERIALS. COMPACT THE EMBANKMENT IN 9-INCH LAYERS BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. STABILIZE THE EARTHEN EMBANKMENT USING ANY OF THE FOLLOWING MEASURES, SEEDING FOR TEMPORARY VEGETATIVE COVER; SEEDING FOR PERMANENT VEGETATIVE COVER; OR SLOPE PROTECTION, IMMEDIATELY AFTER INSTALLATION.
4. CARRY OUT CONSTRUCTION OPERATIONS IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.

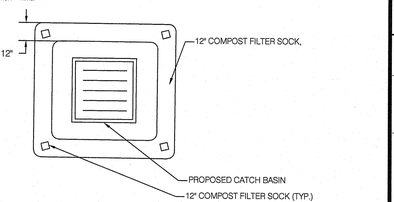
INSPECTION, MAINTENANCE, AND REMOVAL REQUIREMENTS:
1. INSPECT THE TEMPORARY SEDIMENT TRAP AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCH OR GREATER. CHECK THE OUTLET TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE STONE OUTLET OR WEIR CREST SHOULD BE MAINTAINED AT LEAST 1 FOOT BELOW THE CREST OF THE EMBANKMENT. ALSO CHECK FOR SEDIMENT ACCUMULATION AND FILTRATION PERFORMANCE.
2. WHEN SEDIMENTS HAVE ACCUMULATED TO ONE HALF THE MINIMUM REQUIRED VOLUME OF THE WET STORAGE, DEWATER THE TRAP AS NEEDED, REMOVE SEDIMENTS AND RESTORE THE TRAP TO ITS ORIGINAL DIMENSIONS. DISPOSE OF THE SEDIMENT REMOVED FROM THE BASIN IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
3. THE TEMPORARY SEDIMENT TRAP MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED. IF IT IS TO BE REMOVED, THEN THE PLANS SHOULD SHOW HOW THE SITE OF THE TEMPORARY SEDIMENT TRAP IS TO BE GRADED AND STABILIZED AFTER REMOVAL.

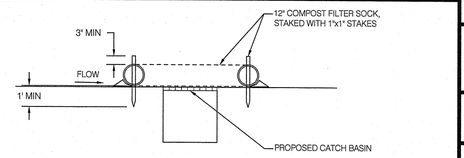
HATCH LEGEND

- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
- GABION WALL
- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

SEDIMENT BARRIER
COMPOST FILTER SOCK DETAIL

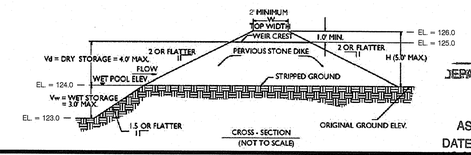
DESIGNED FOR CATCH BASIN PROTECTION N.T.S.



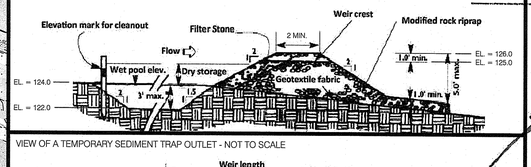


SEE INTERNAL MANUFACTURED INLET FILTER DETAIL ON SHEET C-108

MINIMUM TOP WIDTH FOR TEMPORARY SEDIMENT TRAP EMBANKMENTS BASED ON HEIGHT OF EMBANKMENT



VIEW OF A TEMPORARY SEDIMENT TRAP OUTLET - NOT TO SCALE



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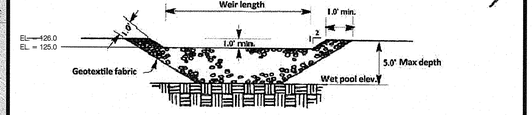
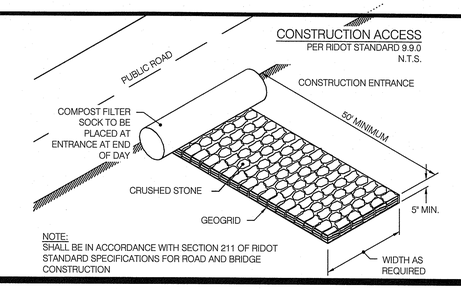


CONSTRUCTION ACCESS

PER RIDOT STANDARD 9.9.0
N.T.S.



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 100.00 GRADE CONTOUR - EXISTING
- 100.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
- SAN SANITARY SEWER (S)
- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
- SD STORM DRAIN (SD)
- SUBDIVISION LINE - EXISTING
- W WATER
- WETLAND LIMIT

- CATCH BASIN
- DRILL HOLE
- ELECTRIC BOX (ETC)
- FIRE HYDRANT
- GATE VALVE
- GRANITE BOUND, EXISTING
- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
- MH MANHOLE (MH:TYPE)
- REBAR / STEEL PIPE FOUND
- SPIKE
- X 5.10 SPOT GRADE - EXISTING
- X 6.6 SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
- MONUMENT TO BE SET / MARKER TO BE SET SURVEY MONUMENT TO BE SET
- SURVEY MARKER TO BE SET
- TH # TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

SHEET 3 OF 10 — C-102

NEI Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
SEDIMENTATION AND EROSION CONTROL AND DEMO PLAN
GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

DEPARTMENT OF ENVIRONMENTAL MANAGEMEN
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 2 9 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

KAMAL HINGORANY
RHODE ISLAND
REGISTERED PROFESSIONAL ENGINEER
06/15/2020

Environmental Management
JUN 22 2020
Office of Water Resources

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
1	03/05/20	REVISED ENTRY ELEMENTS PER CLASS 1 SURVEY	TJI
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
3	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI

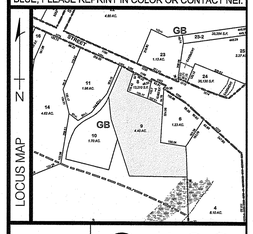
PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DRAWINGS MUST BE PRINTED IN COLOR TO BE VALID. THIS NOTE SHOULD BE BLUE. IF THIS NOTE IS NOT BLUE, PLEASE REPRINT IN COLOR OR CONTACT NEI.



SCALE 1" = 30'

C-102

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-11\9.0184 - LONG (MAIN ST).DWG C-102 NEI-Standard - 19.0184.ctb 6/18/2020 Tim Ison

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-103 NEI-Standard - 19.0184.ctb 6/18/2020 Tim Ison

GENERAL RESIDENTIAL OR LIGHT COMMERCIAL SITE CONSTRUCTION NOTES:

1. SOIL EVALUATIONS BE PERFORMED FOR ANY BASEMENTS OR SUBSURFACE AREAS, AND FOR STORMWATER MITIGATION DESIGN.
2. STORM WATER MITIGATION FOR WATER QUALITY (1") BE INSTALLED IN THE FORM OF SWALES OR SIMILAR, ALONG WITH GUTTERS, LEADERS, AND DOWNSPOUTS TO SYSTEM REFER TO RI SINGLE FAMILY STORM-WATER MANUAL. HTTP://WWW.DEM.RI.GOV/PROGRAMS/BENVIRON/WATER/PERMITS/RIPDES/STWATER/PDFS/SWSINFAM.PDF
3. GRADING SHALL BE UNDERTAKEN AS DIRECTED ON PLAN. SLOPES SHALL NOT EXCEED 3:1 UNLESS NOTED OTHERWISE.
4. ALL WALLS, OR REVETMENTS TO HAVE APPROPRIATE BACKFILL AND DRAINAGE BEHIND. WALLS OVER 3' MAY REQUIRE DESIGN BY AN RI PROFESSIONAL ENGINEER.
5. CARE SHALL BE TAKEN TO DIRECT DRAINAGE AWAY FROM STRUCTURE AND ABUTTERS.
6. ALL PROPOSED UTILITIES TO CONFORM TO LOCAL CODE INSTALLATION REQUIREMENTS.
7. ALL FILL SHALL BE FREE OF ORGANICS, DEBRIS, STONES GREATER THAN 6" AND WELL BE COMPACTED IN 8" LIFTS AND TO BE 95% MODIFIED PROCTOR COMPACTION.
8. ALL WORK SHALL BE DONE IN SUBSTANTIAL CONFORMANCE WITH RI CONSUMER PROTECTION CONSTRUCTION STANDARDS.
   REF TO SECTION 1 AND SECTION TO FOR SITE AND GRADING STANDARDS.
   HTTP://WWW.CRB.RI.GOV/DOCUMENTS/CONSTRUCTION-STANDARDS.PDF

WETLAND DELINEATION:
WETLAND DELINEATION BY BRANDON FANEUF, LICENSE NUMBER D4059, ECOSYSTEM SOLUTIONS, INC. PERFORMED - 01/10/2020

BENCHMARK NOTE:
NEI WILL ALWAYS PROVIDE A MINIMUM OF TWO SITE BENCHMARKS. CONTRACTOR TO VERIFY ALL BENCHMARKS EXIST PRIOR TO CONSTRUCTION. ELEVATIONS OF ALL BENCHMARKS TO BE SHOT IN FIELD (WITH SUITABLE EQUIPMENT) AND DIFFERENTIAL TO BE VERIFIED, IF VERTICAL DIFFERENTIAL EXCEEDS 0.05' IT SHALL BE IMMEDIATELY REPORTED TO NEI. DIFFERENTIAL IN EXCESS OF 0.05' INDICATES THAT BENCHMARKS MAY HAVE BEEN DISTURBED AND ARE NOT SUITABLE FOR USE.

LANDSCAPING, LIGHTING AND ASSOCIATED ELEMENTS:
1. THESE ITEMS ARE NOT INCLUSIVE, BUT WILL BE PART OF MUNICIPAL DEVELOPMENT PLAN REVIEW APPLICATION.

18.20.010 – TABLE of DIMENSIONAL REGULATIONS

Zoning District	Use	Lot size (in acres equal to 43,560 sf)	Lot frontage (feet)	Front yard depth (feet)	Rear yard depth (feet)	Side yard depth (feet)	Maximum b[...] covera[...]
GB	Permitted uses	1	150	20	50	35	25%

18.20.010 – TABLE of DIMENSIONAL REGULATIONS (Part 2)

Zoning District	Use	Maximum height of main structure (feet)	Maximum height of accessory structure (feet)	Side and rear yard depth - accessory structure (feet)	Maximum ground floor area - retail uses only (square feet)	Maximum height and number of stories - retail uses only (feet/stories)	Notes

Use Code	Use Description	R-3	R-2	R-1	Neigh. Bus.	Gen. Bus.	Lt. Ind.	Ind.	PD	PUD-VC	Flex Tech	SV	Agr. OL	Aqu. OL	Notes
20	AGRICULTURAL														
212	Horticulture	P	P	P	P	P	P	P	P	P	P	P	P	U	See RIGL § 45-24-37
214	Indoor horticulture	P	P	P	P	P	P	P	P	P	P	P	P	U	See § 18.54.020

LOT COVERAGE - PROPOSED		
LOT SIZE	160,371	SQ. FT.
PROPOSED GREENHOUSE	4,728	SQ. FT.
PROPOSED PROCESSING BUILDING	3,000	SQ. FT.
TOTAL PROPOSED BUILDINGS	7,728	SQ. FT.
PROPOSED COVERAGE	4.8%	<25% MAXIMUM COVERAGE

NOTES REGARDING CONFORMANCE WITH MANUAL:

-NO TREES OR PLANTINGS ARE PROPOSED IN STATE ROW. ALL LANDSCAPE DESIGN ELEMENTS SHOWN ON THE PLAN ARE SCHEMATIC AS RELATED TO SITE CLEARING AND DRAINAGE DESIGN.
PLANS SHALL BE PROVIDED BY AN RI LANDSCAPE ARCHITECT FOR MUNICIPAL PERMITTING.

-AS PER 4.7.F - WORK WITHIN STATE ROW IS LESS THAN 25,000.

