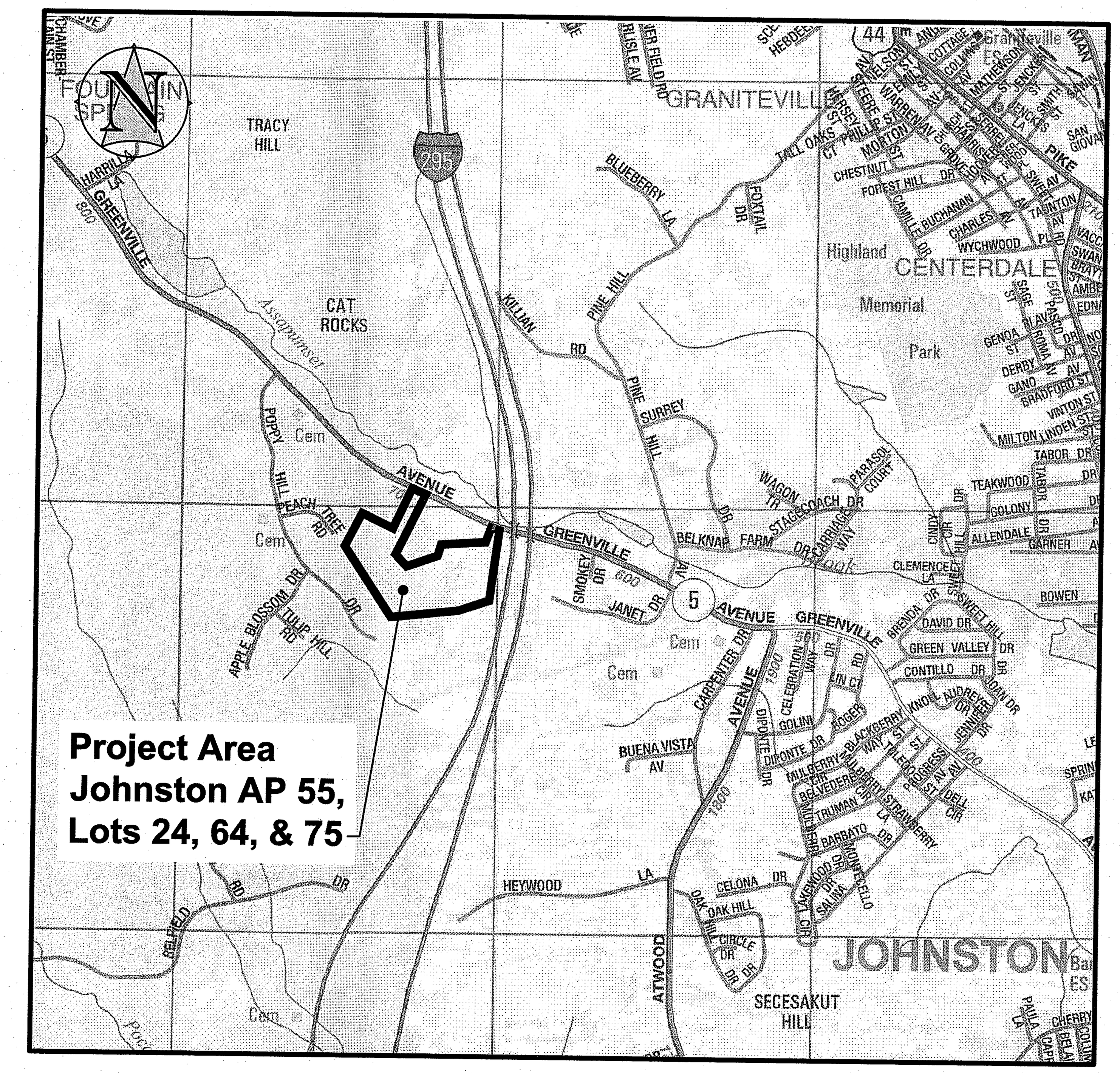
Greenville Avenue Condominiums

Johnston, Rhode Island

Permitting Documents



Location Map

Not to Scale

INDEX

DEPARTMENT [illegible]
AS [illegible]
DATED MAR 6 2019 [illegible] 18-0127
NO CHANGES [illegible]
APPROVED [illegible]

Charles A [illegible]

Environmental Management
FEB 26 2019
Office of Water Resources

PREPARED FOR:
CHARDA PROPERTIES, LLC.

PROPOSED SITE LAYOUT, BUILDING DESIGN, AND GRADING PERFORMED BY LEVEL DESIGN GROUP, 2017.

Issue Date:

May 2018

Revised February 2019

Prepared By:

BETA

www.BETA-Inc.com

R.I.D.E.M. COPY

Plot Date: 2/25/2019 4:56 PM

N:\5300s\5391 Charda – Residential Johnston\AutoCAD Files\Plan Sheets\5391 Cover Permit.dwg

LEGEND

GENERAL SYMBOLS

- PROPERTY LINE
- PROPOSED CONTOUR
- EXISTING CONTOUR
- EDGE OF PAVEMENT
- PROPOSED ALIGNMENT
- EDGE OF WETLAND
- EDGE OF 50 FT. PERIMETER WETLAND
- RIVER(LESS THAN 10' WIDE)
- EDGE OF 100FT. RIVERBANK WETLAND
- EXISTING FENCE
- BRUSH LINE
- R.I.H.B (RHODE ISLAND HIGHWAY BOUND)
- IRON PIPE FOUND
- EXISTING STONE WALL
- PROPOSED CATCH BASIN
- CEMETERY
- UTILITY POLE
- OPEN SPACE LINE
- PROPOSED STRUCTURE + DRIVEWAYS
- EXISTING STRUCTURE
- **LIMIT OF DISTURBANCE**
- STRAW WATTLE
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED DRAIN

ABBREVIATIONS

GENERAL

ABAN.	ABANDON
ADJ.	ADJUST
AADT	ANNUAL AVERAGE DAILY TRAFFIC
APPROX.	APPROXIMATE
℄	BASELINE
BM	BENCH MARK
BIT.	BITUMINOUS
BB	BITUMINOUS BERM
BC	BITUMINOUS CURB
BOS	BOTTOM OF SLOPE
BOW	BOTTOM OF WALL
BD OR BND	BOUND
BLDG.	BUILDING
CEM.	CEMENT
℄	CENTER LINE
CLF	CHAIN LINK FENCE
CONC.	CONCRETE
CC	CONCRETE CURB
CONT.	CONTINUOUS
CONST.	CONSTRUCTION
CO.	COUNTY
CS	COMBINED SEWER PIPE
D	DELTA ANGLE (CENTRAL ANGLE OF HORIZ. CURVE)
DWY.	DRIVEWAY
EB	EAST BOUND
EP, EOP	EDGE OF PAVEMENT
EL.	ELEVATION
ETW	EDGE OF TRAVEL WAY
EXIST.	EXISTING
FLDSTN	FIELDSTONE
FDN.	FOUNDATION
GAR.	GARAGE
GRAN.	GRANITE
GC	GRANITE CURB
GE	GRANITE EDGING
GRAV.	GRAVEL
GD	GROUND
HOR.	HORIZONTAL
HMA	HOT MIX ASPHALT
HO	HOUSE
IP	IRON PIPE
JCT	JUNCTION
LT.	LEFT
LP	LOW POINT
MB	MAIL BOX
MAX.	MAXIMUM
MIN.	MINIMUM
NB	NORTH BOUND
NTS	NOT TO SCALE
OC	ON CENTER
PVMT.	PAVEMENT
PGL	PROFILE GRADE LINE
PROJ.	PROJECT
℄ OR PROP. LINE	PROPERTY LINE
PROP.	PROPOSED
R	RADIUS OF CURVATURE
RR	RAILROAD
R&D	REMOVE & DISPOSE
REM.	REMOVE
REMOD.	REMODEL
RET.	RETAINING
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT.	RIGHT
ROW	RIGHT-OF-WAY
RD.	ROAD
SHT.	SHEET
SHLD.	SHOULDER
SDWK.	SIDEWALK
SB	SOUTH BOUND OR STONE BOUND
SHLL	STATE HIGHWAY LAYOUT LINE
STA.	STATION
ST.	STREET
TAN	TANGENT
T	TANGENT DISTANCE OF CURVE/TRUCK PERCENTAGE
TEB	TEMPORARY EASEMENT BOUNDARY
TEMP.	TEMPORARY
TOS	TOP OF SLOPE
TOW	TOP OF WALL
TP	TURNING POINT
TYP.	TYPICAL
VAR.	VARIABLE
VERT.	VERTICAL
VC	VERTICAL CURVE
VGC	VERTICAL GRANITE CURB
WB	WEST BOUND
WCR	WHEELCHAIR RAMP

UTILITIES

CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CL.	CLASS (PIPE, CONCRETE, EXCAVATION, ETC.)
COND.	CONDUIT
CAP	CORRUGATED ALUMINUM PIPE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
CSP	CORRUGATED STEEL PIPE
CULV.	CULVERT
CI	CURB INLET
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DMH	DRAIN MANHOLE
EL. (OR ELEV.)	ELEVATION
FM	FORCE MAIN
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GIP	GALVANIZED IRON PIPE
GG	GAS GATE
GI	GUTTER INLET
HDW	HEADWALL
HYD.	HYDRANT
INV.	INVERT ELEVATION
LP	LIGHT POLE
MH	MANHOLE
PVC	POLY-VINYL-CHLORIDE PIPE
PWW	PAVED WATER WAY
R&D	REMOVE & DISPOSE
RCP	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
SMH	SEWER MANHOLE
SD	SUBDRAIN
TSV&B	TAPPING SLEEVE, VALVE AND BOX
TS	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
UP	UTILITY POLE
VCP	VITRIFIED CLAY PIPE
WG	WATER GATE
WM	WATER METER/WATER MAIN
WIP	WROUGHT IRON PIPE

RECEIVED FEB 25 2019 CRMC

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER DATED
DATED MAR 6 2019 FILE # 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Charles A. Horbert

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Legend and Abbreviations

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Legend.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale

None

Drawing Status:

Construction

Sheet No.:

2 of 15

N:\5300s\5391 Charda – Residential Johnston\AutoCAD Files\Plan Sheets\5391 Legend.dwg

Plot Date: 1/25/2019 3:45 PM

GENERAL NOTES

1. ALL SURFACE AND NEAR SURFACE WORK SHALL CONFORM TO THE RHODE ISLAND STATE BUILDING CODE AND TO THE CONTRACT DOCUMENTS. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. CONTRACTOR SHALL REFER TO AND COORDINATE THE PROJECT REQUIREMENTS AS INDICATED ON THE GENERAL, CIVIL, AND STANDARD DETAIL DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL STRUCTURES AND PIPING AGAINST FLOODING, FLOTATION AND OTHER DAMAGE DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO ADJACENT AND NEARBY STRUCTURES DURING CONSTRUCTION. ALL DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE PROGRAM MANAGER.
5. PRIOR TO CLOSING ANY ROADWAY (PARTIALLY OR COMPLETELY), THE TOWN JOHNSTON, RIDOT, STATE POLICE, MUNICIPAL POLICE AND LOCAL FIRE OFFICIALS SHALL BE NOTIFIED BY THE CONTRACTOR. PUBLIC NOTIFICATIONS AND HEARINGS MAY BE REQUIRED. EACH PROPOSED CLOSING SHALL BE REQUESTED AT LEAST 4 WEEKS PRIOR TO CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY.
6. PRIOR TO ANY EXCAVATION, CONTRACTOR SHALL CALL "DIG SAFE" AT 1(888)-DIG-SAFE, AT LEAST 72 HOURS (EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS) TO OBTAIN FIELD-MARKED UTILITY LOCATIONS.
7. CONTRACTOR IS APPRISED THAT SOME ENTITIES WITH UTILITY INFRASTRUCTURE WITHIN OR NEAR THE PROJECT AREA MAY NOT PARTICIPATE IN THE DIG-SAFE PROGRAM, AND MUST BE CONTACTED DIRECTLY TO HAVE THEIR UTILITIES FIELD-MARKED.
8. CONTRACTOR IS APPRISED THAT UTILITY PROVIDERS MAY NOT MARK ALL SUBSURFACE UTILITIES WITHIN THE PROJECT AREA, PARTICULARLY SERVICE CONNECTIONS AND/OR ABANDONED UTILITIES.
9. SEWER, WATER AND OTHER UTILITIES HAVE BEEN SHOWN ON THE SITE PLANS WHERE INFORMATION IS AVAILABLE. ALL ACTIVE SERVICE CONNECTIONS MUST BE MAINTAINED DURING CONSTRUCTION.
10. PIPING EXPOSED DURING EXCAVATION THAT IS NOT TO BE RELOCATED, ABANDONED, OR DEMOLISHED SHALL BE SUPPORTED IN-PLACE, BRACED, OR OTHERWISE PROTECTED DURING CONSTRUCTION ACTIVITIES.
11. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE INDICATED LIMITS OF WORK AS SHOWN IN THE CONTRACT DRAWINGS. ALL SURFACES DAMAGED OUTSIDE THE INDICATED LIMITS SHALL BE REPLACED IN KIND AT CONTRACTOR'S EXPENSE.
12. DUST CONTROL, USING CALCIUM CHLORIDE, SHALL BE PROVIDED FOR ALL SURFACES OF BACK FILLED AREAS, ALL EQUIPMENT ACCESS ROADWAYS AND/OR AS OTHERWISE DIRECTED BY THE OWNER/ENGINEER.