-OWNER / CONTRACTOR TO REFER TO SECTION 4.8 INSURANCE REQUIREMENTS OF THE DOT PAPA MANUAL FOR INSURANCE REQUIREMENTS PRIOR TO CONSTRUCTION.
AND SECTION 4.7FOR BOND REQUIREMENTS

... E. THE APPLICANT, IN THE CASE OF COMMERCIAL APPLICATIONS, IS REQUIRED TO SUBMIT DETAILED COMPUTATIONS AND SITE-GRADING PLANS FOR DRAINAGE CONDITIONS EXISTING AND PROPOSED WHEN APPLYING FOR A PERMIT. THESE COMPUTATIONS SHOULD BE MADE CONSIDERING A STORM OF TWENTY-FIVE (25) - YEAR FREQUENCY WITH A DURATION EQUAL TO THE TIME OF CONCENTRATION. THESE COMPUTATIONS AND PLANS SHALL BE APPROVED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER. IF STORM DRAINAGE WILL NOT AFFECT THE STATE HIGHWAY DRAINAGE SYSTEM, A STATEMENT OF NO IMPACT SHOULD BE SUBMITTED WITH A APPLICATION APPROVED AND STAMPED BY A RHODE ISLAND REGISTERED PROFESSIONAL ENGINEER, OR A RHODE ISLAND REGISTERED LAND SURVEYOR WHEN THE PROPERTY IN QUESTION IS GRADED AWAY FROM THE STATE HIGHWAY DRAINAGE SYSTEM. F. DRAINAGE APPURTENANCES - ALL FACILITIES, PIPES, DRAINS, CATCH BASINS, MANHOLES AND OTHER APPURTENANCES WILL BE AS INDICATED IN "RHODE ISLAND DEPARTMENT OF TRANSPORTATION, STANDARD DETAILS." G. THE APPLICANT SHALL BE RESPONSIBLE TO SHOW NO INCREASE TO PEAK FLOW AND TOTAL VOLUME OF RUN OFF FROM EXISTING CONDITIONS ENTERING THE STATE HIGHWAY DRAINAGE SYSTEM IN A TWENTY-FIVE (25) YEAR STORM, UNLESS IN THE CASE OF TOTAL VOLUME THE APPLICANT CAN DEMONSTRATE UNCONDITIONALLY THAT THERE WILL BE NO IMPACT TO THE RECEIVING [WATER] BODY(IES). IN ADDITION, IF A CONNECTION TO THE STATE DRAINAGE SYSTEM IS PROPOSED, THE APPLICANT SHALL ADDRESS WATER QUALITY IMPACTS THROUGH INCORPORATION OF STRUCTURAL STORMWATER TREATMENT PRACTICES AND THROUGH THE USE OF BEST MANAGEMENT PRACTICES (BMPS). DESIGN AND CONSTRUCTION OF ALL STORMWATER MITIGATION SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT'S "STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL"

THE DESIGNER, BEING AN RI REGISTERED PE POSITS THAT ALL DRAINAGE DESIGN ELEMENTS CONFORM OR EXCEED THESE RIDOT PAP MANUAL REQUIREMENTS, INCLUDING 25 YEAR STORM MITIGATION AND WATER QUALITY REQUIREMENTS, INCLUDING THE PROPOSED CONNECTION TO THE STATE DRAINAGE SYSTEM AND REQUISITE TREATMENT PRACTICES PER RISDISM.

EDGE CLEARANCE DISTANCES EXCEED MINIMUM REQUIREMENTS PER MANUAL (20, RURAL COMMERCIAL)
DRIVEWAY WIDTH DOES NOT EXCEED STATE MAXIMUM (20' - TWO WAY, COMMERCIAL)

REFER RIDOT PAPA MANUAL IN CASE OF ANY OMISSIONS OR ERRORS:
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* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 100.00 GRADE CONTOUR - EXISTING
- 100.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
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- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
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- SUBDIVISION LINE - EXISTING
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- WETLAND LIMIT
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- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
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SHEET 4 OF 10 **C-103**

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
OVERALL PROPOSED SITE PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY
STATE OF RHODE ISLAND
No. [illegible]
HOPE
REGISTERED PROFESSIONAL ENGINEER
06/15/2020
FOR ALL ENGINEERING ELEMENTS

NEAL K. HINGORANY
STATE OF RHODE ISLAND
No. 2515
HOPE
PROFESSIONAL LAND SURVEYOR
FOR ALL SURVEY ELEMENTS
06.18.20

Environmental Management
JUN 22 2020
Office of Water Resources

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
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3	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

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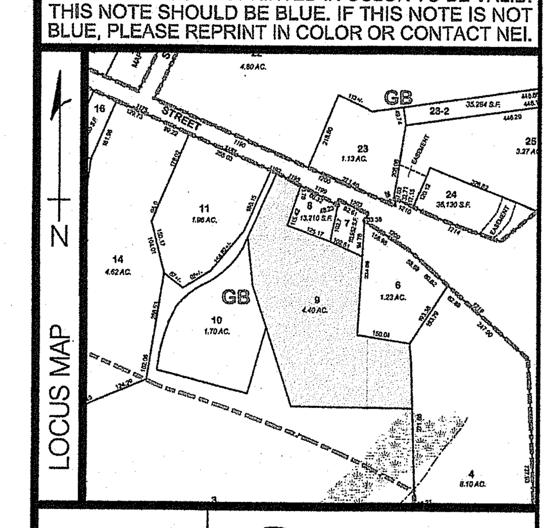


LOCUS MAP

SCALE
1" = 40'
C-103

18.26.110 PARKING AND LOADING

A. BUILDINGS AND USES SHALL PROVIDE THE NUMBER OF PARKING SPACES REQUIRED BY CHAPTER 18.29 OF THIS TITLE. THE PLANNING BOARD SHALL HAVE THE AUTHORITY TO REDUCE THE REQUIRED NUMBER OF PARKING SPACES FOR ANY USE OR STRUCTURE. IF SUCH A REDUCTION IS APPROVED, THE REASON FOR THE REDUCTION SHALL BE STATED IN THE PRELIMINARY PLAN DECISION. SHARED PARKING SHALL BE PERMITTED.

29. INDOOR HORTICULTURE - 1 PER 2,000 SQ. FT. OF GROSS FLOOR AREA; 5 MINIMUM.

18.29.020 DESIGN REQUIREMENTS

PARKING AND LOADING AREAS SHALL BE DESIGNED ACCORDING TO THE FOLLOWING REQUIREMENTS:

A. THE DESIGN SHALL PROVIDE SAFE TRAFFIC CIRCULATION, SEPARATION OF PEDESTRIAN AND VEHICULAR TRAFFIC, AND ACCESSIBILITY BY EMERGENCY VEHICLES.
B. REQUIRED PARKING SHALL BE LOCATED ON THE SAME LOT AS THE USE IT SERVES OR ON AN ADJACENT LOT.
C. ACCESSIBLE PARKING SPACES SHALL BE PROVIDED IN THE NUMBER, SIZE AND DESIGN REQUIRED BY CURRENT FEDERAL REGULATIONS PROMULGATED UNDER THE AMERICANS WITH DISABILITIES ACT, AS AMENDED.
D. PARKING SHALL BE LOCATED ON THE SIDE OR REAR OF BUILDINGS EXCEPT WHERE PHYSICAL SITE CONSTRAINTS MAKE SUCH A LOCATION IMPOSSIBLE.
E. EACH LOT SHALL HAVE NO MORE THAN TWO DRIVEWAYS ENTERING AND EXITING TO A STREET. TO MINIMIZE THE NUMBER OF ACCESS POINTS TO PUBLIC STREETS, ADJOINING PARKING AREAS ON THE SAME OR ADJACENT LOTS SHOULD BE CONNECTED. PROPERTY OWNERS ARE STRONGLY ENCOURAGED TO REDUCE THE NUMBER OF STREET ENTRANCE AND EXIT POINTS BY ARRANGING TO SHARE ENTRANCES WITH OTHER USES ON THE SAME LOT OR ADJACENT LOTS.
F. PROPOSED AND EXISTING DRIVEWAYS SHALL BE LOCATED AT LEAST FIFTY (50) FEET APART UNLESS THE DIMENSIONS OF THE LOT MAKE SUCH A SEPARATION IMPOSSIBLE. ON CORNER LOTS, THE PRINCIPAL POINT OF ACCESS SHALL BE FROM THE SECONDARY STREET.
G. THE DESIGN SHALL CONFORM TO SECTIONS 13.5 (STREET DIMENSIONS AND DESIGN), 13.7.3 (PEDESTRIAN WALKWAYS), 14.1 (CONSTRUCTION SPECIFICATIONS), AND 14.5 (PEDESTRIAN WALKWAYS ADJACENT TO STREETS) OF THE LAND DEVELOPMENT AND SUBDIVISION REGULATIONS TO THE EXTENT THOSE PROVISIONS ARE APPLICABLE.
H. PARKING AND LOADING AREAS SHALL HAVE A SURFACE OF DUST-FREE MATERIAL. GRASSED AREAS MAY BE USED FOR OCCASIONAL AND OVERFLOW PARKING. IMPERVIOUS PARKING AREAS, INCLUDING GRAVEL AND PAVED, SHALL COMPLY WITH THE CURRENT EDITION OF THE R. I. STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL ADOPTED BY THE R. I. DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AND THE R. I. COASTAL RESOURCES MANAGEMENT COUNCIL.
I. STANDARD PARKING SPACES SHALL BE AT LEAST NINE (9) FEET WIDE AND EIGHTEEN (18) FEET LONG. ANGLED PARKING IS PERMITTED.
J. ONE-WAY AISLES SHALL BE AT LEAST TWELVE (12) FEET WIDE. TWO-WAY AISLES SHALL BE AT LEAST TWENTY (20) FEET WIDE.
K. LIGHT FIXTURES IN AND ADJACENT TO PARKING AREAS SHALL BE THOSE APPROVED BY THE INTERNATIONAL DARK-SKY ASSOCIATION (IDA). LAMPS SHALL HAVE A MAXIMUM OF 250 WATTS.

(ORD. DATED 5-16-17)

DEVELOPMENT NOTES:

18.16.020 USE CODE DESCRIPTIONS. THE FOLLOWING DESCRIPTIONS ARE INTENDED TO ASSIST THE ZONING ENFORCEMENT OFFICER IN APPLYING THE USE CODE TABLE IN 16.16.010 BY ILLUSTRATING THE RANGE OF SPECIFIC USES COVERED BY EACH USE CODE. THE DESCRIPTIONS ARE NOT INTENDED TO BE EXCLUSIVE. SPECIFIC DIMENSIONAL REQUIREMENTS FOR SOME USES ARE CONTAINED IN CHAPTER 18.20, DIMENSIONAL REGULATIONS, AND IN CHAPTER 18.36, SPECIAL REGULATIONS.

212 *HORTICULTURE.* INCLUDES GROWING OF VEGETABLES, GRAIN, HAY, FRUIT, TURF, TREES, FLOWERS, HERBS, MUSHROOMS, AND ORNAMENTAL PLANTS.

214 *INDOOR HORTICULTURE.* INCLUDES COMMERCIAL CULTIVATION OF PLANTS, INCLUDING BUT NOT LIMITED TO VEGETABLES, FRUIT, FLOWERS, HERBS. MUSHROOMS, ORNAMENTAL PLANTS, AND MEDICAL MARIJUANA, IN A FULLY-ENCLOSED PERMANENT STRUCTURE, AND PROCESSING AND/OR PACKAGING REQUIRED BY LAW TO TAKE PLACE ON THE SAME SITE AS THE CULTIVATION, AS AN ACCESSORY USE TO THE CULTIVATION. A MEDICAL MARIJUANA CULTIVATION OPERATED BY A COMPASSION CENTER THAT IS NOT LOCATED ON THE SAME LOT AS THE COMPASSION CENTER SHALL BE CONSIDERED A PRINCIPAL USE AND IS INCLUDED IN THIS USE CODE.
(ORD. DATED 1-2-18)

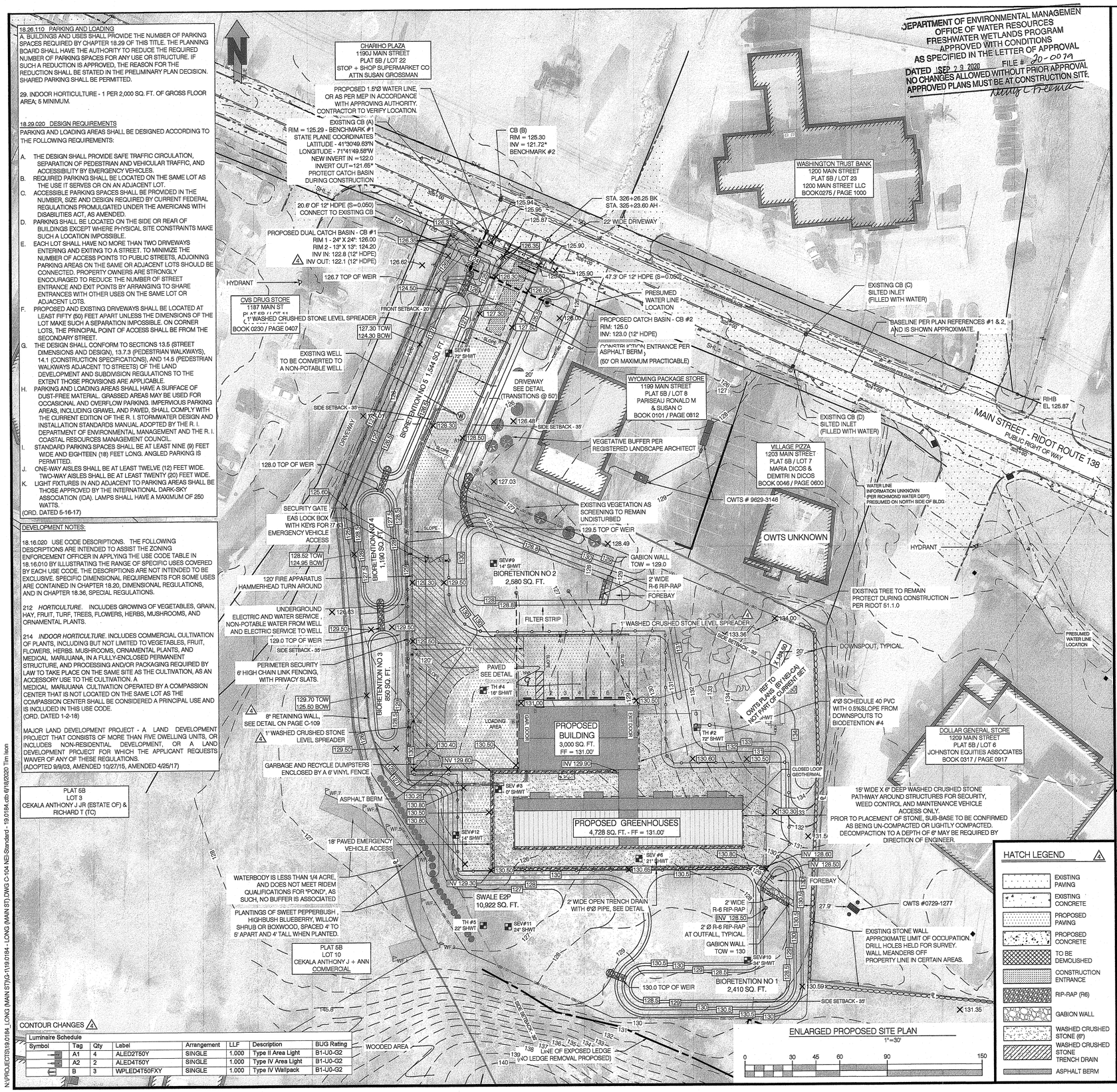
MAJOR LAND DEVELOPMENT PROJECT - A LAND DEVELOPMENT PROJECT THAT CONSISTS OF MORE THAN FIVE DWELLING UNITS, OR INCLUDES NON-RESIDENTIAL DEVELOPMENT, OR A LAND DEVELOPMENT PROJECT FOR WHICH THE APPLICANT REQUESTS WAIVER OF ANY OF THESE REGULATIONS.
(ADOPTED 9/9/03, AMENDED 10/27/15, AMENDED 4/25/17)

PLAT 5B
LOT 3
CEKALA ANTHONY J JR (ESTATE OF) &
RICHARD T (TC)

CONTOUR CHANGES ⚠1

Luminaire Schedule

Symbol	Tag	Qty	Label	Arrangement	LLF	Description	BUG Rating
	A1	4	ALED2T50Y	SINGLE	1.000	Type II Area Light	B1-U0-G2
	A2	2	ALED4T50Y	SINGLE	1.000	Type IV Area Light	B1-U0-G2
	B	3	WPLED4T50FXY	SINGLE	1.000	Type IV Wallpack	B1-U0-G2



HATCH LEGEND ⚠4

- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
- GABION WALL
- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

GENERAL RESIDENTIAL OR LIGHT COMMERCIAL SITE CONSTRUCTION NOTES:

1. SOIL EVALUATIONS BE PERFORMED FOR ANY BASEMENTS OR SUBSURFACE AREAS, AND FOR STORMWATER MITIGATION DESIGN.
2. STORM WATER MITIGATION FOR WATER QUALITY (1") BE INSTALLED IN THE FORM OF SWALES OR SIMILAR, ALONG WITH GUTTERS, LEADERS, AND DOWNSPOUTS TO SYSTEM REFER TO RI SINGLE FAMILY STORM-WATER MANUAL. HTTP://WWW.DEM.RI.GOV/PROGRAMS/BENVIRON/WATER/PERMITS/RIPDES/STWATER/PDFS/SWSINFAM.PDF
3. GRADING SHALL BE UNDERTAKEN AS DIRECTED ON PLAN. SLOPES SHALL NOT EXCEED 3:1 UNLESS NOTED OTHERWISE.
4. ALL WALLS, OR REVETMENTS TO HAVE APPROPRIATE BACKFILL AND DRAINAGE BEHIND. WALLS OVER 3' MAY REQUIRE DESIGN BY AN RI PROFESSIONAL ENGINEER.
5. CARE SHALL BE TAKEN TO DIRECT DRAINAGE AWAY FROM STRUCTURE AND ABUTTERS.
6. ALL PROPOSED UTILITIES TO CONFORM TO LOCAL CODE INSTALLATION REQUIREMENTS.
7. ALL FILL SHALL BE FREE OF ORGANICS, DEBRIS, STONES GREATER THAN 6" AND WELL BE COMPACTED IN 8" LIFTS AND TO BE 95% MODIFIED PROCTOR COMPACTION.
8. ALL WORK SHALL BE DONE IN SUBSTANTIAL CONFORMANCE WITH RI CONSUMER PROTECTION CONSTRUCTION STANDARDS.
   REF TO SECTION 1 AND SECTION TO FOR SITE AND GRADING STANDARDS.
   HTTP://WWW.CRB.RI.GOV/DOCUMENTS/CONSTRUCTION-STANDARDS.PDF

WETLAND DELINEATION:
WETLAND DELINEATION BY BRANDON FANEUF, LICENSE NUMBER D4059, ECOSYSTEM SOLUTIONS, INC.
PERFORMED - 01/10/2020

BENCHMARK NOTE:
NEI WILL ALWAYS PROVIDE A MINIMUM OF TWO SITE BENCHMARKS. CONTRACTOR TO VERIFY ALL BENCHMARKS EXIST PRIOR TO CONSTRUCTION. ELEVATIONS OF ALL BENCHMARKS TO BE SHOT IN FIELD (WITH SUITABLE EQUIPMENT) AND DIFFERENTIAL TO BE VERIFIED, IF VERTICAL DIFFERENTIAL EXCEEDS 0.05' IT SHALL BE IMMEDIATELY REPORTED TO NEI. DIFFERENTIAL IN EXCESS OF 0.05' INDICATES THAT BENCHMARKS MAY HAVE BEEN DISTURBED AND ARE NOT SUITABLE FOR USE.

LANDSCAPING, LIGHTING AND ASSOCIATED ELEMENTS:
1. THESE ITEMS ARE NOT INCLUSIVE, BUT WILL BE PART OF MUNICIPAL DEVELOPMENT PLAN REVIEW APPLICATION.

18.20.010 – TABLE of DIMENSIONAL REGULATIONS

Zoning District	Use	Lot size (in acres equal to 43,560 sf)	Lot frontage (feet)	Front yard depth (feet)	Rear yard depth (feet)	Side yard depth (feet)	Maximum b covera
GB	Permitted uses	1	150	20	50	35	25%

18.20.010 – TABLE of DIMENSIONAL REGULATIONS (Part 2)

Zoning District	Use	Maximum height of main structure (feet)	Maximum height of accessory structure (feet)	Side and rear yard depth - accessory structure (feet)	Maximum ground floor area - retail uses only (square feet)	Maximum height and number of stories - retail uses only (feet/stories)	Notes

Use Code	Use Description	R-3	R-2	R-1	Neigh. Bus.	Gen. Bus.	Lt. Ind.	Ind.	PD	PUD-VC	Flex Tech	SV	Agr. OL	Aqu. OL	Notes
20	AGRICULTURAL														
212	Horticulture	P	P	P	P	P	P	P	P	P	P	P	P	U	See RIGL § 45-24-37
214	Indoor horticulture	P	P	P	P	P	P	P	P	P	P	P	P	U	See § 18.54.020

LOT COVERAGE - PROPOSED		
LOT SIZE	160,371	SQ. FT.
PROPOSED GREENHOUSE	4,728	SQ. FT.
PROPOSED PROCESSING BUILDING	3,000	SQ. FT.
TOTAL PROPOSED BUILDINGS	7,728	SQ. FT.
PROPOSED COVERAGE	4.8%	<25% MAXIMUM COVERAGE

NOTES REGARDING CONFORMANCE WITH MANUAL:

-NO TREES OR PLANTINGS ARE PROPOSED IN STATE ROW. ALL LANDSCAPE DESIGN ELEMENTS SHOWN ON THE PLAN ARE SCHEMATIC AS RELATED TO SITE CLEARING AND DRAINAGE DESIGN. PLANS SHALL BE PROVIDED BY AN RI LANDSCAPE ARCHITECT FOR MUNICIPAL PERMITTING.

-AS PER 4.7.F - WORK WITHIN STATE ROW IS LESS THAN 25,000.

-OWNER / CONTRACTOR TO REFER TO SECTION 4.8 INSURANCE REQUIREMENTS OF THE DOT PAPA MANUAL FOR INSURANCE REQUIREMENTS PRIOR TO CONSTRUCTION.
AND SECTION 4.7FOR BOND REQUIREMENTS

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SHEET 5 OF 10	C-104

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SHEET TITLE
ENLARGED PROPOSED SITE PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY
No. 9886
06/18/2020
REGISTERED PROFESSIONAL ENGINEER
FOR ALL ENGINEERING ELEMENTS

NEAL K. HINGORANY
No. 2535
PROFESSIONAL LAND SURVEYOR
FOR ALL SURVEY ELEMENTS
06.18.20

Environmental Management
JUN 22 2020
Office of Water Resources
nei-cds.com

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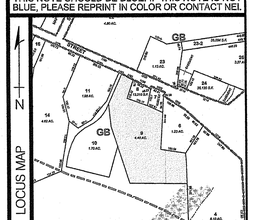
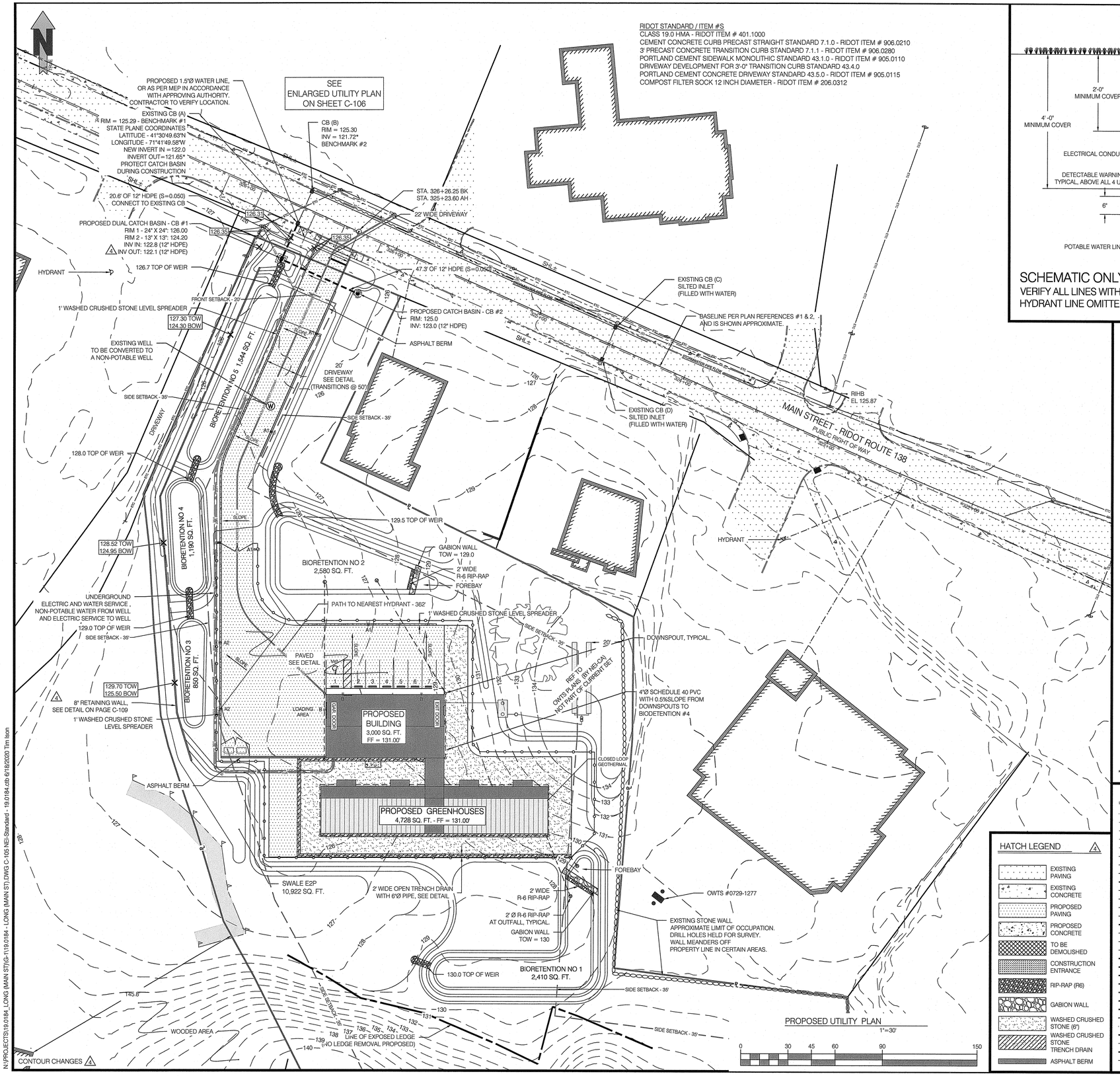
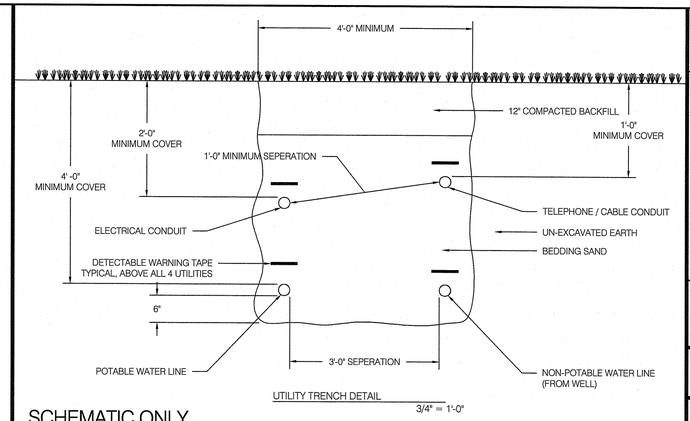


SCALE 1" = 30'

C-104

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-11\19.0184 - LONG (MAIN ST).DWG C-104 NEI-Standard - 19.0184.ctb 6/18/2020 Tim Ison





UTILITY TRENCH DETAIL
3/4" = 1'-0"

SCHEMATIC ONLY

VERIFY ALL LINES WITH AHJ PRIOR CONSTRUCTION
HYDRANT LINE OMITTED - MAY BE REQUIRED

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 2 9 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

* INVERT ELEVATIONS BASED ON POST STORM STANDING WATER.