MAPPING

1. EXISTING CONDITIONS WERE OBTAINED FROM PLAN ENTITLED "COMPREHENSIVE PERMIT PLAN, MAJOR LAND DEVELOPMENT" PREPARED BY NARRAGANSETT ENGINEERING INC., DATED DECEMBER 2004 AND REVISED AS OF AUGUST 8, 2005. RIDEM APPROVED WETLANDS AND DISTURBANCES ON NOVEMBER 18, 2005 UNDER FILE NUMBER 05-0215.
2. PROPOSED SITE LAYOUT, BUILDING DESIGN, AND GRADING PERFORMED BY LEVEL DESIGN GROUP, 2017.
3. NEW WETLAND FLAGGING PERFORMED BY APPLIED BIO-SYSTEMS INC., APRIL 2018 TO SUPPORT NEW WETLAND PERMIT APPLICATION.
4. SUPPLEMENTAL SURVEY PERFORMED BY MARSH & LONG SURVEYING, INC., MAY 2018.
5. THE LOCATION, SIZE, AND MATERIAL OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES AND/OR UTILITIES SHOWN ON THESE PLANS ARE FROM THE BEST SOURCES AVAILABLE AT PRESENT AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES, UTILITIES OR STRUCTURES ARE SHOWN. EXACT LOCATION TO BE DETERMINED BY CONTRACTOR IN FIELD.
6. EXISTING UTILITIES HAVE BEEN PLOTTED FROM THE BEST AVAILABLE DATA AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES AND NOTIFY ALL UTILITY COMPANIES (PUBLIC AND PRIVATE).
7. PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY.

TEST PITS

1. PRIOR TO THE START OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT TEST PITS AS SHOWN, AT LOCATIONS WHERE CONFLICTS BETWEEN EXISTING PIPING OR STRUCTURES AND PROPOSED PIPING MAY OCCUR, AND WHERE DIRECTED BY THE ENGINEER. CONDUCT TEST PITS TO FIELD VERIFY THE EXACT SIZE, MATERIAL, LOCATION, INVERT ELEVATION AND ALIGNMENT (VERTICAL AND HORIZONTAL) OF EXISTING UNDERGROUND PIPES AND STRUCTURES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS BETWEEN PROPOSED PIPING AND EXISTING PIPING PRIOR TO STARTING INSTALLATION OF THE PROPOSED PIPING. OTHER TEST PITS MAY BE REQUIRED DURING THE COURSE OF WORK.
2. ALL DIMENSIONS AND JOB RELATED CONDITIONS ARE TO BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES FOUND ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER/ENGINEER AND PROPERLY RESOLVED BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. CONTINUATION WITH OTHER ASPECTS OF THE WORK SHALL PROCEED WITHOUT DELAY OR CAUSE FOR CLAIM.

EXISTING UTILITIES

1. EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED AND SUPPORTED AT ALL TIMES BY THE CONTRACTOR. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO INTERFERE AS LITTLE AS POSSIBLE WITH EXISTING UTILITIES. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION BY REASON OF DELAY AND/OR INCONVENIENCE IN ADAPTING HIS OPERATIONS ACCORDINGLY.
2. WHERE AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR THE RESOLUTION OF THE CONFLICT.
3. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION, RELOCATION AND ADJUSTMENT OF WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AS REQUIRED.

REMOVAL AND DISPOSAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) ALL MATERIALS INDICATED ON THE PLANS TO BE DISPOSED, INCLUDING BUT NOT LIMITED TO, MANHOLES, CATCH BASINS, PIPING, CONCRETE AND BITUMINOUS PAVEMENT, COBBLES, ROCK, TREES AND STUMPS, ETC. ALL GRIT AND DEBRIS FROM THE EXISTING STRUCTURES TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF AS INDICATED IN THE SPECIFICATIONS. ALL DEMOLITION MATERIAL INCLUDING CONCRETE, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE DISPOSED OF IN ACCORDANCE WITH RIDEM REQUIREMENTS.
2. NOTIFY APPROPRIATE UTILITY COMPANIES TO TURN OFF AFFECTED SERVICES PRIOR TO REMOVAL AND DISPOSAL. SEAL WATER, SEWER, DRAINAGE AND GAS UTILITIES AND SERVICES AT EXCAVATION LIMITS OR AS REQUIRED, USING PLUGS, CAPS OR SEALS AS NEEDED.
3. UNDERGROUND PIPING TO BE ABANDONED AND REMAIN SHALL BE PROPERLY CAPPED UNLESS IT INTERFERES WITH NEW STRUCTURES, PIPES OR AS INDICATED, SPECIFIED AND DIRECTED BY ENGINEER.
4. REMOVE AND DISPOSE OF ALL EXISTING BITUMINOUS CONCRETE AND CEMENT CONCRETE, AS REQUIRED.

SEWER AND DRAIN

1. THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
2. WHERE EXISTING MATERIALS ARE ENCOUNTERED THAT, IN THE OPINION OF THE OWNER/ENGINEER ARE UNSUITABLE FOR BEDDING, BACK FILLING OR OTHER INTENDED USE, SUCH MATERIALS SHALL BE REMOVED AS DIRECTED AND REPLACED WITH SUITABLE GRAVEL BORROW, CRUSHED STONE AND/OR SELECTED BORROW, AS DIRECTED BY THE OWNER/ENGINEER AND PAID FOR UNDER THE APPROPRIATE BID ITEMS.
3. INVERTS AND DIRECTIONS OF PIPES AND CONDUITS ARE SHOWN FOR THE PURPOSE OF INDICATING THE BASIC PARAMETERS USED DURING THE DESIGN. HOWEVER, MINOR CHANGES IN HORIZONTAL AND VERTICAL LOCATIONS MAY BE REQUIRED DURING CONSTRUCTION AS FIELD CONDITIONS WARRANT. FINAL LOCATIONS OF OTHER PIPES AND/OR CONDUITS SHALL BE DETERMINED IN THE FIELD. ANY CHANGES SHALL BE APPROVED BY THE ENGINEER.
4. WHERE PIPING IS TO BE CONNECTED TO EXISTING PIPING OR STRUCTURES, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE (REQUIRED AS A RESULT OF CUTTING THE EXISTING PIPE BACK) TO COMPLETE THE CONNECTION AS REQUIRED.
5. SEWER AND DRAIN SERVICE CONNECTIONS ARE LOCATED FOR ESTIMATING PURPOSES ONLY, EXACT LOCATIONS TO BE DETERMINED IN FIELD.
6. UNLESS OTHERWISE STIPULATED, ALL DRAINAGE PIPE SHALL BE AS INDICATED ON THE DRAWINGS, AND UNLESS SPECIFICALLY APPROVED BY THE ENGINEER, MANHOLES OR CATCH BASINS SHALL BE SOLID BLOCK OR PRECAST CONCRETE STRUCTURES CONFORMING TO THE LATEST RIDOT STANDARDS.
7. ALL DRAINAGE STUBS FOR FUTURE CONNECTIONS SHALL BE PLUGGED OR CAPPED AND LEFT WATER-TIGHT.

SITE RESTORATION

1. EXCEPT WHERE NOTED BY PROPOSED CONTOUR LINES AND/OR SPOT ELEVATIONS, ALL FINAL CONTOUR LINE ELEVATIONS SHALL BE THE SAME AS EXISTING CONTOUR LINE ELEVATIONS.
2. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED.
3. ALL CURBING DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE RESET, RESTORED OR REPLACED IN KIND, IF DAMAGED, INCLUDING CEMENT CONCRETE, IN ACCORDANCE WITH THE TOWN OF JOHNSTON AND RIDOT STANDARDS, REGARDLESS OF ITS PROXIMITY TO THE DRAIN OR SEWER, AS DIRECTED BY THE OWNER/ENGINEER. PAYMENT SHALL BE CONSIDERED PART OF AND PAID FOR UNDER THE APPROPRIATE PIPE ITEMS AS APPLICABLE UNLESS OTHERWISE INDICATED ON PLANS.
4. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR SHALL RESTORE ALL WETLAND AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, AS SHOWN ON THE DRAWINGS.

EXCAVATION SUPPORT, DEWATERING

1. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WELL POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
2. TRENCH/EXCAVATION DEWATERING MAY BE REQUIRED FOR THIS WORK; DISCHARGE OF FINES OR SEDIMENTS FROM DEWATERING OPERATIONS IS NOT PERMITTED. SEE SPECIFICATION AND STANDARD DETAILS FOR SILTATION BASIN/SEDIMENT CONTROL TRAP INSTALLATION/USAGE.

SOIL EROSION AND SEDIMENTATION CONTROL

1. THE CONTRACTOR SHALL FOLLOW THE APPROVED SITE SOIL EROSION AND SEDIMENTATION CONTROL (SESC) PLAN AND DIRECTION OF THE ENGINEER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SESC MEASURES ON THE PROJECT SITE FOR THE FULL DURATION OF THE CONSTRUCTION PERIOD. TEMPORARY SESC MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, CONSTRUCTION ENTRANCE PADS, HAY/STRAW BALES, SILT FENCE, CATCH BASIN INSERTS, ETC.
2. ALL SESC MEASURES SHALL BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION. THE SESC MEASURES SHALL BE REGULARLY INSPECTED, CLEANED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION OPERATIONS IN ACCORDANCE WITH THE SESC PLAN. SESC MEASURES SHALL ALSO BE INSPECTED AND CLEANED AFTER ALL SIGNIFICANT STORM EVENTS AS STIPULATED BY THE SESC PLAN AND AT THE DIRECTION OF THE OWNER OR ENGINEER.
3. CONTRACTOR SHALL MAINTAIN AN ADEQUATE SUPPLY OF SESC MEASURE MATERIALS ON SITE TO BE INSTALLED IN AREAS WHERE EXISTING SESC MEASURES HAVE FAILED OR ARE NECESSARY AS DETERMINED BY THE ENGINEER. NO WORK OR STORAGE OF CONSTRUCTION EQUIPMENT WILL BE PERMITTED OUTSIDE THE LIMIT OF DISTURBANCE.
4. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER FOR REGULAR INSPECTION AND REPORTING REQUIREMENTS.
5. SESC MEASURES SHALL BE MAINTAINED UNTIL SITE WORK IS COMPLETE AND ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. UPON PERMANENT STABILIZATION OF ALL DISTURBED SOILS, THE SESC MEASURES SHALL BE REMOVED AND PROPERLY DISPOSED. PROVIDE SESC MEASURES AT PERIMETERS OF ALL EXCAVATION AREAS, DISTURBED SURFACES AND AT ALL CATCH BASINS ADJACENT TO DISTURBED AREAS. PROVIDE SILT FENCING AND HAY/STRAW BALES IN ACCORDANCE WITH DIVISION 2 SPECIFICATION REQUIREMENTS AND AS SHOWN ON THE CIVIL DETAIL DRAWINGS.
6. ALL MITIGATIVE FEATURES, FACILITIES AND SYSTEMS OF TREATMENT AND CONTROL THAT MAY BE INSTALLED OR USED SHALL BE PROPERLY MAINTAINED TO PREVENT HARM TO AREAS ADJACENT TO THE SITE.