HATCH LEGEND

- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
- GABION WALL
- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' DIMENSION - EXISTING
- 100.00' (D) DIMENSION - PLAN / DEED
- 100.00' DIMENSION - PROPOSED
- 100.00' (S) DIMENSION - SURVEY
- EDGE OF PAVEMENT - EXISTING
- EDGE OF PAVEMENT - PROPOSED
- OHE ELECTRIC - OVERHEAD (OHE)
- ETC ELECTRIC - TELEPHONE - CABLE (ETC)
- UGE ELECTRIC - UNDERGROUND (UGE)
- FENCE - METAL
- FENCE - WOOD
- FLOW ARROWS
- GAS GAS (G)
- 100.00 GRADE CONTOUR - EXISTING
- 100.00 GRADE CONTOUR - PROPOSED
- HVF HIGH VISIBILITY FENCE (HVF)
- LOD LIMIT OF DISTURBANCE (LOD)
- LOD / SED LOD / SED
- PROPERTY LINE - ABUTTING
- PROPERTY LINE - EXISTING
- PROPERTY LINE - PROPOSED
- SAN SANITARY SEWER (S)
- SED SEDIMENT CONTROL (SED)
- SETBACKS
- STONE WALL
- SD STORM DRAIN (SD)
- SUBDIVISION LINE - EXISTING
- W WATER
- WETLAND LIMIT
- CATCH BASIN
- DRILL HOLE
- ELECTRIC BOX (ETC)
- FIRE HYDRANT
- GATE VALVE
- GRANITE BOUND, EXISTING
- LOW WATER LINE
- LIMIT OF DISTURBANCE MARKER
- MH MANHOLE (MH:TYPE)
- REBAR / STEEL PIPE FOUND
- SPIKE
- X 5.10 SPOT GRADE - EXISTING
- X 6.6 SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
- SURVEY MONUMENT TO BE SET
- SURVEY MARKER TO BE SET
- TH # TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET 6 OF 10 — C-105

SHEET TITLE
UTILITY PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY — REGISTERED PROFESSIONAL ENGINEER — 06/15/2020

ENVIRONMENTAL MANAGEMENT
JUN 22 2020
WATER RESOURCES

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
1	03/05/20	REVISED ENTRY ELEMENTS PER CLASS 1 SURVEY	TJI
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
3	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI

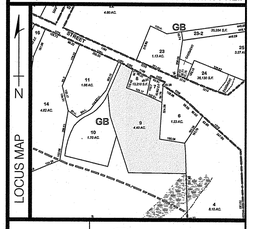
PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3

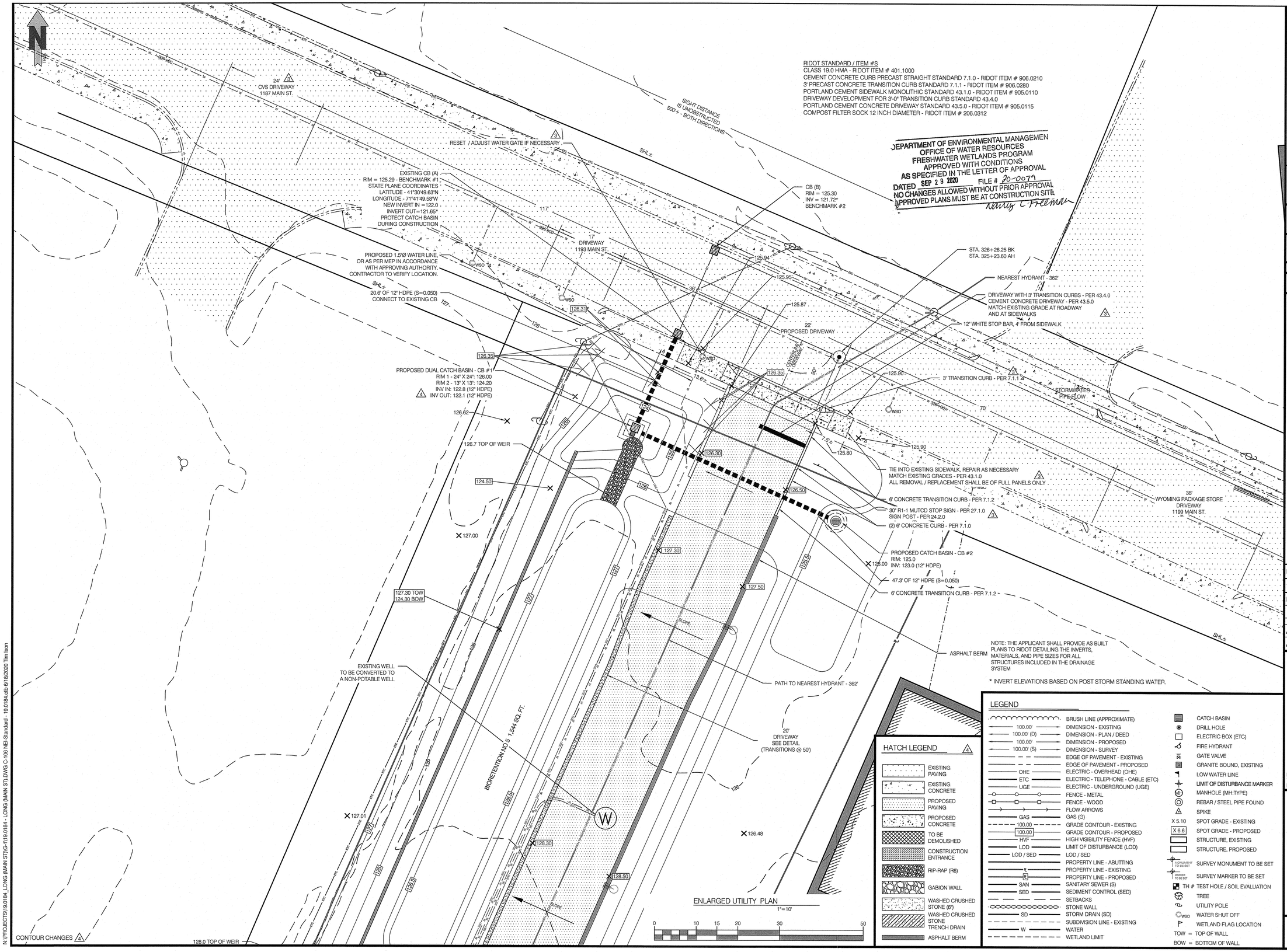
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DRAWINGS MUST BE PRINTED IN COLOR TO BE VALID. THIS NOTE SHOULD BE BLUE. IF THIS NOTE IS NOT BLUE, PLEASE REPRINT IN COLOR OR CONTACT NEI.



SCALE 1" = 30' — C-105



RIDOT STANDARD / ITEM #S
CLASS 19.0 HMA - RIDOT ITEM # 401.1000
CEMENT CONCRETE CURB PRECAST STRAIGHT STANDARD 7.1.0 - RIDOT ITEM # 906.0210
3' PRECAST CONCRETE TRANSITION CURB STANDARD 7.1.1 - RIDOT ITEM # 906.0280
PORTLAND CEMENT SIDEWALK MONOLITHIC STANDARD 43.1.0 - RIDOT ITEM # 905.0110
DRIVEWAY DEVELOPMENT FOR 3'-0" TRANSITION CURB STANDARD 43.4.0
PORTLAND CEMENT CONCRETE DRIVEWAY STANDARD 43.5.0 - RIDOT ITEM # 905.0115
COMPOST FILTER SOCK 12 INCH DIAMETER - RIDOT ITEM # 206.0312

DEPARTMENT OF ENVIRONMENTAL MANAGEMEN
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
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DATED SEP 29 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Wendy C Freeman

HATCH LEGEND

- EXISTING PAVING
- EXISTING CONCRETE
- PROPOSED PAVING
- PROPOSED CONCRETE
- TO BE DEMOLISHED
- CONSTRUCTION ENTRANCE
- RIP-RAP (R6)
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- WASHED CRUSHED STONE (6")
- WASHED CRUSHED STONE TRENCH DRAIN
- ASPHALT BERM

LEGEND

- BRUSH LINE (APPROXIMATE)
- 100.00' — DIMENSION - EXISTING
- 100.00' (D) — DIMENSION - PLAN / DEED
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- OHE — ELECTRIC - OVERHEAD (OHE)
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- X 6.6 — SPOT GRADE - PROPOSED
- STRUCTURE, EXISTING
- STRUCTURE, PROPOSED
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- TH # — TEST HOLE / SOIL EVALUATION
- TREE
- UTILITY POLE
- WSO — WATER SHUT OFF
- WETLAND FLAG LOCATION
- TOW = TOP OF WALL
- BOW = BOTTOM OF WALL

SHEET 7 OF 10 — C-106

NEI Narragansett Engineering Inc.
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Civil • Survey • Structural • Environmental • Design
3102 East Main Road, Portsmouth RI 02871
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SHEET TITLE
UTILITY PLAN

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
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APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY — REGISTERED PROFESSIONAL ENGINEER — 06/15/2020

Environmental Management
JUN 22 2020
Office of Water Resources

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
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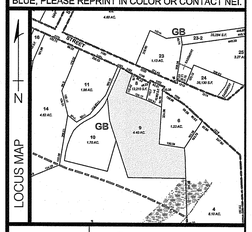
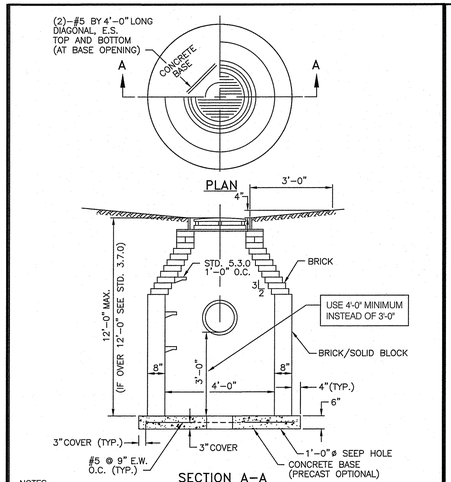
LOCUS MAP



SCALE 1" = 10' — C-106

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-119.0184 - LONG (MAIN ST).DWG C-106 NEI-Standard - 19.0184.ctb 6/18/2020 Tim Ison



SECTION A–A

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. 1/2"CEMENT MORTAR PLASTER COAT REQUIRED ON ALL INSIDE AND OUTSIDE SURFACES.
3. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.

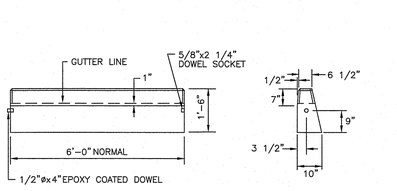
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

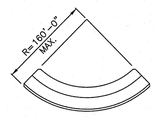
BRICK/SOLID BLOCK
TYPE "R" CATCH BASIN

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 3.4.3



CIRCULAR CURB



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'–0".
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADII OF 160'–0" OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 160'–0"RADIUS.
5. EXPOSED EDGES TO HAVE A 3/4"CHAMFER.

3

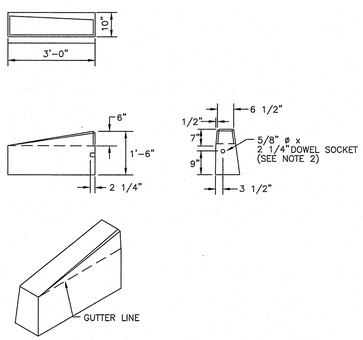
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

PRECAST CONCRETE CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.1.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. DRAWING SHOWS TRANSITION CURB FOR ONE DIRECTION, FOR OTHER DIRECTION USE OPPOSITE HAND AND INCLUDE A 1/2" ø x 4" EPOXY COATED DOWEL.
3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.
5. LEFT AND RIGHT SECTIONS SHALL BE INSTALLED AS REQUIRED.

3

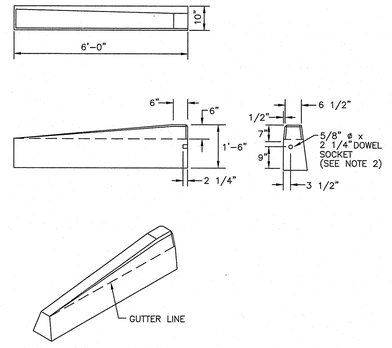
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05
2	MLP	06/01/10

3'–0" PRECAST CONCRETE TRANSITION CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.1.1



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3. EXPOSED SURFACES TO HAVE A SPONGE FLOAT FINISH.
4. EXPOSED EDGES TO HAVE A 3/4" CHAMFER.

3

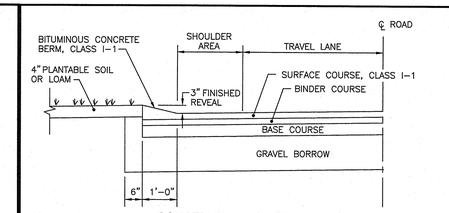
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

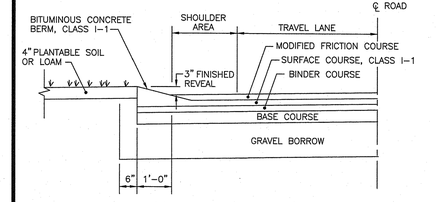
6'–0" PRECAST CONCRETE TRANSITION CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.1.2



CONSTRUCTION METHOD A



CONSTRUCTION METHOD B

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 906 OF THE R.I. STANDARD SPECIFICATIONS.
2. BITUMINOUS BERM CAN BE PLACED AT THE SAME TIME THAT THE SURFACE COURSE LAYER IS PLACED ON THE PROJECT ROADWAY, OR IT CAN BE INSTALLED IN A SEPARATE OPERATION.

3

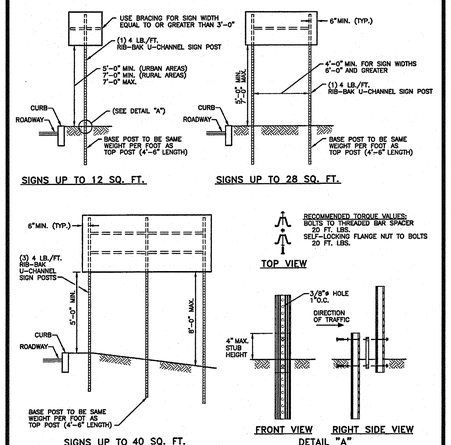
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	Mar 05

BITUMINOUS BERM

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 7.5.1



SIGNS UP TO 12 SQ. FT. — SIGNS UP TO 28 SQ. FT.

SIGNS UP TO 40 SQ. FT.

INSTALLATION PROCEDURE:
1. REMOVE A SPADE FULL OF SOIL (APPROXIMATELY 2" DEEP) FROM WHERE THE BASE POST WILL BE LOCATED.
2. DRIVE THE BASE POST IN THE CENTER OF THE HOLE JUST CREATED, TO WITHIN 4" OF GRADE LEVEL.
3. PLACE ONE BOLT AND FLAT WASHER IN THE TOP HOLE OF THE BASE POST. (IF THE TOP HOLE ON THE BASE POST, OR THE BOTTOM HOLE ON THE TOP POST IS LESS THAN 3/4" FROM END OF THE POST USE THE SECOND AND SIXTH HOLES.) WITH THE THREADED BAR SPACER ALIGNED WITH TOP HOLE ON THE BACK SIDE OF THE BASE POST, SECURELY TIGHTEN THE BOLT TO 20 FT. LBS. OF TORQUE. REPEAT THIS PROCESS FOR THE LOWER BOLT.
4. NEXT SLIDE TOP POST OVER PROTRUDING BOLTS ON THE BASE POST. PLACE A SELF–LOCKING FLANGE NUT ON EACH BOLT AND TIGHTEN SECURELY TO 20 FT. LBS. OF TORQUE.
5. REPLACE COIL REMOVABLE IN STEP 1.
6. IN THREE POST INSTALLATIONS USING 4 LB./FT. POSTS IN WEAK SOIL, A 1'–0"W x 6"H SOIL PLATE IS REQUIRED.

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. THE SIVER ANODIZED BAR SPACER IS FOR USE WITH 2, 2.5 AND 2.75 LB./FT. RIB–BAK POST GRADE SP–50 ONLY.
3. THE GOLD ANODIZED BAR SPACER IS FOR USE WITH 3 AND 4 LB./FT. RIB–BAK POST GRADE SP–50 ONLY.
4. INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS.
5. FOR SIGNS GREATER THAN 40 SQ. FT., REFER TO STD. 30.1.0, 30.1.1, 30.2.0, 30.2.1, 30.3.0, 30.3.1, 30.4.0, 30.4.1, 30.4.2 AND 30.4.3

3

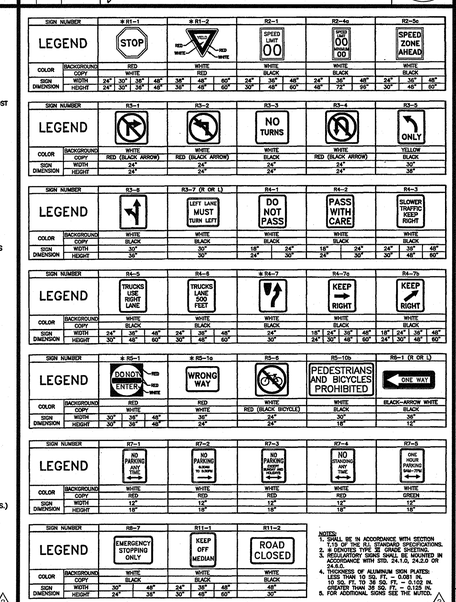
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

SIGN POST SELECTION AND INSTALLATION DETAILS
U–CHANNEL POST (SIGNS UP TO 8'–0"Wx4'–0"H)

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 24.2.0



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE R.I. STANDARD SPECIFICATIONS.
2. ø SIGNIFIES TYPE 2 GRADE SHEETING.
3. REGULATORY SIGNS SHALL BE MOUNTED IN ACCORDANCE WITH STD. 24.1.0, 24.2.0 OR 24.3.0.
4. THICKNESS OF ALUMINUM SIGN PLATES: LESS THAN 10 SQ. FT. = 0.080 IN. 10 SQ. FT. TO 20 SQ. FT. = 0.100 IN. GREATER THAN 20 SQ. FT. = 0.125 IN.
5. FOR ADDITIONAL SIGNS SEE THE MUTCD.

3

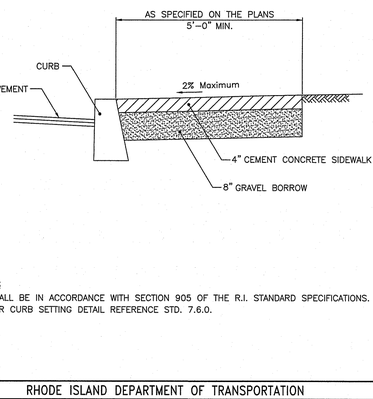
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

REGULATORY SIGNS

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 27.1.0



NOTES
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. FOR CURB SETTING DETAIL REFERENCE STD. 7.6.0.

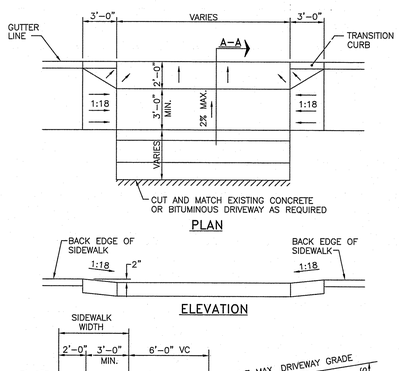
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	3/1/05
2	MLP	06/01/10

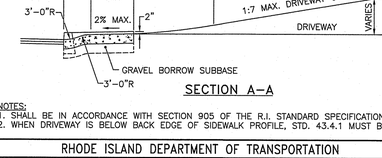
CEMENT CONCRETE SIDEWALK

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

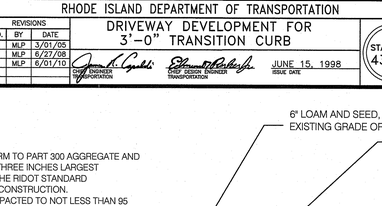
R.I. STANDARD 43.1.0



PLAN



ELEVATION



SECTION A–A

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.
2. WHEN DRIVEWAY IS BELOW BACK EDGE OF SIDEWALK PROFILE, STD. 43.4.1 MUST BE USED.

3

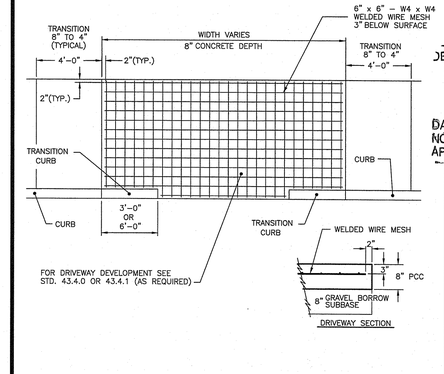
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	3/01/05
2	MLP	6/27/08
3	MLP	6/01/10

DRIVEWAY DEVELOPMENT FOR 3'–0" TRANSITION CURB

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.4.0



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 905 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE
1	MLP	1/10/05
2	MLP	7/21/06
3	MLP	6/01/10

CEMENT CONCRETE DRIVEWAYS

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 43.5.0

RIDOT HMA Matrix

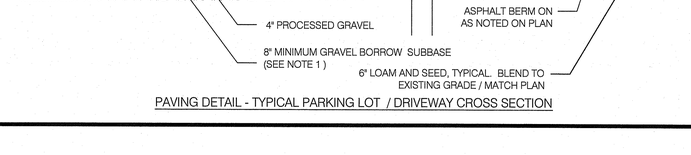
	Class NMAS	Recommended Lift Thickness Inches Min.	Max.	Typical Use
Dense Base Courses	Class 19.0 HMA	3	5	Base or other underlying layers. Preferred mix for lifts greater than or equal to 3"
	Class 12.5 HMA	2	3	Surface, Base or other underlying layers. Patching, Utilities, Waterways
Dense Surface Courses	Class 9.5 HMA	1 1/2	2 1/4	Surface, Bridges, Driveways, Leveling, Patching, Utilities, Waterways, Misc.
	Class 4.75 HMA	3/4	1 1/4	Surface, Surface for Bike Paths, Sidewalks, Leveling, Patching, Utilities, Waterways, Misc.
Special Courses and Other Courses	Friction Course (FC) Friction Course for Shoulders	1 1/2		Limited Access, Interstate Highways, High Speed Facilities
	PPEST	1		Pavement Preservation Overlay
	SMA	Varies		Base and/or Surface

HMA = Hot Mix Asphalt, NMAS = Nominal Maximum Aggregate Size, FC = Friction Course, PPEST = Paver Placed Elastomeric Surface Treatment, SMA = Stone Matrix Asphalt

Notes:
1. "Class" refers to dense HMA courses. "Class" is followed by a number representing the NMAS of the mix in millimeters.
2. Minimum lift thickness may be calculated as 4 times the NMAS. For example: Class 12.5 HMA, 4 x 12.5mm = 50 mm or 2 inches as a lift thickness (this rule excludes special courses). In general, using more lifts will provide for a smoother pavement; the largest NMAS should be used for each lift.
3. Surface course binder shall be modified for all paver placed surface courses unless otherwise designated. Other additives for binder will be specified in the Contract Documents as required, e.g. WMA, anti-stripping.
   a) The term "binder" refers to liquid asphalt.
   b) The term "modified" refers to the polymer modification of binder.

Ver 2.4 07/2019

NOTES:
1. GRAVEL BORROW SUBBASE SHALL CONFORM TO PART 300 AGGREGATE AND GRAVEL BASE AND SUBBASE COURSES, (THREE INCHES LARGEST DIMENSION) OF THE LATEST EDITION OF THE RIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. GRAVEL BORROW SUBBASE SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY DENSITY OF THE MATERIAL AS DETERMINED BY THE STANDARD AASHTO TEST DESIGNATION T99, COMPACTION TEST METHOD C AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER.
3. "TAC COAT" AS SPECIFIED IN SECTION 486.61 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED BY "TAC TRUCK" BETWEEN ASPHALT LAYERS OR AS DETERMINED BY THE ENGINEER.
4. SOILS TESTING INCLUDING SIEVE ANALYSIS, PROCTOR TESTING AND COMPACTION TESTING SHALL BE PREFORMED ONCE EVERY 100 FEET OF PAVED ROADWAY ALONG THE CENTERLINE OF THE ROADWAY OR AS DIRECTED BY THE ENGINEER.
5. SIDEWALK RAMPS MUST MEET CURRENT APPLICABLE ADA / AAB STANDARDS.