SIDEWALK AND PAVEMENT RESTORATION

1. ALL EXISTING PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED WITH TEMPORARY PAVEMENT AS DETAILED.TEMPORARY PAVEMENT SHALL BE INSTALLED WITHIN ALL DISTURBED PAVEMENT AREAS BY THE CLOSE OF WORK ON FRIDAY OF THE WEEK THE PAVEMENT WAS DISTURBED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. AT NO TIME WILL DISTURBED PAVEMENT AREAS BE ALLOWED OVER WEEKENDS, HOLIDAYS, OR DURING SEVERE WEATHER CONDITIONS. TEMPORARY PAVEMENT SHALL REMAIN IN-PLACE FOR A MINIMUM PERIOD OF NINETY (90) CALENDAR DAYS AND ONE WINTER PRIOR TO INSTALLATION OF THE PERMANENT PAVEMENT TRENCH OR SURFACE RESTORATION.
2. ALL WALKS SHALL HAVE A CROWN OR CROSS-SLOPE OF 1/8" PER FOOT MINIMUM.
3. ALL PAVEMENT MARKINGS SHALL BE REPLACED IN KIND, OR IN ACCORDANCE WITH SPECIFICATIONS.

RECEIVED FEB 26 2019

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED IN THE LETTER DATED
AS SPECIFIED IN THE LETTER DATED
DATED MAR 6 2019 FILE # 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AVAILABLE ON CONSTRUCTION SITE
Charles A. Horbert

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

General Notes

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Gen Notes.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Scale

None

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

Drawing Status:

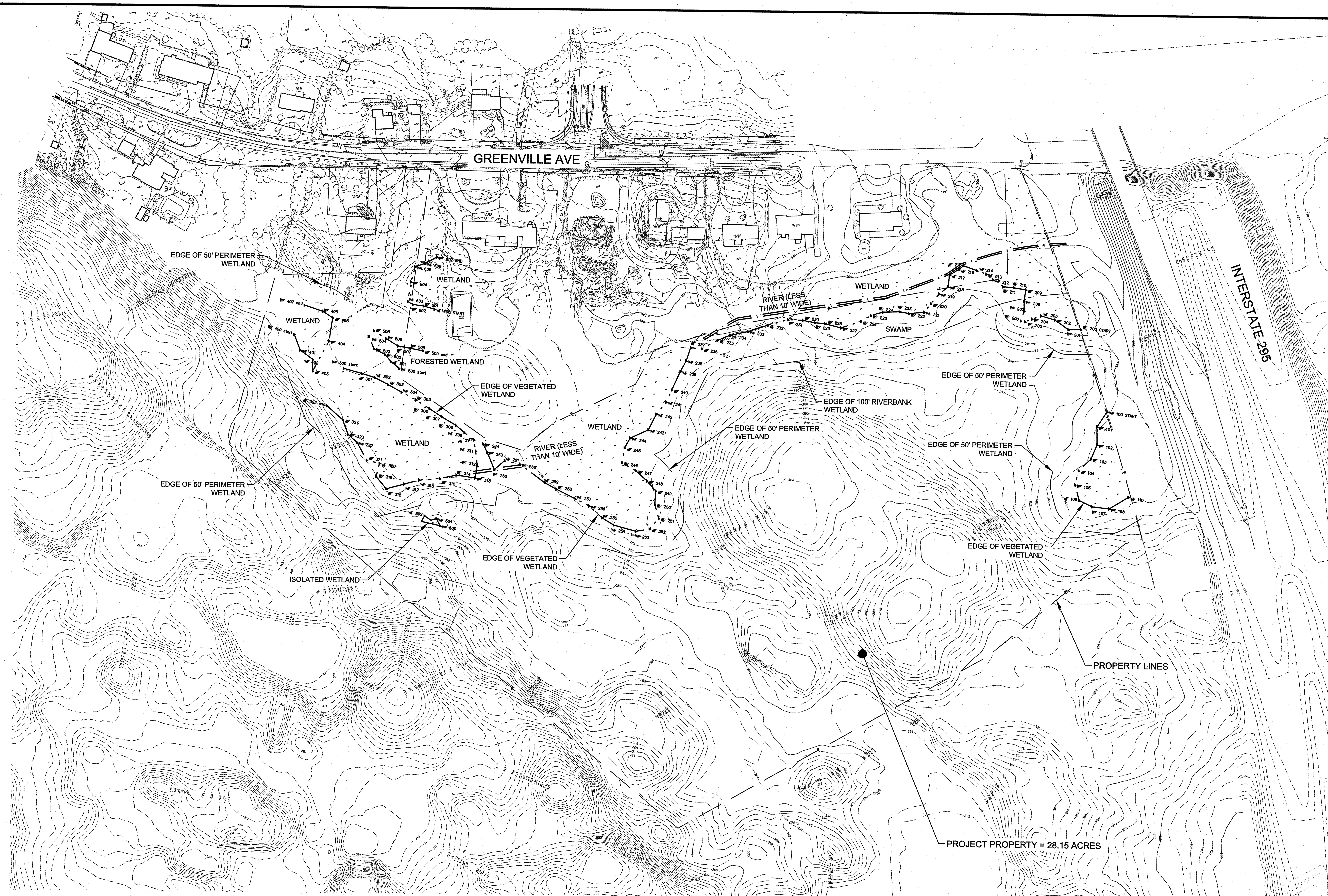
Construction

Sheet No.:

3 of 15

N:\5300s\5391 Charda – Residential Johnston\AutoCAD Files\Plan Sheets\5391 Gen Notes.dwg

Plot Date: 1/25/2019 3:45 PM



NOTES:

1. EXISTING CONDITIONS WERE OBTAINED FROM PLAN ENTITLED "COMPREHENSIVE PERMIT PLAN, MAJOR LAND DEVELOPMENT" PREPARED BY NARRAGANSETT ENGINEERING INC., DATED DECEMBER 2004 AND REVISED AS OF AUGUST 8, 2005. THESE CONDITIONS EXISTED PRIOR TO THE PREVIOUS WETLANDS APPROVAL (05-0215) BY RIDEM ON NOVEMBER 18, 2005.
2. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.

DEPARTMENT ... AS SPECIFIED ... DATED MAR 6 2019 ... 18-0127
NO CHANGES ... APPROVED PLANS MUST BE AT CONSTRUCTION SITE

FEB 26 2019

N:\5300s\5391 Charda - Residential Johnston\AutoCAD Files\Plan Sheets\5391 Existing Conditions.dwg

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Existing Conditions Plan

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Existing Conditions.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 Date: APRIL 2018

KEVIN M. AGUIAR
No. 6913
REGISTERED PROFESSIONAL ENGINEER CIVIL

Scale

100 0 100 200
Scale in Feet: 1"=100'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

Drawing Status:

Construction

Sheet No.:

Plot Date: 1/25/2019 3:46 PM

NOTES:

SEDIMENTATION CONTROL PROGRAM:

1. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING THE WETLANDS.
2. DURING CONSTRUCTION THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING DRAINAGE AND RUNOFF FLOW DURING STORMS AND PERIODS OF RAINFALL.
3. SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED CLOSELY AND MAINTAINED PROMPTLY AFTER EACH RAINFALL.
4. ADDITIONAL HAY BALES OR SANDBAGS SHALL BE LOCATED AS CONDITIONS WARRANT OR AS DIRECTED BY THE ENGINEER.
5. ALL SEDIMENTS SHALL BE REMOVED FROM THE DRAINAGE AND DETENTION FACILITIES WHEN DIRECTED BY THE
6. REFERENCE THE "R.I. SOIL EROSION AND SEDIMENT CONTROL HANDBOOK" PREPARED BY THE U.S. DEPT. OF AGRICULTURE, SOIL CONSERVATION SERVICE, 1989, AS A GUIDE OR AS DIRECTED BY THE ENGINEER.

SEQUENCE OF CONSTRUCTION ACTIVITY:

1. ALL SEDIMENTATION CONTROL MEASURES SHALL BE PLACED BEFORE START OF ANY SOIL STRIPPING IS COMMENCED.
2. SEDIMENTATION POND SHALL BE EXCAVATED AND PREPARED TO ACCEPT STORM WATER DISCHARGE BEFORE ANY OTHER FIELD WORK IS STARTED.
3. SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED UNTIL CONSTRUCTION ACTIVITY EXCEPTING FINISH ASPHALT SURFACE IS COMPLETED.

DETENTION BASIN MAINTENANCE: (BY THE OWNER)

1. BASIN SIDE-SLOPES AREAS SHALL BE MOWED AT LEAST ONCE A YEAR. (PREFERABLY AFTER AUGUST 15th). TRASH AND FLOATABLE DEBRIS SHALL BE REMOVED FROM THE FACILITY DURING ROUTINE MOWING.
2. INSPECTION OF THE POND AND ALL INLET AND OUTLET STRUCTURES SHALL BE PERFORMED AT LEAST ON AN ANNUAL BASIS, PREFERABLY DURING A STORM EVENT, TO INSPECT PROPER FUNCTIONING OF THE FACILITY.
3. SEDIMENTS SHALL BE REMOVED FROM THE BASIN DURING THE FIRST (INITIAL) YEAR OF OPERATION AND EVERY 10 YEAR THEREAFTER.
4. THE GRASSED AREAS OF THE BASIN SHALL BE INSPECTED AT LEAST TWICE PER YEAR TO CHECK FOR EROSION PROBLEMS. PROBLEM AREAS SHOULD BE RE-SEEDED IMMEDIATELY TO STABILIZE EXPOSED SOILS, THEREBY PREVENTING EROSION AND POTENTIAL CLOGGING OF OUTFLOW DEVICES.

CATCH BASIN MAINTENANCE: (BY THE OWNER)

1. CATCH BASIN SUMPS SHALL BE CLEANED AT LEAST ONCE EVERY YEAR.

GENERAL NOTES:

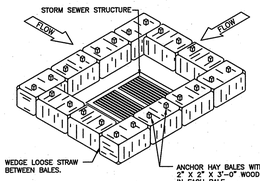
1. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO OBTAIN ANY AND ALL PERMITS REQUIRED BY THE MUNICIPALITY PRIOR TO COMMENCING ANY WORK.
2. IT SHALL ALSO BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF ALL EXISTING UTILITIES, STRUCTURES, AND ABUTTING PROPERTIES. THE COST OF ANY REPAIR OR REPLACEMENT OF DAMAGED ITEMS SHALL BE BORNE BY THE CONTRACTOR.
4. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY BY THE "R.I STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (REVISION OF 1971)" WITH ALL CORRECTIONS AND ADDENDA AND THE 1974 R.I STANDARD DETAILS WITH ALL CORRECTIONS WORK COMMENCEMENT.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR QUANTITY TAKE-OFF IN COMPUTING ANY ESTIMATES.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION INDICATED ON THESE PLANS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SEDIMENTATION AND EROSION CONTROLS.
8. THE LOCATION OF EXISTING UTILITIES AS SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. "DIG SAFE" SHALL BE CONTACTED BY THE CONTRACTOR AS PART OF THIS VERIFICATION.
9. IN ALL EXCAVATION AND PLACEMENT OF FILL, THE CONTRACTOR SHALL PERFORM THE WORK IN FULL COMPLIANCE WITH THE R.I STANDARD SPECIFICATION SECTION 202.
10. ALL EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS, AND OTHER REFUSE SHALL BE DISCARDED OFF SITE, OUTSIDE OF PROJECT AREA.

EROSION CONTROL & SOIL STABILIZATION PROGRAM:

1. DENUDED SLOPES SHALL NOT BE UNATTENDED OR EXPOSED FOR EXCESSIVE PERIODS OF TIME SUCH AS THE INACTIVE WINTER SEASON.
2. DURING EACH CONSTRUCTION YEAR ALL DISTURBED SLOPES, EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15, SHALL BE SEEDED OR PROTECTED BY THAT DATE.
3. THE TOPSOIL SHALL HAVE A SANDY LOAM TEXTURE RELATIVELY FREE OF SUBSOIL MATERIAL, STONES, ROOTS, LUMPS OF SOIL, TREE LIMBS, TRASH OR CONSTRUCTION DEBRIS AND SHALL CONFORM WITH R.I. STD. SPECIFICATION M-20.
4. THE DESIGN MIX SHALL BE COMPRISED OF PERMANENT SEEDING MIXTURES (AS NOTED.).
5. TEMPORARY TREATMENTS SHALL CONSIST OF A HAY, STRAW, OR FIBER MULCH OR PROTECTIVE COVERS SUCH AS A MAT OR FIBER LINING (BURLAP, JUTE, FIBERGLASS NETTING, EXCELSIOR BLANKETS). THEY SHALL BE INCORPORATED INTO THE WORK AS WARRANTED OR AS ORDERED BY THE ENGINEER.
6. HAY OR STRAW APPLICATIONS SHOULD BE IN THE AMOUNT OF 3,000 – 4,000 lbs./Ac.
7. THE CONTRACTOR MUST REPAIR AND/OR RE-SEED ANY AREAS THAT DO NOT DEVELOP WITHIN THE PERIOD OF ONE YEAR AND HE SHALL DO SO AT NO ADDITIONAL EXPENSE.
8. ALL FILL SHALL BE THOROUGHLY COMPACTED UPON PLACEMENT IN STRICT CONFORMANCE WITH THE R.I.D.O.T. STANDARD SPECIFICATIONS SECTION 202.
9. ON BOTH STEEP AND LONG SLOPES CONSIDERATION SHALL BE GIVEN TO "CRIMPING" OR "TRACKING" TO TACK DOWN MULCH APPLICATIONS.
10. REFERENCE THE SEDIMENTATION CONTROL PROGRAM AND ORDER OF PROCEDURE FOR PROPER COORDINATION.