PAVING DETAIL - TYPICAL PARKING LOT / DRIVEWAY CROSS SECTION

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-119.0184 - LONG (MAIN ST).DWG C-107 NEI Standard - 19.0184.ctb 6/18/2020 Tim Ison

SHEET 8 OF 10 — C-107

Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
PROPOSED DETAILS No. 1

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY — No. 13,000 — REGISTERED PROFESSIONAL ENGINEER — 06/15/2020

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 29 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Nancy Freeman

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
1	03/05/20	REVISED ENTRY ELEMENTS PER CLASS 1 SURVEY	TJI
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
3	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
4	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3

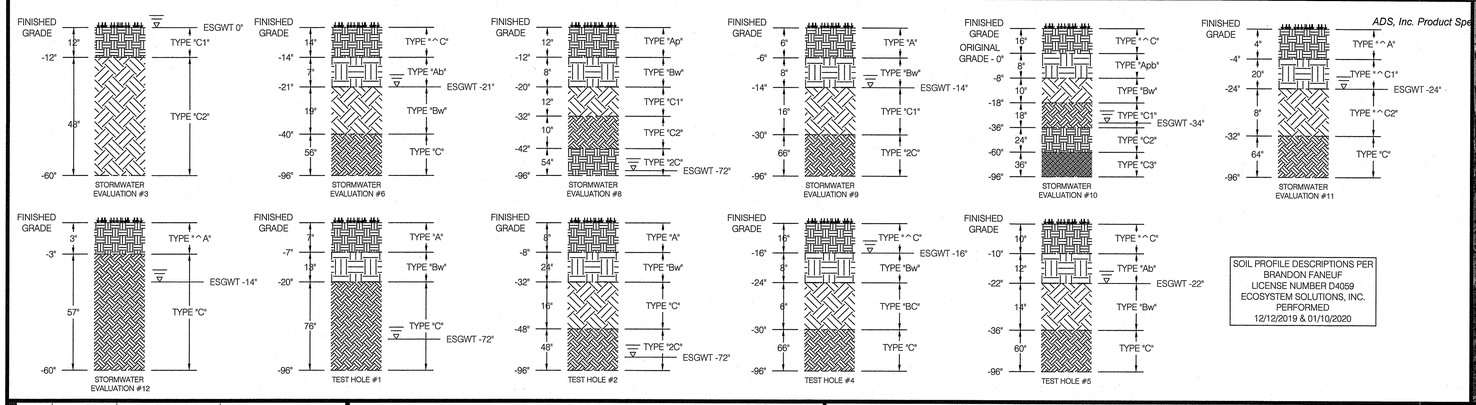
SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DRAWINGS MUST BE PRINTED IN COLOR TO BE VALID. THIS NOTE SHOULD BE BLUE. IF THIS NOTE IS NOT BLUE, PLEASE REPRINT IN COLOR OR CONTACT NEI.

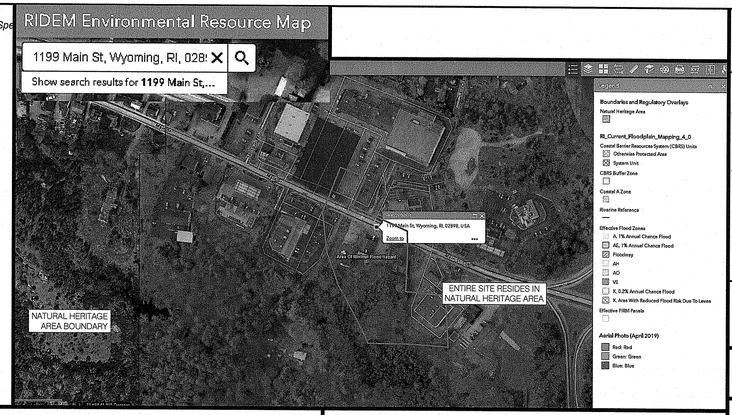
Environmental Management — JUN 22 2020 — Office of Water Resources

SCALE AS NOTED — C-107



ADS, Inc. Product Spe

SOIL PROFILE DESCRIPTIONS PER
BRANDON FANEUF
LICENSE NUMBER D4059
ECOSYSTEM SOLUTIONS, INC.
PERFORMED
12/12/2019 & 01/10/2020



Urban Commercial	10

D. Radius of Curvature of Junction of Driveway and Pavement Rural or Urban (See §§ 4.16(A)(1) through (3) of this Part, Figures 1, 2, 3)

1. Table: Corner Radius

	Minimum Radius of Curvature (ft.)	Maximum Radius of Curvature (ft.)
Residential (Rural or Urban)	2	10
Commercial (Rural or Urban)	5	30

E Corner Clearance (See Figure 3)

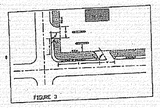
1. Where there are traffic signals at the intersection, the near side edge clearance shall be twice the far side.

2. Table: Corner Clearance

	Minimum Corner Clearance (ft.)
Rural	40
Urban	20

F. Driveway Profile - (See § 4.16(F) of this Part, Figure 4)

1. Figure 4



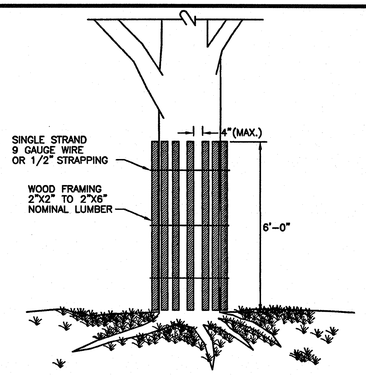
B. Driveway Width, Rural and Urban (See §§ 4.16(A)(1) through (3) of this Part, Figures 1, 2, 3)

1. Table: Driveway Width, Rural and Urban

	Minimum Driveway Width (ft.)	Maximum Driveway Width (ft.)
Residential	10	20
Commercial	-	20 (one-way use) two-way use)

C. Edge Clearance (See §§ 4.16(A)(1) through (2) of this Part, Figures 1, 2) - All portions of the driveway shall be within frontage boundary lines. For driveways with angles of about 90 degrees, the edge clearance shall not be less than the radius of curvature 7) for the junction of the driveway and pavement edges.

3. Table: Edge Clearance



NOTE:
SHALL BE IN ACCORDANCE WITH SECTION L.11 OF THE STANDARD SPECIFICATIONS.

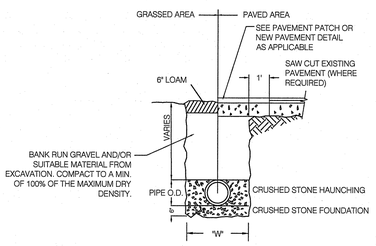
RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

TREE PROTECTION DEVICE

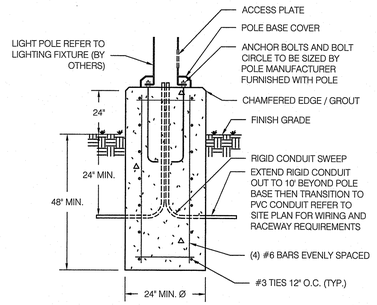
CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 51.1.0



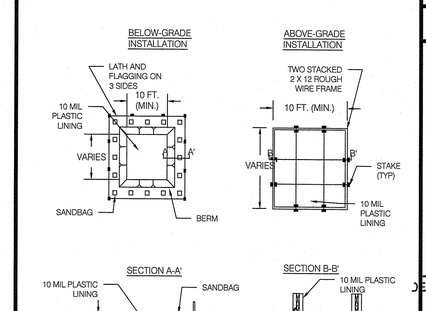
NOTES:
1. WIDTH (W) OF TRENCH IS EQUAL TO THE INSIDE DIAMETER OF THE PIPE PLUS 12".
2. SOIL UNDER CRUSHED STONE FOUNDATION SHALL BE UNDISTURBED AND COMPACTED WITH SEVERAL PASSES OF A VIBRATORY PLATE COMPACTOR.
3. CRUSHED STONE FOUNDATION 3/4" MAXIMUM SIZE, SHALL BE PLACED 6" UNDER THE PIPE AND UP TO THE PIPE GRADE, THE PIPE LAID THEREON, CRUSHED STONE PULLED AGAINST THE PIPE SIDES TO FIRMLY HOLD THE PIPE IN PLACE.
4. CRUSHED STONE HAUNCHING 3/4" MAXIMUM SIZE SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE.

ROOF & STORM DRAIN TRENCH
NOT TO SCALE



NOTES:
1. BASE DETAIL PROVIDED TO INDICATE GENERAL INTENT OF THE ELECTRICAL INSTALLATION. MODIFY BASE DEPTH AND DIAMETER TO ACCOMMODATE LIGHTING FIXTURE AND SOIL CHARACTERISTICS.
2. COORDINATE ANCHOR BOLT PLACEMENT WITH GENERAL CONTRACTOR. POLE BASE EXCAVATION FORMING, REBAR AND CONCRETE BY G.C.
3. POLE BASE DETAIL FOR INFORMATION ONLY. REFER TO SITE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.

SITE LIGHTING POLE BASE DETAIL
NOT TO SCALE



NOTES:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. LOCATE A MIN. OF 50 FEET FROM STORM DRAINS, OPEN CHANNELS, WATER BODIES, AND JURISDICTIONAL WETLANDS.
3. SOIL BASE SHALL BE PREPARED FREE OF ROCKS OR OTHER DEBRIS THAT COULD CAUSE A TEAR IN THE LINER.
4. LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE AREAS SUCH AS STORM DRAINS, OPEN DITCHES, OR WATER BODIES, INCLUDING ALL JURISDICTIONAL WETLANDS.

CONCRETE WASHOUT STATION

NEI
Narragansett Engineering Inc.
nei-cds.com
Civil - Survey - Structural - Environmental - Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET 9 OF 10

C-108

SHEET TITLE
PROPOSED DETAILS No 2

GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

KAMAL HINGORANY
No. 9999
REGISTERED PROFESSIONAL ENGINEER
06/15/2020

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 2 2 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Neville L Fredman

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
1	03/05/20	REVISED ENTRY ELEMENTS PER CLASS 1 SURVEY	TJI
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
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PURPOSE:
FOR RIDEM RESUBMITTAL.

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SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

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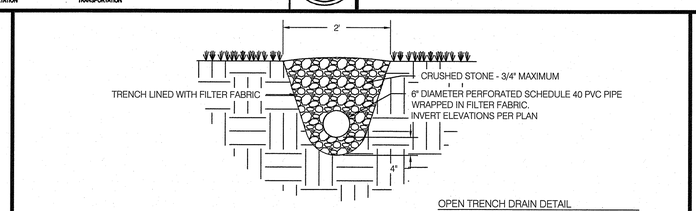
Environmental Management
JUN 22 2020
Office of Water Resources

SCALE AS NOTED

C-108

N:\PROJECTS\19.0184_LONG (MAIN ST)\G-1\19.0184 - LONG (MAIN ST).DWG C-108 NEI-Standard - 19.0184.ctb 6/18/2020 Tim Ison

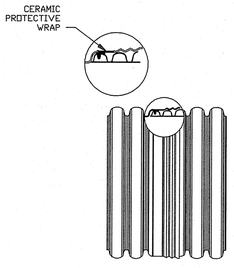


OPEN TRENCH DRAIN DETAIL
3/4" = 1'-0"

ADS, Inc. Product Specifications *Specifications ♦ 1-5*

N-12® WT IB JOINT SYSTEM

(Joint configuration & availability subject to change without notice.)



ADS N-12® WT IB PIPE SPECIFICATION

Scope
This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 WT IB pipe for use in gravity flow applications.

Pipe Requirements
N-12 WT IB pipe shall have a smooth interior and annular exterior corrugations.
• 12- through 60-inch (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2306.
• Manning's "n" value for use in design shall be 0.012.

Joint Performance
Pipe shall be joined with the N-12 WT IB joint meeting the requirements of AASHTO M294 or ASTM F2306.

The 4- through 60-inch (100 to 1500 mm) pipe shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

Fittings
Fittings shall conform to AASHTO M294 or ASTM F2306. Fabricated fittings shall be welded at all accessible interior and exterior junctions.

Material Properties
Pipe and fittings shall be made of virgin polyethylene compounds that comply with the cell classification 424420C for 4- through 10-inch (100 to 250mm) diameters, or 435400C for 12- through 60-inch (300 to 1500mm) diameters, as defined and described in ASTM D3350, except that carbon black content should not exceed 4%. The 12- through 60-inch (300 to 1500mm) virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Section 6.1.1 and 5.1 of AASHTO M294 and ASTM F2306 respectfully.

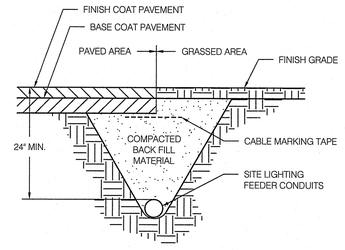
Installation
Installation shall be in accordance with ASTM D2321 and ADS installation guidelines, with the exception that minimum cover in traffic areas for 12- through 48-inch (300 to 1200 mm) diameters shall be one foot. (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 foot (0.6 m). Contact your local ADS representative or visit our website at www.ads-pipe.com for a copy of the installation guidelines.

Pipe Dimensions

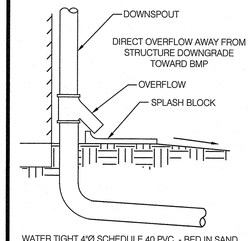
	Nominal Diameter, in (mm)												
Pipe I.D. in (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	48 (1200)	60 (1500)
Pipe O.D.* in (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	23 (599)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)

*Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ± 1 inch. Contact Applications Engineering for exact values.

© ADS, Inc., March 2006

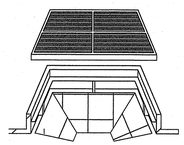


TYPICAL TRENCH/SITE LIGHTING CONDUIT
NOT TO SCALE



TYPICAL ROOF DRAIN TO BMP
N.T.S.

INTERNAL MANUFACTURED INLET FILTER
N.T.S.

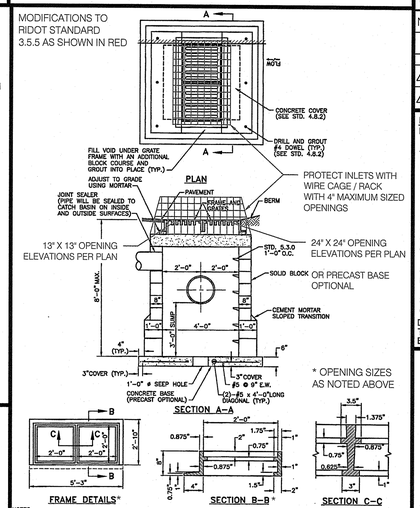


GENERAL NOTES:
1. DETAIL SHOWN IS FOR A TYPICAL APPLICATION, OTHER APPLICATIONS EXIST, AND ARE MANUFACTURED FOR SPECIFIC SIZE AND TYPE OF INLETS.
2. MANUFACTURED TYPES ARE TYPICALLY METAL FRAME AND FILTER BACK, WHILE FABRIC ONLY VERSIONS MAY ALSO BE USED. STRAW BALES PER RI DOT STD DETAIL 9.8.0 MAY BE USED IN GRASSED AREAS.

INSTALLATION:
1. INSTALLATION OF MANUFACTURED INLET FILTERS SHALL BE ACCORDING TO MANUFACTURES RECOMMENDATIONS.

MAINTENANCE:
1. THE OPERATOR MUST CLEAN, OR REMOVE AND REPLACE THE INLET PROTECTION MEASURES AS SEDIMENT ACCUMULATES, THE FILTER BECOMES CLOGGED, AND/OR AS PERFORMANCE IS COMPROMISED. ACCUMULATED SEDIMENT ADJACENT TO THE INLET PROTECTION MEASURES SHOULD BE REMOVED BY THE END OF THE SAME WORK DAY IN WHICH IT IS FOUND OR BY THE END OF THE FOLLOWING WORK DAY IF REMOVAL BY THE SAME WORK DAY IS NOT FEASIBLE.

MODIFICATIONS TO RIDOT STANDARD 3.5.5 AS SHOWN IN RED



NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. 1/2" CEMENT MORTAR COAT REQUIRED ON ALL INSIDE AND OUTSIDE SURFACES.
3. 8" HIGH FRAME MAY BE SUBSTITUTED WITH A 4" HIGH FRAME AS NEEDED. SHOP DRAWINGS ARE REQUIRED.
4. ADJUST DOWEL LOCATION BASED ON PIPE CONFIGURATION, IF REQUIRED.
5. PIPE COVER FOR THIS DETAIL SHALL BE 1'-8" TO 3'-0".
6. USE 8" WALLS UP TO 8'-0" DEPTH, USE 1'-0" WALLS UP TO 8'-0" DEPTH.
7. TWO SINGLE FRAMES WITH THREE FLANGES AND TWIN GRATES MAY BE SUBSTITUTED FOR THE DOUBLE FRAME WITH TWIN GRATES.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS		
NO.	BY	DATE

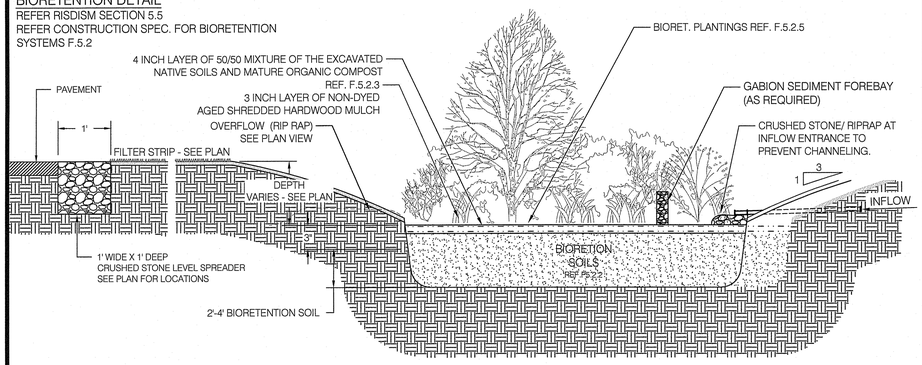
SOLID BLOCK SHALLOW DOUBLE GRATE CATCH BASIN
GRATE PERPENDICULAR TO EDGE OF PAVEMENT

CHIEF ENGINEER TRANSPORTATION — CHIEF DESIGN ENGINEER TRANSPORTATION — JUNE 15, 1998 ISSUE DATE

R.I. STANDARD 3.5.5

BIORETENTION DETAIL

REFER RISDISM SECTION 5.5
REFER CONSTRUCTION SPEC. FOR BIORETENTION SYSTEMS F.5.2



TYPICAL BIORETENTION SECTION

NEI RECOMMENDS CONSULTING WITH A LOCAL LANDSCAPE ARCHITECT FOR EACH SPECIFIC SITE; PLANT SELECTIONS SHOULD BE BASED OFF REQUISITE CRITERIA IN RI COASTAL PLANT GUIDE. HTTP://WEB.URI.EDU/CELS/CEOC/COASTALPLANTS/COASTALPLANTGUIDE.HTM

KEY NOTES PER RISDISM REQUIREMENTS:

A dense and vigorous vegetative cover shall be established over the contributing pervious drainage areas before runoff can be accepted into the facility.

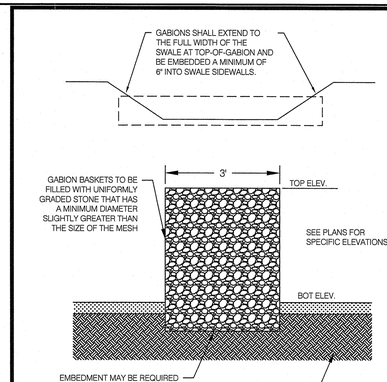
- Vegetation is critical to the performance and function of bioretention areas; therefore, a planting plan must be provided that follows the general guidance in Appendix B. The permitting agency may require applicants to retain the services of a qualified professional with the educational background and/or experience to select appropriate plants.

Trees should be planted primarily along the perimeter of the facility.

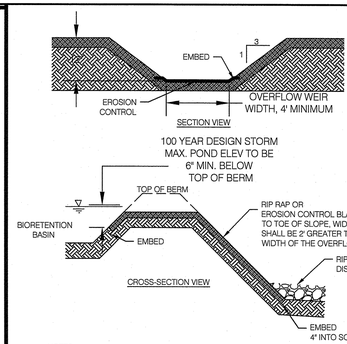
- A tree density of approximately one tree per 250 ft2 (i.e., 15 ft on-center) is recommended. Shrubs and herbaceous vegetation should generally be planted at higher densities (5-10 ft on-center and 2.5 ft on center, respectively)

5.5.6 Maintenance Required Elements

- A legally binding and enforceable maintenance agreement shall be executed between the facility owner and the responsible authority to ensure the following:
- Sediment shall be cleaned out of the sediment forebay when it accumulates to a depth of more than ½ the design depth. Vegetation within the sediment forebay shall be limited to a height of 18 inches. The sediment chamber outlet devices shall be cleaned/repaired when drawdown times exceed 36 hours. Trash and debris shall be removed as necessary.
- Silt/sediment shall be removed from the filter bed when the accumulation exceeds one inch. When the filtering capacity of the filter diminishes substantially (i.e., when water ponds on the surface of the filter bed for more than 48 hours), the top few inches of discolored material shall be removed and shall be replaced with fresh material. The removed sediments shall be disposed in an acceptable manner at an approved and permitted location.
- For unique installations in extremely tight sites or redevelopment/infill projects where pretreatment strips have been downsized, enhanced maintenance shall be required through more frequent inspections, more frequent sediment removal, and enhanced landscape maintenance.
- During the six months immediately after construction, filter practices shall be inspected following at least the first two precipitation events of at least 1.0 inch to ensure that the system is functioning properly. Thereafter, inspections shall be conducted on an annual basis and after storm events of greater than or equal the 1-year, 24-hour Type III precipitation event
- See site O&M report for additional information on required O&M practices.

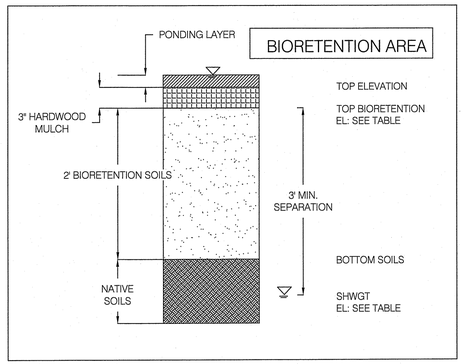


FOREBAY / POND GABION BASKET DIVIDER
NOT TO SCALE



NOTES:
1. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN PRODUCTS P300 OR APPROVED EQUIVALENT.
2. EROSION CONTROL BLANKET SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.
3. AS ALTERNATE - USE RIP RAP WITH SIZES AS SHOWN ON PLANS.

EARTHEN EMERGENCY SPILLWAY - BIORETENTION PONDS 1 THROUGH 5
NOT TO SCALE



ELEVATION TABLE

BIORETENTION 5		
MEAN EX. GRADE	126	
WATER TABLE DEPTH	72"	
WATER TABLE ELEVATION	120	
MIN TOP OF MULCH ELEV.	123	
TOP OF MULCH PROPOSED	126.5	
SHGWT SEPARATION (3' MIN.)	6.5'	OK

BIORETENTION 4		
MEAN EX. GRADE	125.9	
WATER TABLE DEPTH	17"	
WATER TABLE ELEVATION	124.5	
MIN TOP OF MULCH ELEV.	127.5	
TOP OF MULCH PROPOSED	127.5	
SHGWT SEPARATION (3' MIN.)	3'	OK

BIORETENTION 3		
MEAN EX. GRADE	126	
WATER TABLE DEPTH	14"	
WATER TABLE ELEVATION	124.8	
MIN TOP OF MULCH ELEV.	127.8	
TOP OF MULCH PROPOSED	128.5	
SHGWT SEPARATION (3' MIN.)	4.2'	OK

BIORETENTION 2		
MEAN EX. GRADE	126.2	
WATER TABLE DEPTH	14"	
WATER TABLE ELEVATION	125	
MIN TOP OF MULCH ELEV.	128	
TOP OF MULCH PROPOSED	128	
SHGWT SEPARATION (3' MIN.)	3'	OK

BIORETENTION 1		
MEAN EX. GRADE	128.3	
WATER TABLE DEPTH	34"	
WATER TABLE ELEVATION	125.5	
MIN TOP OF MULCH ELEV.	128.5	
TOP OF MULCH PROPOSED	128.5	
SHGWT SEPARATION (3' MIN.)	3'	OK

SPECIFICATIONS

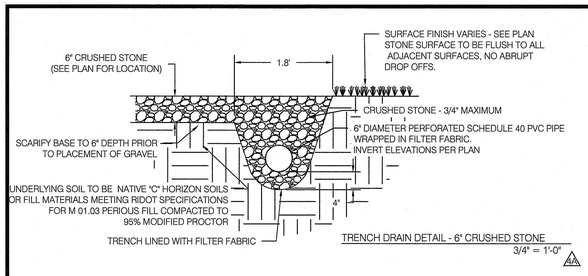
F.5.2.2 Bioretention Soil
The soil should be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The bioretention soil should be free of noxious weeds.
The bioretention system shall utilize planting soil having a composition as follows:
Sand: 85-88%
Soil fines: 8 to 12% (no more than 2% clay)
Organic Matter*: 3 to 5%
*Note: For bioretention applications with a soil depth of less than 4 feet, add 20% (by volume) of well aged (3 months), well aerated, leaf compost (or approved equivalent) to the above planting soil mixture. Where soil fines content is less than 12%, add a corresponding % of leaf compost.
A textural analysis is required to ensure the bioretention soil meets the specification listed above. The bioretention soil should also be tested for the following criteria:
pH range 5.2 - 7.0
magnesium not to exceed 32 ppm
phosphorus P2O5 not to exceed 69 ppm
potassium K2O not to exceed 78 ppm
soluble salts not to exceed 500 ppm
All bioretention areas should have a minimum of one test. Each test should consist of both the standard soil test for pH, phosphorus, and potassium and additional tests of organic matter, and soluble salts.
Since different labs calibrate their testing equipment differently, all testing results should come from the same testing facility.
Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