NOTES:

1. EXISTING CONDITIONS WERE OBTAINED FROM PLAN ENTITLED "COMPREHENSIVE PERMIT PLAN, MAJOR LAND DEVELOPMENT" PREPARED BY NARRAGANSETT ENGINEERING INC., DATED DECEMBER 2004 AND REVISED AS OF AUGUST 8, 2005. THESE CONDITIONS EXISTED PRIOR TO THE PREVIOUS WETLANDS APPROVAL (05-0215) BY RIDEM ON NOVEMBER 18, 2005.
2. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.

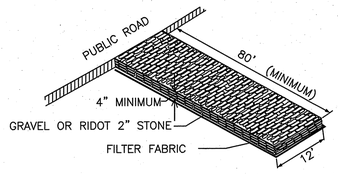


NOTES:

CATCH BASINS ON SLOPING ROADS SHOULD NOT BE RINGED. ON SLOPING ROADS HAY BALES SHOULD BE PLACED UP SLOPE OF THE BASINS TO CONTAIN FLOWS. REFER TO THE HAY BALE DETAIL FOR DRAINAGE CHANNEL PROTECTION TO BE USED AT SLOPING ROADWAY GUTTERS PRIOR TO PAVEMENT INSTALLATION.

INLET PROTECTION DETAIL

SCALE: N.T.S.

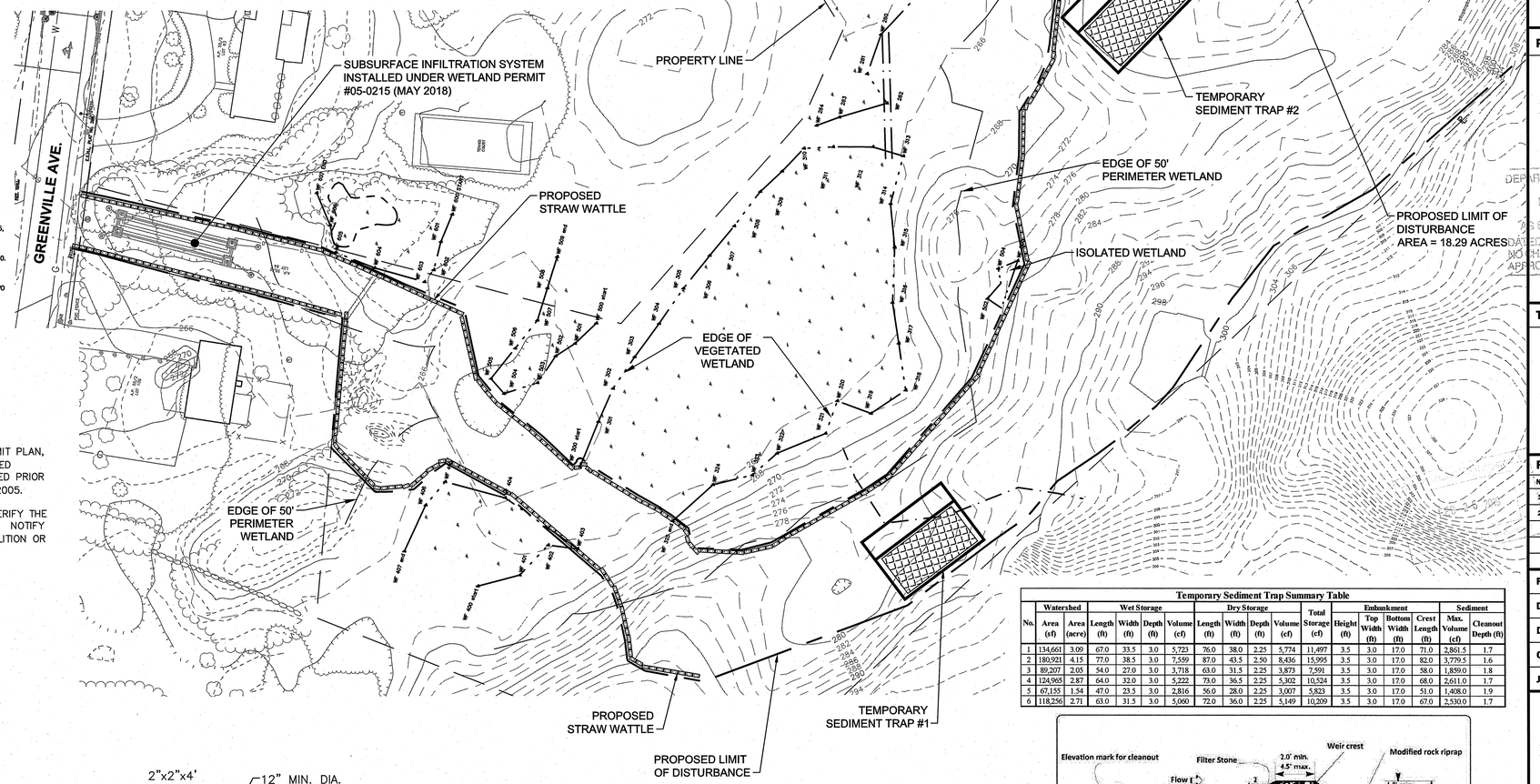


CONSTRUCTION ENTRANCE DETAIL

SCALE: N.T.S.

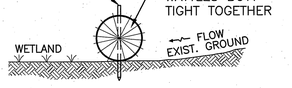
TEMPORARY SEDIMENT TRAP NOTES:

1. TEMPORARY SEDIMENT TRAPS SHALL BE INSTALLED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, UPDATED JULY 2016.
2. TEMPORARY SEDIMENT TRAPS ARE INTENDED TO BE USED FOR A PERIOD OF SIX (6) MONTHS OR LESS.
3. SEDIMENT IS REQUIRED TO BE REMOVED FROM THE TRAP WHEN THE SEDIMENT ACCUMULATION EXCEEDS HALF OF THE WET STORAGE VOLUME OF THE TRAP. CONTRACTOR SHALL PROVIDE ACCESS FOR SEDIMENT REMOVAL DURING ALL PHASES OF CONSTRUCTION AND DISPOSE SEDIMENT AT AN APPROVED OFF-SITE FACILITY.
4. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER EXCEPT FOR THE EXCAVATED WET STORAGE AREA WHERE SLOPES SHALL NOT EXCEED 1.5:1.
5. MODIFIED RIPRAP SHALL MEET THE REQUIREMENTS OF RIDOT STD. SPECIFICATION SUBSECTION M.10.03.2.
6. FILTER STONE SHALL MEET THE REQUIREMENTS OF RIDOT STD. SPECIFICATION SUBSECTION M.01.09 TABLE I, COLUMN V FILTER STONE.
7. A SEDIMENT STORAGE MARKER SHALL BE PLACED AT EACH TRAP LOCATION TO INDICATE THE THRESHOLD FOR SEDIMENT CLEANOUT.
8. 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.
9. THE TEMPORARY SEDIMENT TRAPS MAY BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA IS STABILIZED. THE TRAPS SHALL BE GRADED AND STABILIZED ACCORDING TO THE FINAL GRADES SHOWN ON THE PLANS.
10. THE LOCATIONS OF THE TEMPORARY SEDIMENT TRAPS ARE BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL AMEND THE LOCATIONS AS REQUIRED DURING CONSTRUCTION TO ACCOUNT FOR THE CHANGE OF SITE CONDITIONS.
11. TEMPORARY EARTH BERMS SHALL BE USED TO DIVERT THE FLOW INTO THE SEDIMENT TRAPS AS INDICATED ON SHEET W-3: TEMPORARY SEDIMENT TRAPS WATERSHED.



Temporary Sediment Trap Summary Table

No.	Watershed		Wet Storage				Dry Storage				Total Storage (cf)	Embankment				Sediment	
	Area (sf)	Area (acre)	Length (ft)	Width (ft)	Depth (ft)	Volume (cf)	Length (ft)	Width (ft)	Depth (ft)	Volume (cf)		Height (ft)	Top Width (ft)	Bottom Width (ft)	Crest Length (ft)	Max. Volume (cf)	Cleanout Depth (ft)
1	134,661	3.09	67.0	33.5	3.0	5,723	76.0	38.0	2.25	5,774	11,497	3.5	3.0	17.0	71.0	2,861.5	1.7
2	180,921	4.15	77.0	38.5	3.0	7,559	87.0	43.5	2.50	8,436	15,995	3.5	3.0	17.0	82.0	3,779.5	1.6
3	89,207	2.05	54.0	27.0	3.0	3,718	63.0	31.5	2.25	3,873	7,591	3.5	3.0	17.0	58.0	1,859.0	1.8
4	124,965	2.87	64.0	32.0	3.0	5,222	73.0	36.5	2.25	5,302	10,524	3.5	3.0	17.0	68.0	2,611.0	1.7
5	67,155	1.54	47.0	23.5	3.0	2,816	56.0	28.0	2.25	3,007	5,823	3.5	3.0	17.0	51.0	1,408.0	1.9
6	118,256	2.71	63.0	31.5	3.0	5,060	72.0	36.0	2.25	5,149	10,209	3.5	3.0	17.0	67.0	2,530.0	1.7



EMBEDDING DETAIL

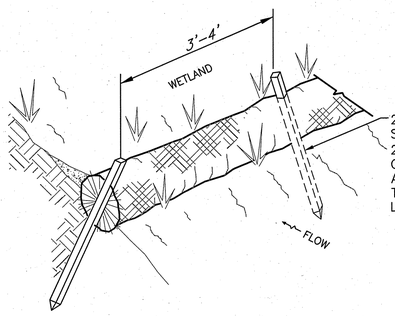
CONSTRUCTION SPECIFICATIONS

NOTES

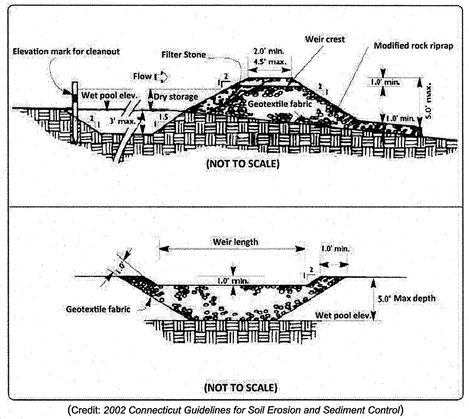
1. STRAW WATTLES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT WATTLES.
2. STRAW WATTLES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THOUGH THE WATTLES. THE FIRST STAKE IN EACH WATTLES SHALL BE ANGLED TOWARDS PREVIOUSLY LAID WATTLE TO FORCE WATTLES TOGETHER.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. WATTLES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

TYPICAL STRAW WATTLE FOR EROSION CONTROL

NOT TO SCALE



ANCHORING DETAIL



(Credit: *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*)

TEMPORARY SEDIMENT TRAP DETAIL

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

DEPARTMENT OF ... OFFICE OF ... PRELIMINARY PLAN ... FINAL PLAN ... SUBDIVISION ... DATED MAR 6 2019 ... 18-0127 ... NO CHANGES ALLOWED WITHOUT ... APPROVED PLANS MUST BE AT CONSTRUCTION ...