F.5.2.3 Mulch Layer Specifications.
A finely shredded, well-aged organic hardwood mulch is the preferred accepted mulch; a finely shredded, well-aged organic dark pine mulch may be accepted on a case-bycase basis. Bark dust mulches and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable.
Shredded mulch must be well aged (6-12 months) for acceptance.
Mix approximately ½ the specified mulch layer into the planting soil to a depth of approximately 4 inches to help foster a highly organic surface layer.
F.5.2.4 Compaction
It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention area is excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high pressure tires will cause excessive compaction resulting in reduced infiltration rates and storage volumes and is not acceptable. Compaction will significantly contribute to design failure.
Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are performed to refracture the soil profile through the 12-in compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.
When backfilling the bioretention facility, place soil in lifts 12in or greater. Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

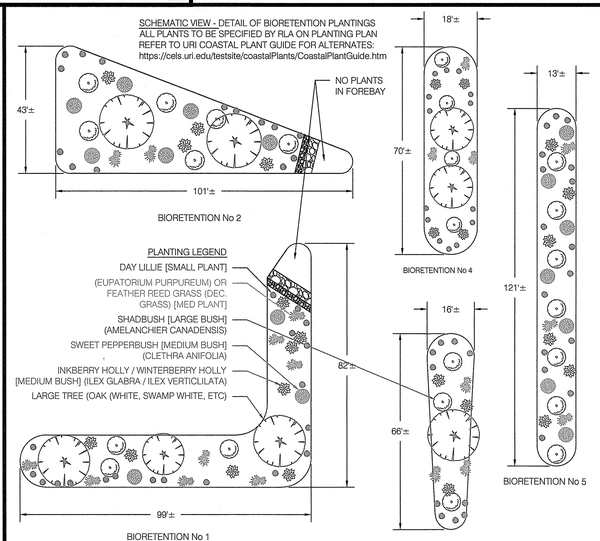
F.5.2.5 Plant Installation
The plant root ball should be planted so 1/8th of the ball is above final grade surface. Root stock of the plant material should be kept moist during transport and on-site storage. The diameter of the planting pit should be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation. Trees should be braced using 2 in x 2 in stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball. Grasses and legume seed should be tilled into the soil to a depth of at least one inch. Grass and legume plugs should be planted following the non-grass ground cover planting specifications.

The planting soil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers defeats, or at a minimum, impedes this goal. Only add fertilizer if compost or mulch is used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1,000 square feet.

F.5.2.6 Underdrains
Underdrains should be in accordance with RIDOT specification section 703 – Underdrains and Combination Underdrains and the following provisions, as applicable. Underdrains should be placed on a minimum 3'-0" wide section of filter cloth. Pipe is placed next, followed by the gravel bedding. The ends of underdrain pipes not terminating in an observation well should be capped. The main collector pipe for underdrain systems should be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1,000 square feet of surface area). F.5.2.7 Miscellaneous
The bioretention facility may not be constructed until all contributing drainage area has been stabilized.



TRENCH DRAIN DETAIL - 6" CRUSHED STONE
3/4" = 1'-0"



LOAM AND SEED:

GENERAL:
1. ALL DISTURBED AREAS TO BE LOAMED AND SEEDED PER "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" AS AMENDED OR REVISED.
2. FOR NON-NATIVE PLANTING SEEDING DATES ARE APRIL 1 THROUGH JUNE 15 AND AUGUST 15 THROUGH SEPTEMBER 30, DATE MAY BE EXTENDED 15 DAYS IN NEWPORT COUNTY.
3. FOR NATIVE PLANING SEEDING DATES ARE BETWEEN AUGUST AND SEPTEMBER.

SEED BED PREPARATION:
1. LOOSEN SOIL TO A DEPTH OF THREE TO FOUR INCHES BY RAKING, DISCING, DRAGGING OR TRAVERSING WITH TRACKED MACHINERY, OVER COMPACTION SHALL BE AVOIDED CLEAT MARKS SHALL BE PERPENDICULAR TO ANTICIPATED DIRECTION OF SURFACE WATER FLOW.
2. APPLY TOPSOIL IF NECESSARY.
3. APPLY SLOW RELEASE FERTILIZER NOT TO EXCEED 1500 LBS PER ACRE OR 36 LBS PER 1,000 SF USING THE FOLLOWING PERCENTAGES BY WEIGHT;
   - 10% AVAILABLE NITROGEN (N)
   - 20% AVAILABLE PHOSPHORIC ACID (P)
   - 20% AVAILABLE POTASSIUM (K)
4. REMOVE FROM SURFACE ALL STONES LARGER THAN 2" IN DIAMETER, ALL DEBRIS, TREE ROOTS OR OTHER UNSUITABLE MATERIAL.
5. INSPECT AREA TO BE SEEDED IMMEDIATELY PRIOR TO SEEDING FOR ANY COMPACTED AREAS, IF COMPACTED AREAS EXIST SCARIFY PRIOR TO COMMENCING SEEDING.

SEEDING:
1. APPLY SELECTED SEED AT RATES PROVIDED UNIFORMLY MY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER.
2. NORMAL SEEDING DEPTH IS .25 TO .5 INCH. HYDROSEEDINGS MAY BE LEFT ON THE SOIL SURFACE.
3. WHERE FEASIBLE, EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, FIRM THE SEEDBED FOLLOWING SEEDING OPERATION WITH ROLLER, OR LIGHT DRAG.
4. SEEDING RATES SHALL BE INCREASED BY 10% WHEN USING HYDROSEEDING.
5. USE OF STRAW MULCH HELD WITH ADHESIVE MATERIALS OR 500 LBS PER ACRE OF WOOD FIBER MULCH IS RECOMMENDED FOR PROTECTION FROM SOIL EROSION.
6. IF SEEDING CAN NOT BE COMPLETED WITHIN SEEDING DATES USE MULCHING TO PROTECT SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

RECOMMENDED SEEDING:
SEED MIXTURE NO. 1

• KENTUCKY BLUE GRASS	22.5 LBS/AC	0.5 LBS/1000 SF
• CREEPING RED FESCUE	105 LBS/AC	2.5 LBS/1000 SF
• PERENNIAL RYEGRASS	22.5 LBS/AC	0.5 LBS/1000 SF

NOTES: WHERE CONFUSION OR UNCERTAINTY EXISTS IN LOAMING AND SEEDING CONSULT THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" AS AMENDED OR REVISED, ENGINEER, LANDSCAPE ARCHITECT.

Rock Riprap Lined Waterway Design - Cut/Paste Plan

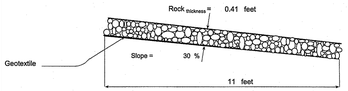
(Version WI-July-2010, Based on Design of Rock Chutes by Robinson, Rice, Kadavy, ASAE, 1998)

Client: Long
Designer: EEC
Date: 3/9/2020
County: Washingto
Checked by:
Date:

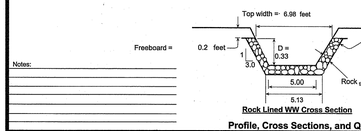
Design Values		Rock Gradation Envelope		Quantities	
D_{50} dia. = 2.0	in.	% Passing	Diameter, in. (weight, lbs.)	Rock = 1	yd^3
$Rock_{thickness}$ = 0.4	in.	D_{100} ——	3 - 4 (2 - 5)	Geotextile (WCS-13)* = 17	yd^2
		D_{85} ——	3 - 4 (2 - 5)		
		D_{50} ——	2 - 3 (1 - 2)		
		D_{15} ——	2 - 3 (0 - 1)		

Coefficient of Uniformity, (D_{85}/D_{15}) < 1.7

*Notes: * Geotextile Class I (Non-woven) shall be overlapped and anchored (18-in. minimum along sides and 24-in. minimum on the ends) --- quantity not included .*



Profile Along Centerline of Rock Lined Waterway



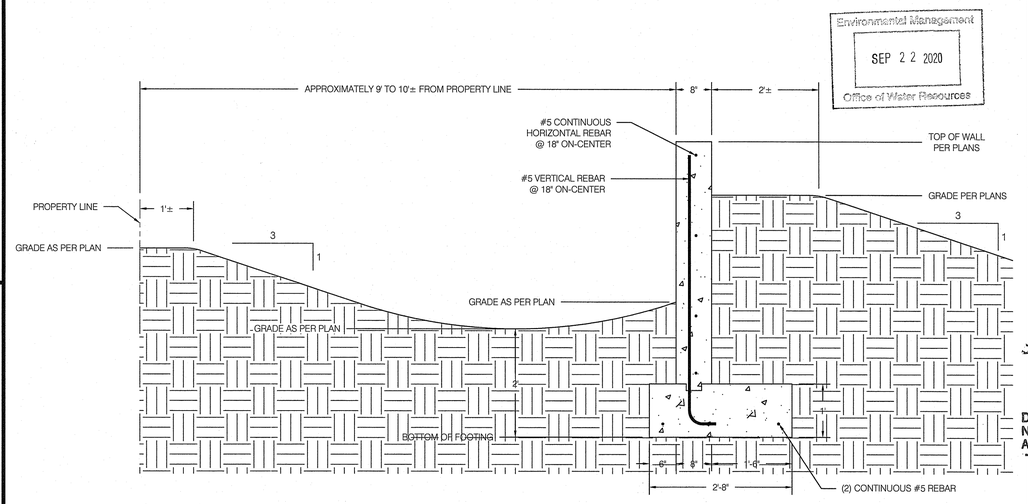
Rock Lined WW Cross Section

Profile, Cross Sections, and Quantities

Notes:

NRCS Natural Resources Conservation Service United States Department of Agriculture

Title	3/9/20
Date	
Drawn	
Check	3/9/20
Approved	



RETAINING WALL DETAIL
3/4" = 1'-0"

NOTE: FINAL RETAINING WALL AND DETAILS BY OTHERS

Environmental Management
SEP 22 2020
Office of Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 29 2020 FILE # 20-0079
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE.

SHEET 10 OF 10 — C-109

Narragansett Engineering Inc.
nei-cds.com
Civil • Survey • Structural • Environmental • Design
3102 East Main Road, Portsmouth RI 02871
Tel. 401.683.6630 www.nei-cds.com

SHEET TITLE
PROPOSED DETAILS No. 3 (STORMWATER)
GREENHOUSE & FACILITY DESIGN

OWNER(S) OF RECORD
N/F BRYANT KEITH B + BRUCE O + JOYCE W (PER ASSESSOR)

APPLICANT:
GDRAGON, LLC
OWEN LONG

PLAT: 5B LOT: 9 ZONE: GB

1195 MAIN STREET
RICHMOND RI, 02898

EDWARD ERIC CORDIS
No. 13474
REGISTERED PROFESSIONAL ENGINEER
CIVIL
9/8/20

nei-cds.com

PROJECT #	DATE	DRAWN	CHECK
19.0184	02/27/20	TJI	NKH

No	DATE	REVISIONS/DESCRIPTION	BY
2	03/27/20	UPDATED FOR DEM SUBMITAL	TJI
1	04/24/20	UPDATED PER COMMENTS FROM RIDOT PAPA	TJI
1	06/15/20	UPDATED PER COMMENTS FROM RIDEM	TJI
1A	09/18/20	ADDED DETAIL & UPDATED DETAIL	TJI

PURPOSE:
FOR RIDEM RESUBMITTAL.

SHEET SET:
C-100 - COVER SHEET
C-101 - EXISTING CONDITIONS
C-102 - DEMOLITION PLAN
C-103 - OVERALL PROPOSED SITE PLAN
C-104 - ENLARGED PROPOSED SITE PLAN
C-105 - UTILITY PLAN
C-106 - ENLARGED UTILITY PLAN
C-107 - PROPOSED DETAILS No1
C-108 - PROPOSED DETAILS No 2
C-109 - PROPOSED DETAILS No 3

SEE DRAWING BY FEDERAL HILL ARCHITECTS FOR ALL BUILDING DETAILS

SEE CERES GREENHOUSE SOLUTIONS FOR ALL GREENHOUSE DETAILS

DRAWINGS MUST BE PRINTED IN COLOR TO BE VALID. THIS NOTE SHOULD BE BLUE. IF THIS NOTE IS NOT BLUE, PLEASE REPRINT IN COLOR OR CONTACT NEI.

SCALE AS NOTED — C-109