JOHNSTON, RHODE ISLAND

Title

Site Prep Plan No. 1

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Site Plan.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale

50 0 50 100

Scale in Feet: 1"=50'

Drawing Status:

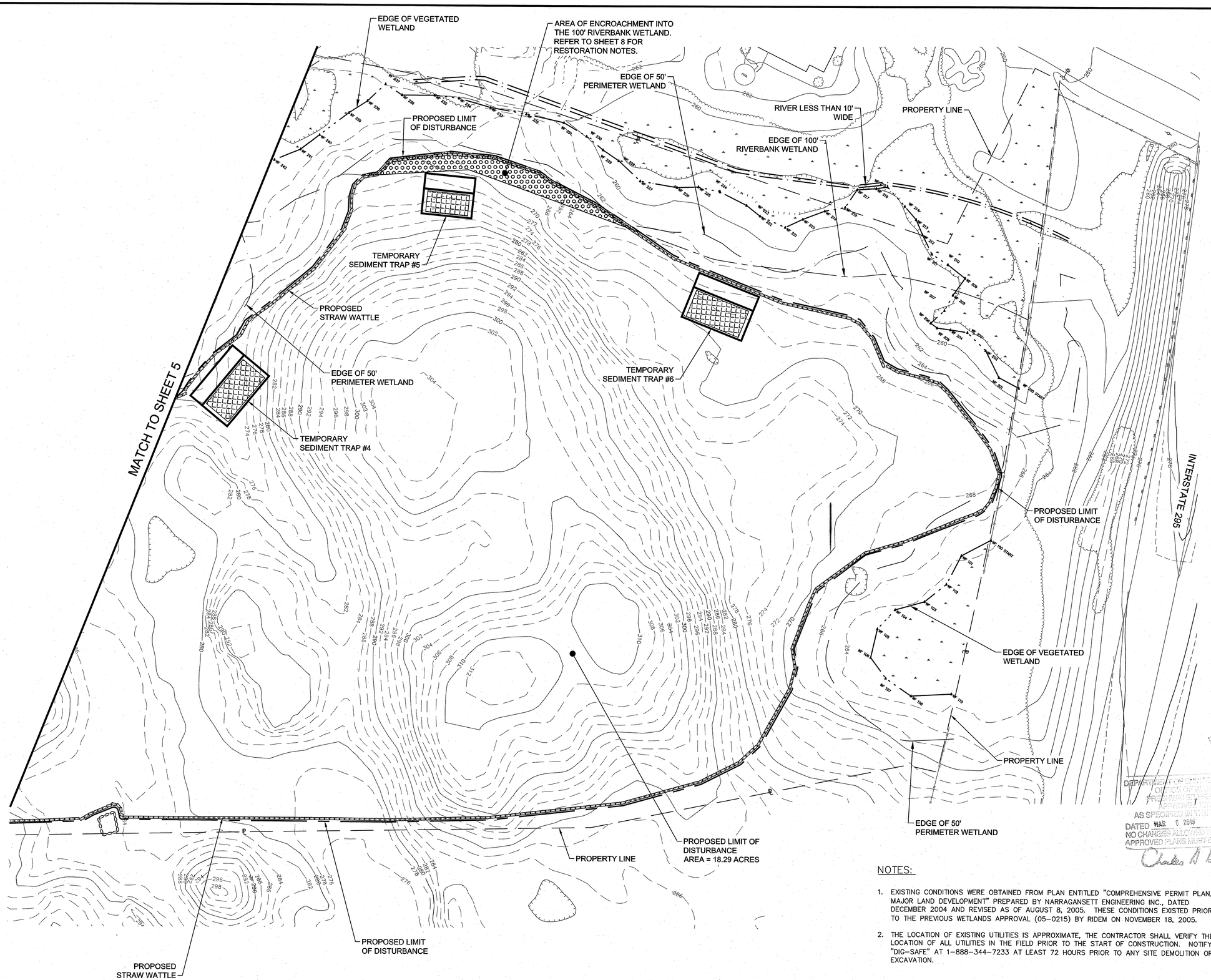
Construction

Sheet No.:

5 of 15

N:\5300s\5391 Charda - Residential Johnston\AutoCAD Files\Plan Sheets\5391 Site Plan.dwg

Plot Date: 1/25/2019 3:46 PM



NOTES:

1. EXISTING CONDITIONS WERE OBTAINED FROM PLAN ENTITLED "COMPREHENSIVE PERMIT PLAN, MAJOR LAND DEVELOPMENT" PREPARED BY NARRAGANSETT ENGINEERING INC., DATED DECEMBER 2004 AND REVISED AS OF AUGUST 8, 2005. THESE CONDITIONS EXISTED PRIOR TO THE PREVIOUS WETLANDS APPROVAL (05-0215) BY RIDEM ON NOVEMBER 18, 2005.

2. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.

FEB 26 2019

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS
AS SPECIFIED IN THE
DATED MAR 6 2019 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Site Prep Plan No. 2

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Site Plan.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 8913
1-25-19
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale

50 0 50 100
Scale in Feet: 1"=50'

Drawing Status:

Construction

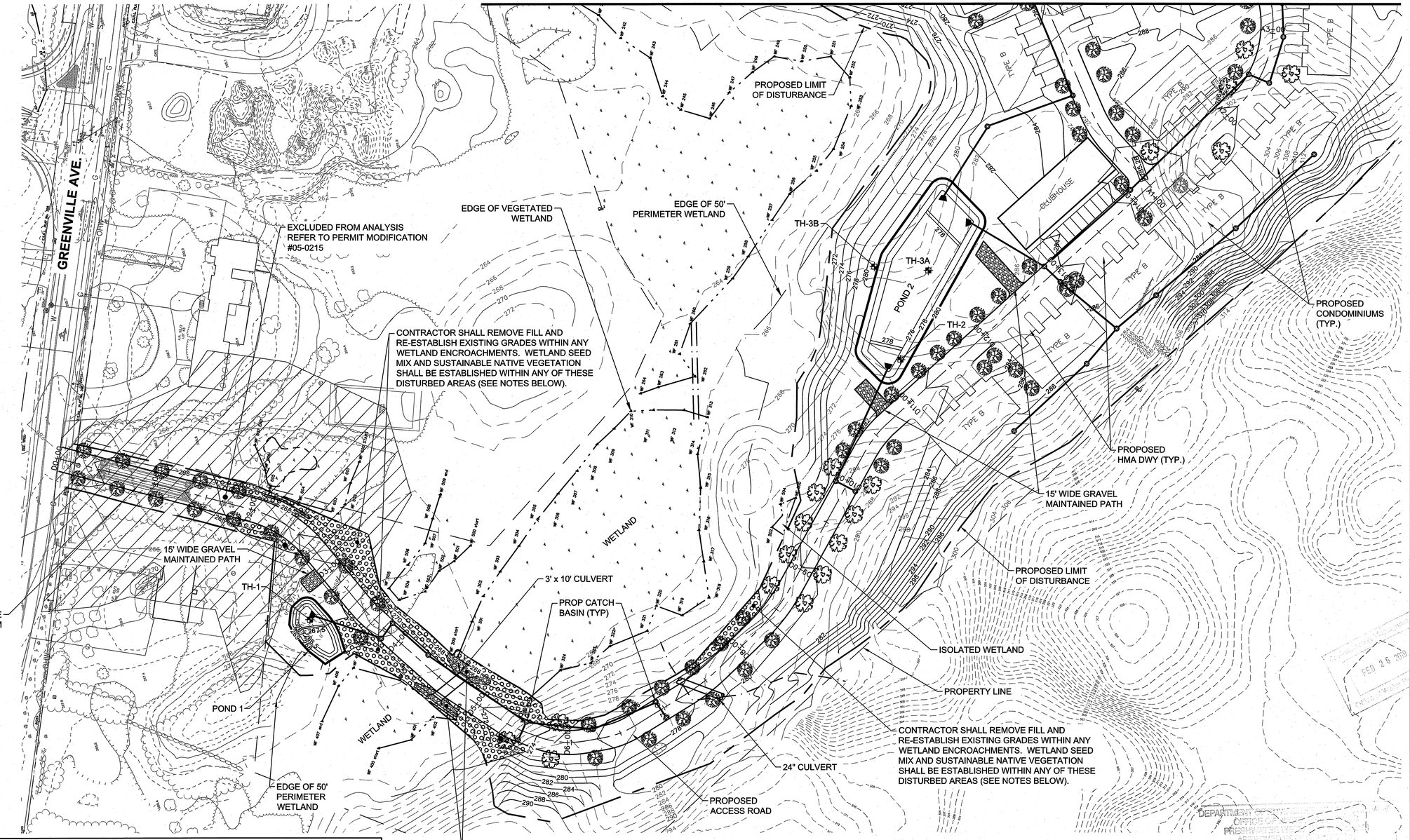
Sheet No.:

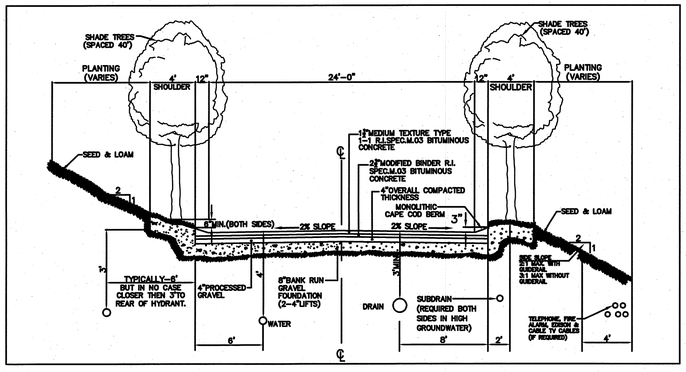
6 of 15

N:\5300s\5391 Charda - Residential Johnston\AutoCAD Files\Plan Sheets\5391 Site Plan.dwg

Plot Date: 1/25/2019 3:46 PM

MATCH TO SHEET 8





TYPICAL ROAD CROSS SECTION

NOTES:

1. EXISTING CONDITIONS WERE OBTAINED FROM PLAN ENTITLED "COMPREHENSIVE PERMIT PLAN, MAJOR LAND DEVELOPMENT" PREPARED BY NARRAGANSETT ENGINEERING INC., DATED DECEMBER 2004 AND REVISED AS OF AUGUST 8, 2005. THESE CONDITIONS EXISTED PRIOR TO THE PREVIOUS WETLANDS APPROVAL (05-0215) BY RIDEM ON NOVEMBER 18, 2005.
2. THE LOCATION OF EXISTING UTILITIES IS APPROXIMATE, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. NOTIFY "DIG-SAFE" AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO ANY SITE DEMOLITION OR EXCAVATION.

- MITIGATION PLANTINGS, SEE NOTES BELOW

NOTES:

1. TREES TO BE PLANTED AT 40' (MIN.) INTERVALS EXCEPT AREAS WHERE MITIGATION PLANTINGS ARE TO BE PLANTED.
2. NEW TREES SHALL BE 2" (MIN.) DIA. (MEASURED 4' ABOVE FINISH GRADE).
3. ALL TREE VARIETIES, PLACEMENT, CONDITION AND QUALITY ARE SUBJECT TO THE APPROVAL OF THE TOWN PLANNING BOARD PRIOR TO PLANTING AND BY THE TOWN PLANNER AFTER PLANTING.
4. ALL TREES MUST BE SUITABLE TO ZONE 6B AND MEET AMERICAN STANDARDS FOR NURSERY STOCK.
5. PLANTING WILL BE DONE AS PER DEM REGULATIONS.
6. MITIGATION PLANTINGS TO BE SPACED 10' ON CENTER FOR TREES AND 6' ON CENTER FOR SHRUBS AND CONSIST OF A MIX OF THE FOLLOWING: GIANT RHODODENDRON (RHODODENDRON MAXIMUM), INKBERY (ILEX GALBRA), AND HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM).

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Site Plan No. 1

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Site Plan.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Scale

50 0 50 100
Scale in Feet: 1"=50'

Drawing Status:

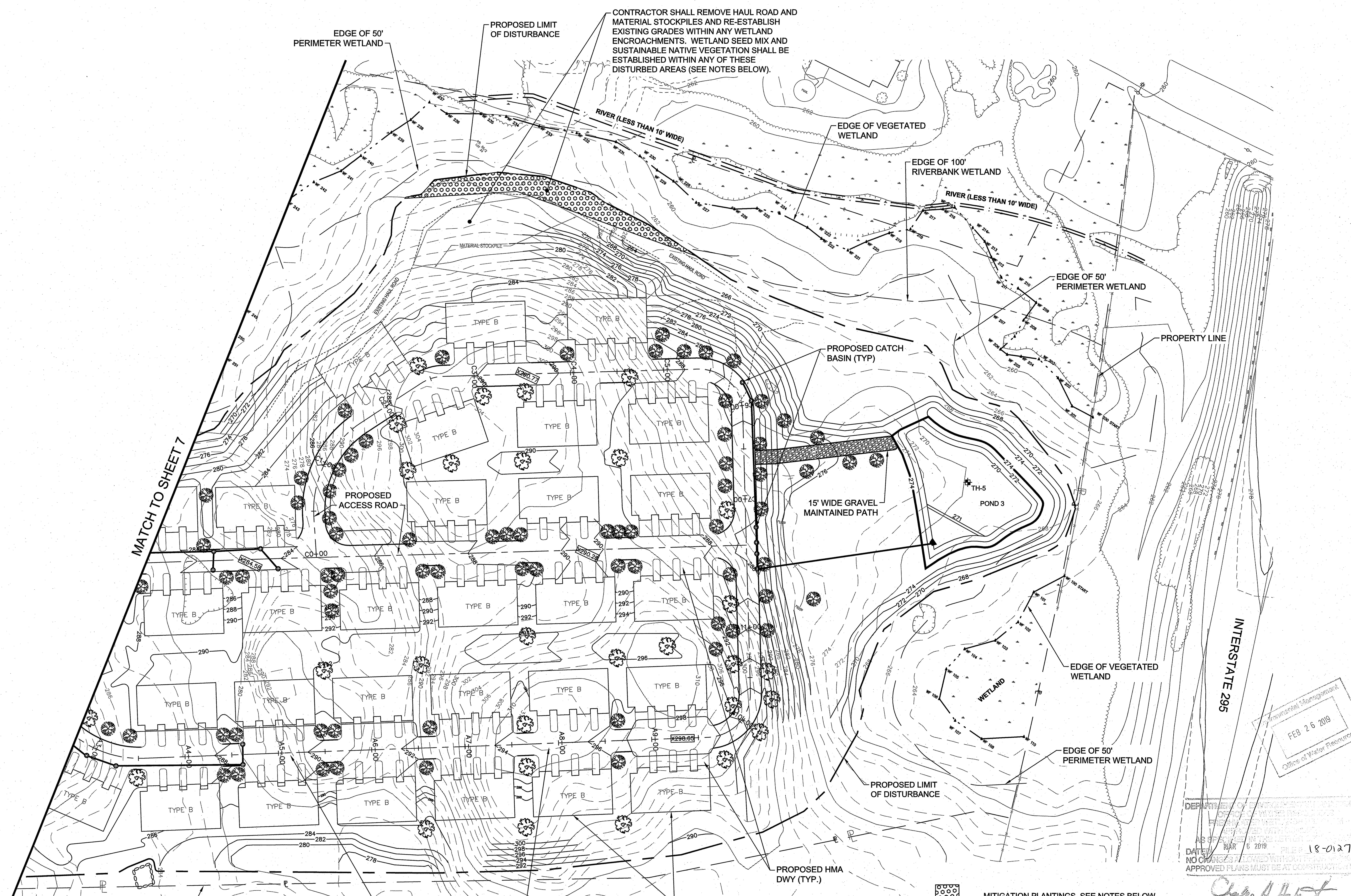
Construction

Sheet No.:

7 of 15

N:\5300s\5391 Chardo - Residential Johnston\AutoCAD Files\Plan Sheets\5391 Site Plan.dwg

Plot Date: 1/25/2019 3:46 PM



(hatched symbol) - MITIGATION PLANTINGS, SEE NOTES BELOW

NOTES:
1. TREES TO BE PLANTED AT 40' (MIN.) INTERVALS EXCEPT AREAS WHERE MITIGATION PLANTINGS ARE TO BE PLANTED.
2. NEW TREES SHALL BE 2" (MIN.) DIA. (MEASURED 4' ABOVE FINISH GRADE).
3. ALL TREE VARIETIES, PLACEMENT, CONDITION AND QUALITY ARE SUBJECT TO THE APPROVAL OF THE TOWN PLANNING BOARD PRIOR TO PLANTING AND BY THE TOWN PLANNER AFTER PLANTING.
4. ALL TREES MUST BE SUITABLE TO ZONE 6B AND MEET AMERICAN STANDARDS FOR NURSERY STOCK.
5. PLANTING WILL BE DONE AS PER DEM REGULATIONS.
6. MITIGATION PLANTINGS TO BE SPACED 10' ON CENTER FOR TREES AND 6' ON CENTER FOR SHRUBS AND CONSIST OF A MIX OF THE FOLLOWING: GIANT RHODODENDRON (RHODODENDRON MAXIMUM), INKBERY (ILEX GALBRA), AND HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM).

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Site Plan No. 2

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Site Plan.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Scale

50 0 50 100
Scale in Feet: 1"=50'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

Drawing Status:

Construction

Sheet No.:

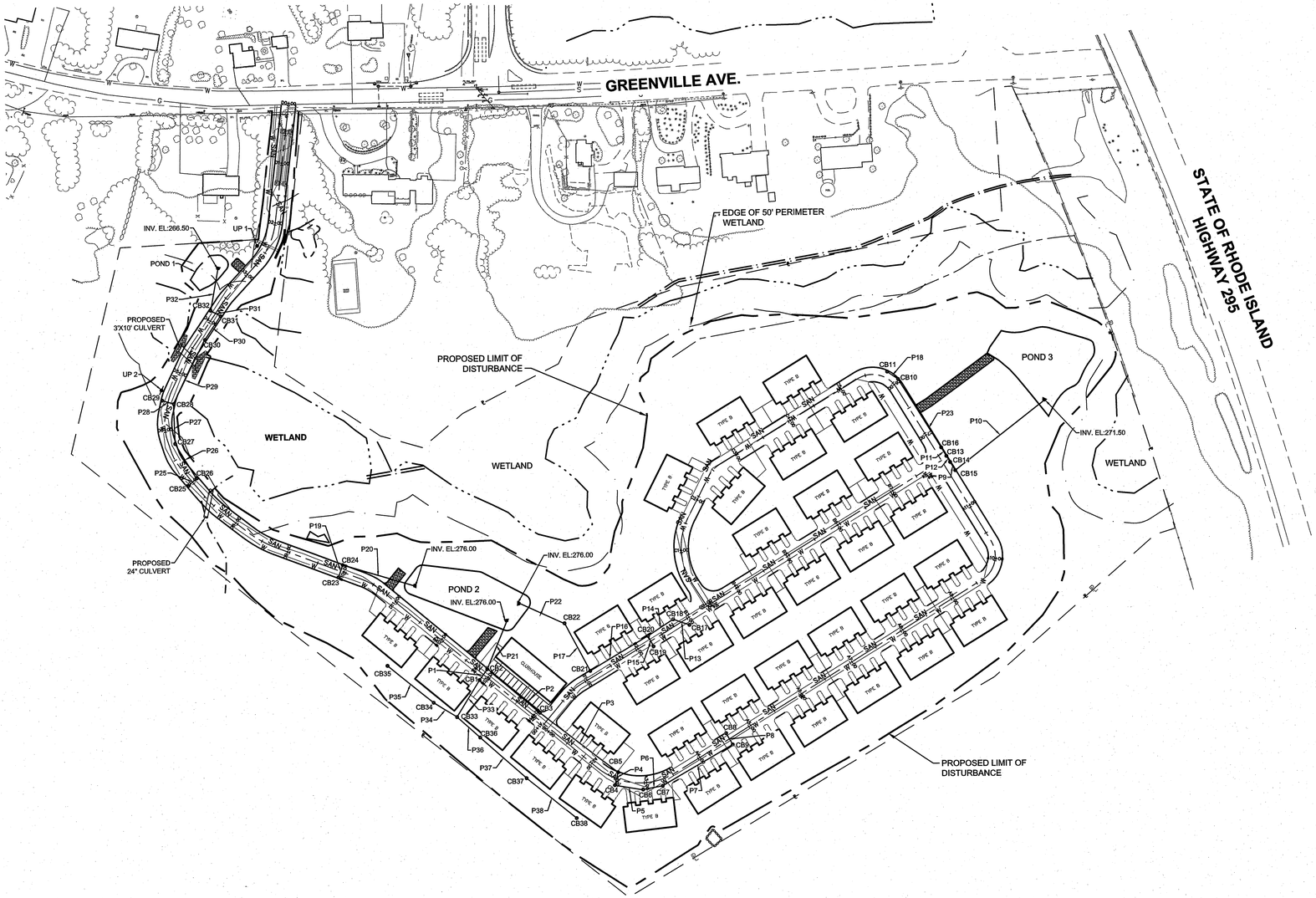
8 of 15

N:\5300s\5391 Charda - Residential Johnston\AutoCAD Files\Plan Sheets\5391 Site Plan.dwg

Plot Date: 1/25/2019 3:47 PM

STORM DRAINAGE PIPES:

LABEL	QTY.	DIA.	LENGTH	SLOPE	TYPE/DESCRIPTION
P1	1	12"	16'	0.0099	RCP CLASS III
P2	1	18"	96'	0.0100	RCP CLASS III
P3	1	18"	166'	0.0200	RCP CLASS III
P4	1	12"	16'	0.0100	RCP CLASS III
P5	1	12"	43'	0.0168	RCP CLASS III
P6	1	12"	31'	0.0100	RCP CLASS III
P7	1	12"	130'	0.0100	RCP CLASS III
P8	1	12"	16'	0.0075	RCP CLASS III
P9	1	12"	15'	0.0100	RCP CLASS III
P10	1	18"	186'	0.0200	RCP CLASS III
P11	1	12"	15'	0.0100	RCP CLASS III
P12	1	12"	10'	0.0100	RCP CLASS III
P13	1	12"	24'	0.0050	RCP CLASS III
P14	1	18"	46'	0.0050	RCP CLASS III
P15	1	12"	16'	0.0050	RCP CLASS III
P16	1	18"	111'	0.0050	RCP CLASS III
P17	1	18"	87'	0.0377	RCP CLASS III
P18	1	12"	20'	0.0100	RCP CLASS III
P19	1	12"	16'	0.0100	RCP CLASS III
P20	1	12"	122'	0.0207	RCP CLASS III
P21	1	18"	81'	0.0405	RCP CLASS III
P22	1	18"	82'	0.0060	RCP CLASS III
P23	1	12"	103'	0.0700	RCP CLASS III
P25	1	12"	15'	0.0100	RCP CLASS III
P26	1	12"	64'	0.0159	RCP CLASS III
P27	1	12"	66'	0.0050	RCP CLASS III
P28	1	12"	15'	0.0097	RCP CLASS III
P29	1	18"	115'	0.0050	RCP CLASS III
P30	1	18"	43'	0.0155	RCP CLASS III
P31	1	18"	15'	0.0050	RCP CLASS III
P32	1	18"	69'	0.0236	RCP CLASS III
P33	1	12"	69'	0.0417	CORRUGATED PLASTIC
P34	1	12"	42'	0.0450	CORRUGATED PLASTIC
P35	1	12"	95'	0.0200	CORRUGATED PLASTIC
P36	1	12"	48'	0.0100	CORRUGATED PLASTIC
P37	1	12"	100'	0.0100	CORRUGATED PLASTIC
P38	1	12"	104'	0.0100	CORRUGATED PLASTIC



PROPOSED UNDERGROUND STRUCTURE DETAILS

DRAINAGE:							
CB#1 RIM EL: 283.82 INV. (IN)EL(33): 279.62 INV.(OUT) EL.: 279.52	CB#6 RIM EL: 286.75 INV. (IN)EL(7): 284.37 INV. (OUT)EL.: 284.37	CB#11 RIM EL: 285.50 INV. (OUT)EL.: 282.00	CB#17 RIM EL: 284.00 INV. EL.: 281.00	CB#22 RIM EL: 282.00 INV. (IN)EL(22): 276.59 INV. (OUT)EL.: 276.49	CB#27 RIM EL: 275.60 INV. (IN)EL(27): 271.80 INV. (OUT)EL.: 271.79	CB#32 RIM EL: 271.71 INV. (IN)EL(32): 268.14 INV. (OUT)EL.: 268.13	CB#37 RIM EL: 287.50 INV. (IN)EL(38): 284.46 INV. (OUT)EL.: 284.36
CB#2 RIM EL: 283.82 INV. (IN)EL(1): 279.38 INV. (OUT)EL.: 279.28	CB#7 RIM EL: 287.00 INV. (IN)EL(8): 284.61 INV. (OUT)EL.: 284.61	CB#13 RIM EL: 285.75 INV. (IN) EL.(16): 278.44 INV. (OUT)EL.: 278.34	CB#18 RIM EL: 284.00 INV. (IN)EL(18): 280.87 INV. (OUT)EL.: 280.77	CB#23 RIM EL: 280.89 INV. EL: 278.79	CB#28 RIM EL: 275.09 INV. (IN)EL(28): 271.46 INV. (IN)EL(30): 271.46 INV. (OUT)EL.: 271.45	CB#33 RIM EL: 284.50 INV. (IN)EL(34): 282.50 INV. (IN)EL(36): 282.78 INV. (OUT)EL: 282.40	CB#38 RIM EL: 287.50 INV. (OUT)EL.: 285.50
CB#3 RIM EL: 285.05 INV. (IN)EL(5): 280.68 INV. (OUT)EL.: 280.58	CB#8 RIM EL: 288.20 INV. (OUT)EL.: 285.70	CB#14 RIM EL: 285.75 INV. (IN)EL(13): 278.24 INV. (OUT)EL.: 278.14	CB#19 RIM EL: 284.00 INV. EL.: 281.00 CB#20 RIM EL: 284.00 INV. (IN)EL(20): 280.91 INV. (IN)EL(19): 280.54 INV. (OUT)EL.: 280.44	CB#24 RIM EL: 280.89 INV. IN EL(24): 278.63 INV. OUT EL: 278.53 CB#25 RIM EL: 277.79 INV. (OUT)EL.: 272.97	CB#29 RIM EL: 275.09 INV. (OUT)EL.: 271.60 CB#30 RIM EL: 274.30 INV. (IN)EL(29): 270.88 INV. (OUT)EL.: 268.89	CB#34 RIM EL: 287.50 INV. (IN)EL(35): 285.50 INV. (OUT)EL.: 284.40 CB#35 RIM EL: 289.00 INV. (OUT)EL.: 287.00	
CB#4 RIM EL: 286.30 INV. EL.: 284.00	CB#9 RIM EL: 288.20 INV. EL.: 285.58 INV. (IN)EL(8): 285.58	CB#15 RIM EL: 285.90 INV. (IN)EL(14): 278.00 INV. (OUT)EL.: 275.22					
CB#5 RIM EL: 286.30 INV. (OUT)EL.: 284.00	CB#10 RIM EL: 285.50 INV. (IN)EL(11): 281.80 INV. (OUT)EL: 281.70	CB#16 RIM EL: 285.90 INV. (IN)EL(10): 278.68 INV. (OUT)EL.: 278.58	CB#21 RIM EL: 284.50 INV. (IN)EL(21): 279.87 INV. (OUT)EL.: 279.77	CB#26 RIM EL: 276.79 INV. (IN)EL(26): 272.83 INV. (OUT)EL.: 272.82	CB#31 RIM EL: 271.71 INV. (IN)EL(31): 268.22 INV. (OUT)EL.: 268.21	CB#36 RIM EL: 286.00 INV. (IN)EL(37): 283.36 INV. (OUT)EL.: 283.26	

RECEIVED
FEB 26 2019
PLANNING DEPARTMENT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS SECTION
APPROVED
AS SPECIFIED IN PERMIT NO. 18-0127
DATED MAR 6 2019
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE ON SITE
Charles A. Horbert

Engineered by:
BETA
www.BETA-Inc.com

North Arrow

Project
CHARDA RESIDENTIAL
JOHNSTON, RHODE ISLAND

Title
Utility Plan

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Utility Plans.dwg
Drawn By: LTD
Designed By: NBI
Checked By: KMA
Job No: 5391 Date: APRIL 2018

KEVIN M. AGUIAR
No. 6913
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale
100 0 100 200
Scale in Feet: 1"=100'

Drawing Status:
Construction

Sheet No.:
9 of 15

Plot Date: 1/25/2019 3:47 PM

N:\5300s\5391 Charda – Residential Johnston\AutoCAD Files\Plan Sheets\5391 Utility Plans.dwg

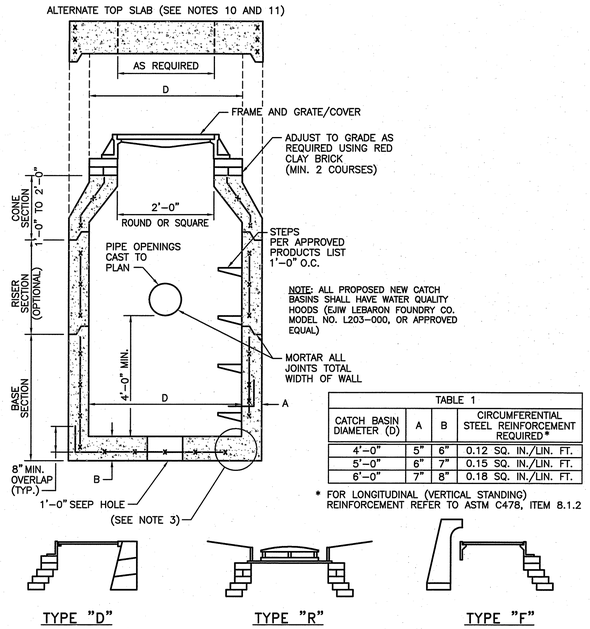


TABLE 1			
CATCH BASIN DIAMETER (D)	A	B	CIRCUMFERENTIAL STEEL REINFORCEMENT REQUIRED*
4'-0"	5"	6"	0.12 SQ. IN./LIN. FT.
5'-0"	6"	7"	0.15 SQ. IN./LIN. FT.
6'-0"	7"	8"	0.18 SQ. IN./LIN. FT.

* FOR LONGITUDINAL (VERTICAL STANDING) REINFORCEMENT REFER TO ASTM C478, ITEM 8.1.2

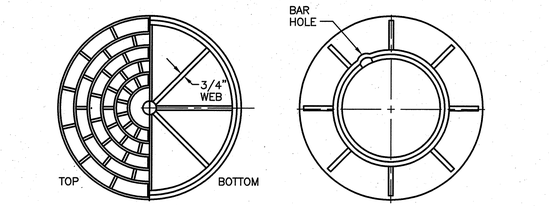
TYPE CATCH BASIN AS REQUIRED

NOTES:
1. SHALL BE IN ACCORDANCE WITH SECTION 702 OF THE R.I. STANDARD SPECIFICATIONS.
2. SEE TABLE 1 FOR STEEL REINFORCEMENT REQUIREMENTS.
3. STEEL REINFORCEMENT FOR BASE SECTION BOTTOM SHALL BE A MINIMUM OF 0.12 SQ. IN./LIN. FT. (BOTH WAYS).
4. STEPS SHALL CONFORM TO STD. 5.3.0 AND SHALL BE INSTALLED AT THE CASTING PLANT.
5. ONE POUR MONOLITHIC BASE SECTION.
6. ANY NECESSARY ADJUSTMENTS DURING CONSTRUCTION WILL BE DONE BY SAW-CUTTING AND/OR CORING ONLY. NO JACKHAMMERS, HAMMERS AND CHISELS OR PNEUMATIC TOOLS WILL BE ALLOWED.
7. CORBEL MADE OF RED CLAY BRICK WILL BE PERMITTED FOR THE "CONE SECTION" OF THE 4'-0" CATCH BASIN ONLY.
8. FOR CATCH BASIN TYPES "D" AND "F" STEPS MUST BE INSTALLED ON THE CURB SIDE OF THE STRUCTURE.
9. THE CENTERLINE OF THE OPENING MUST BE WITHIN 2'-0" FROM THE STEPS.
10. ALTERNATE TOP SLAB IS STEEL REINFORCED TO MEET OR EXCEED H-25 LOADING (SEE STD. 4.7.2).
11. ALTERNATE TOP SLAB IS ONLY FOR USE WHEN REDUCING SECTION DOES NOT FIT BECAUSE OF STRUCTURE DEPTH.
12. REFER TO STD. 5.2.0 FOR MAXIMUM PIPE SIZES.
13. PROVIDE A MINIMUM OF 12 INCHES OF COMPACTED GRAVEL BORROW AROUND THE STRUCTURE.

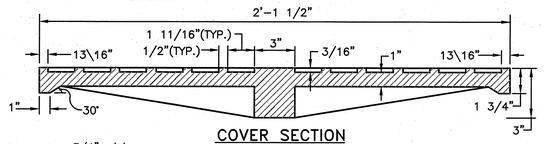
PRECAST 4'-0", 5'-0", OR 6'-0" ROUND MODIFIED CATCH BASIN

NOT TO SCALE

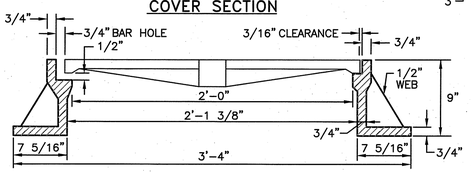
R.I. STANDARD 4.4.0M



COVER FRAME



COVER SECTION



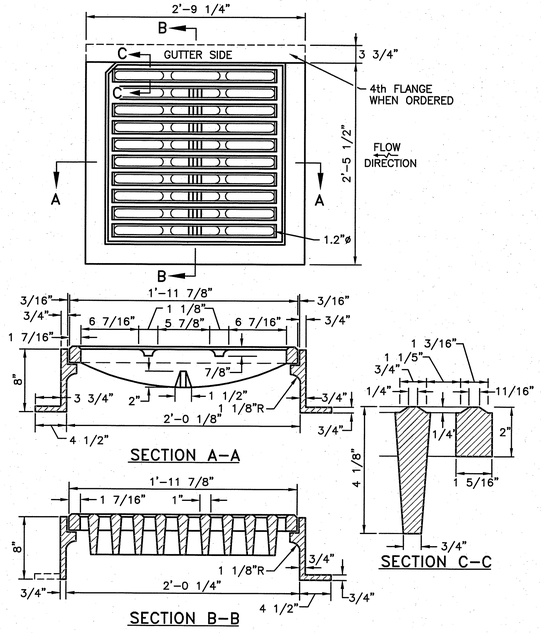
FRAME SECTION

NOTES:
1. FRAME AND GRATE SHALL CONFORM TO SECTION M.04 OF THE R.I. STANDARD SPECIFICATIONS.
2. FRAME AND COVER SEATS MUST HAVE MACHINE FINISH.

HEAVY-DUTY ROUND FRAME AND COVER

NOT TO SCALE

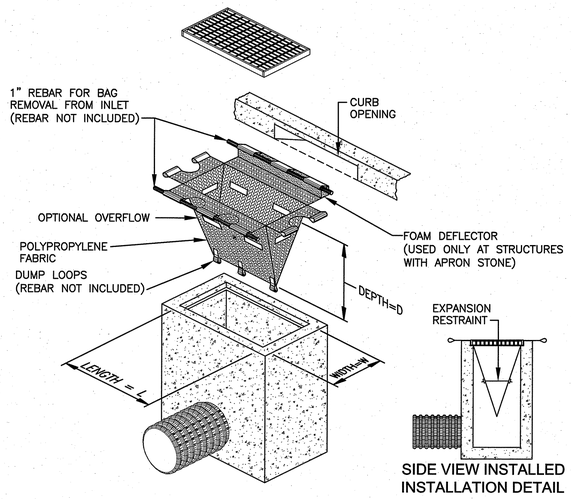
R.I. STANDARD 6.2.1



SQUARE FRAME AND GRATE (BICYCLE SAFE)

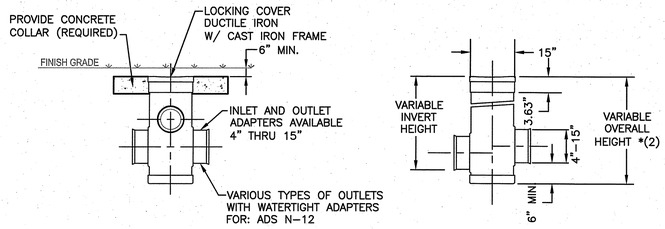
NOT TO SCALE

R.I. STANDARD 6.3.2



INLET SEDIMENT CONTROL DEVICE (WITH OPTIONAL CURB DEFLECTOR)

NOT TO SCALE



15" ADS DRAIN BASIN

NOT TO SCALE

Engineering Management FEB 26 2019 Water Resources

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS OF APPROVAL
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 5 2019 FILE # 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Construction Details No. 1

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Con Details.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale

As Shown

Drawing Status:

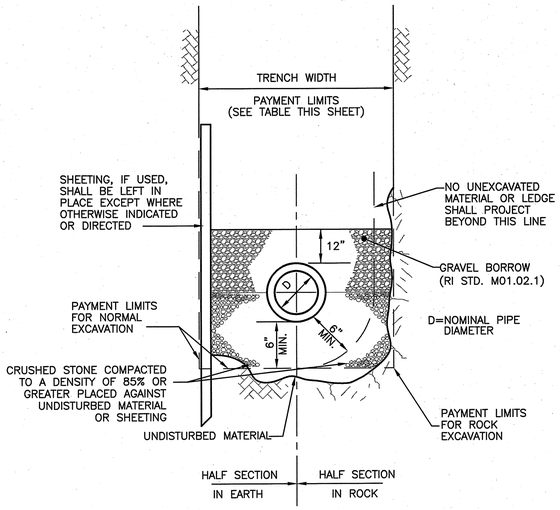
Construction

Sheet No.:

10 of 15

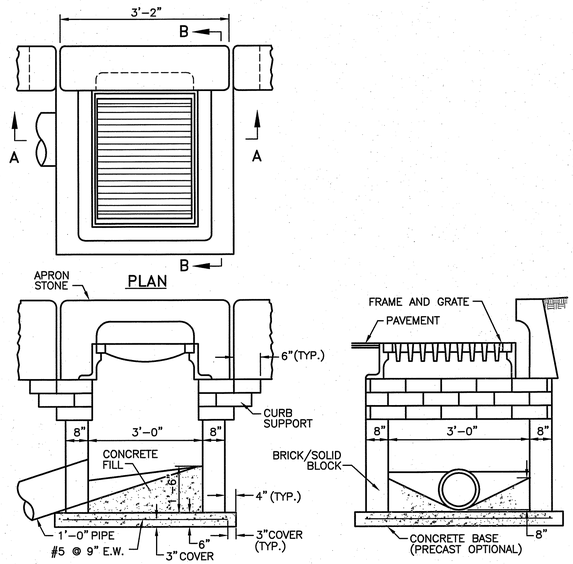
N:\5300s\5391 Charda – Residential Johnston\AutoCAD Files\Plan Sheets\5391 Con Details.dwg

Plot Date: 1/25/2019 3:47 PM



DRAIN TRENCH SECTION

MAXIMUM PAYMENT LIMITS			
DIAMETER OF PIPE D IN INCHES	TRENCH WIDTH IN FEET	TEMPORARY PAVEMENT IN FEET	
		TRENCH DEPTH	
		< OR = 10'	> 10'
12 AND SMALLER	6.00	7.00	8.00
15	6.25	7.25	8.25
18	6.50	7.50	8.50
21	6.75	7.75	8.75
24	7.00	8.00	9.00
27	7.25	8.25	9.25
30	7.50	8.50	9.50
36	8.00	9.00	10.00
42	8.50	9.50	10.50
48	9.00	10.00	11.00
54	9.50	10.50	11.50



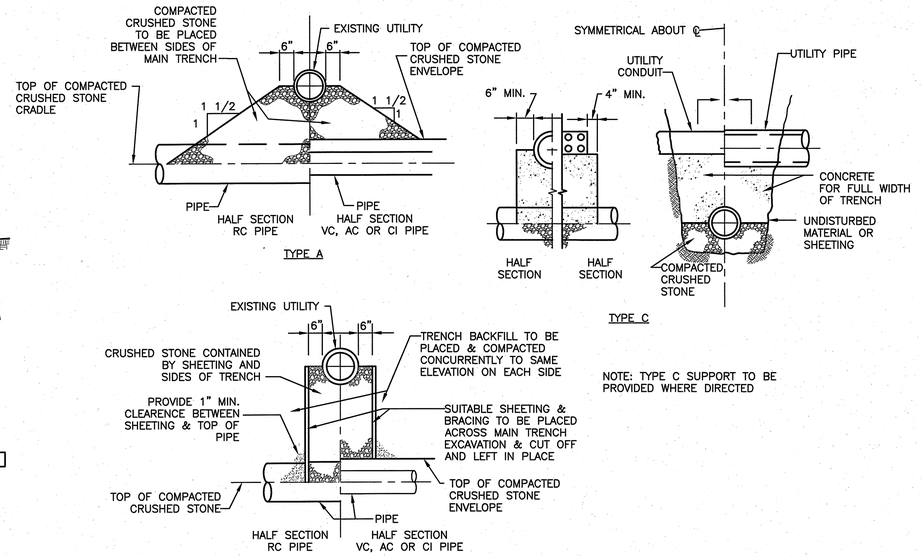
SECTION A–A

SECTION B–B

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.

BRICK/SOLID BLOCK DROP INLET LONGITUDINAL OUTLET

R.I. STANDARD 4.5.2M



NOTE: TYPE C SUPPORT TO BE PROVIDED WHERE DIRECTED

TYPICAL SUPPORTS FOR UTILITES

NOT TO SCALE

RECEIVED FEB 26 2019 DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF WATER RESOURCES

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS STATED IN THE LETTER OF APPROVAL
DATED MAR 6 2019 FILE # 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Construction Details No. 2

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Con Details.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale

As Shown

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

Drawing Status:

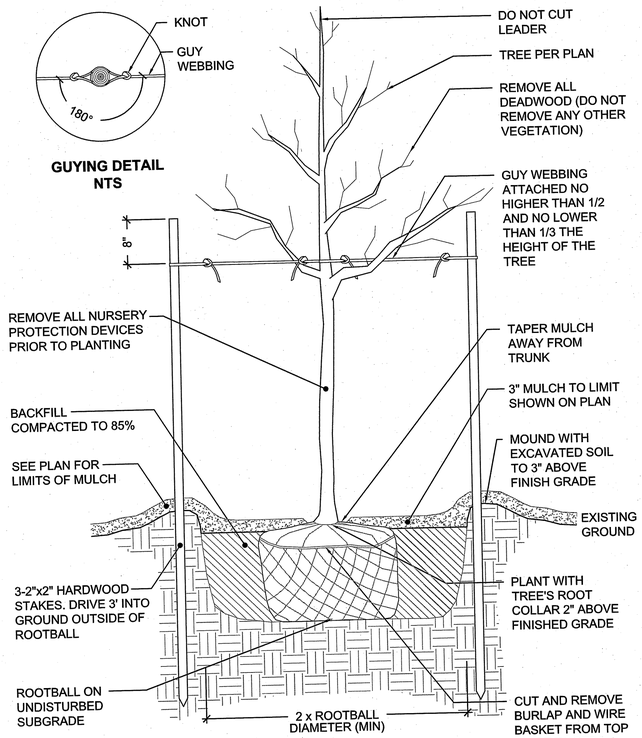
Construction

Sheet No.:

11 of 15

N:\5300s\5391 Chardo - Residential Johnston\AutoCAD Files\Plan Sheets\5391 Con Details.dwg

Plot Date: 1/25/2019 3:47 PM

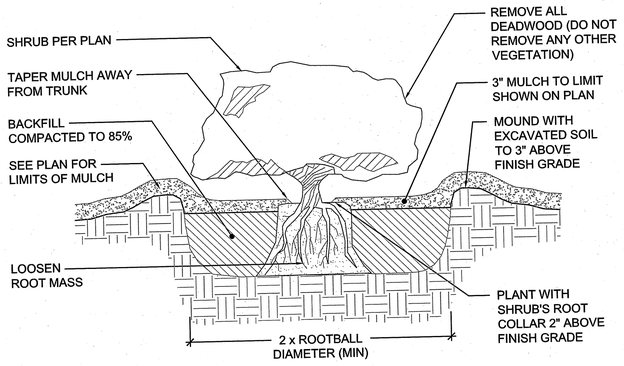


GUYING DETAIL
NTS

NOTE:
AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.

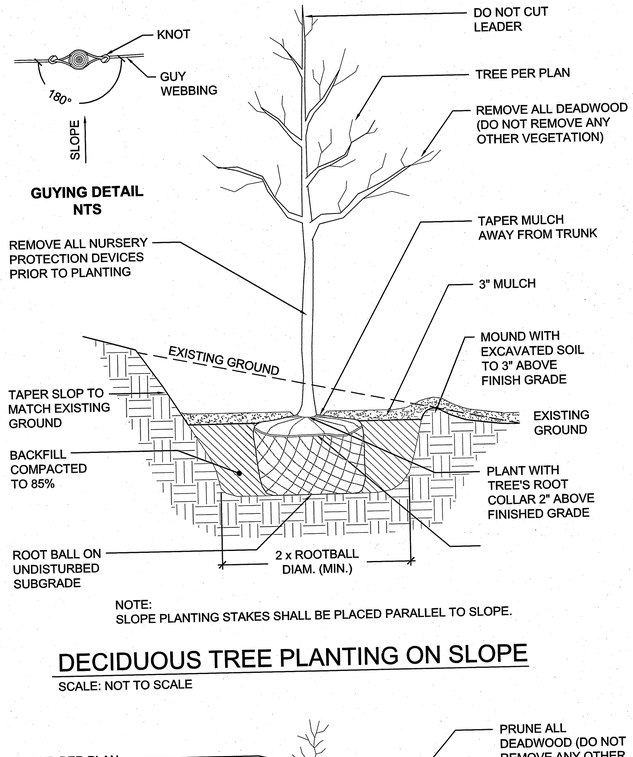
DECIDUOUS TREE STAKING & PLANTING

SCALE: NOT TO SCALE



CONTAINER GROWN TREE & SHRUB PLANTING

SCALE: NOT TO SCALE

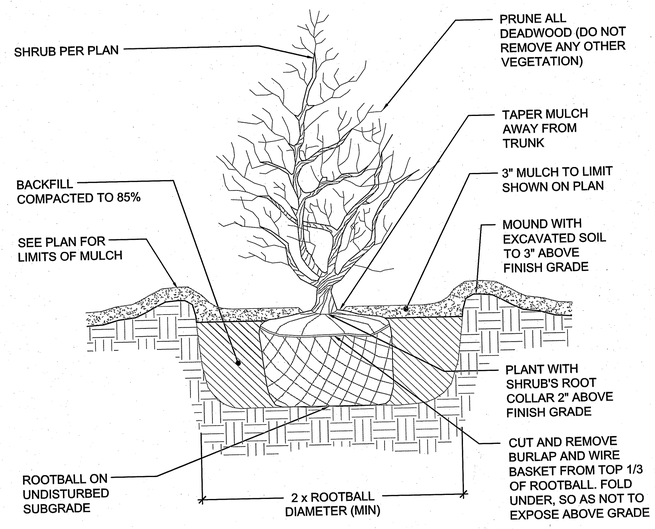


GUYING DETAIL
NTS

NOTE:
SLOPE PLANTING STAKES SHALL BE PLACED PARALLEL TO SLOPE.

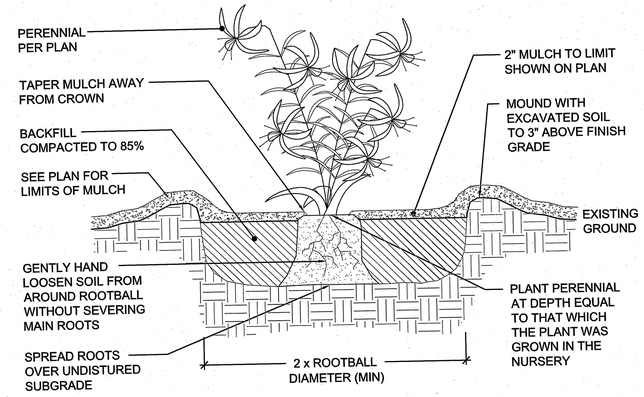
DECIDUOUS TREE PLANTING ON SLOPE

SCALE: NOT TO SCALE



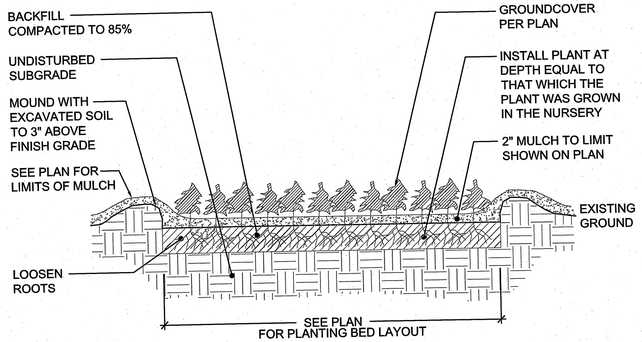
SHRUB PLANTING

SCALE: NOT TO SCALE



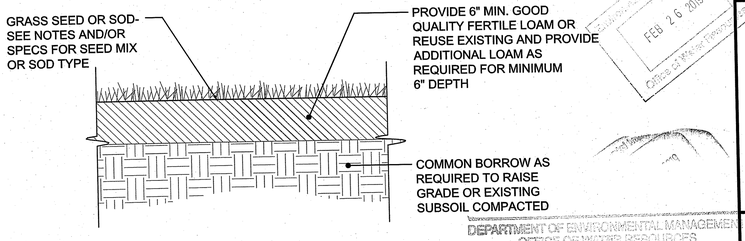
PERENNIALS & GRASSES PLANTING

SCALE: NOT TO SCALE



GROUNDCOVER PLANTING

SCALE: NOT TO SCALE



LOAM AND SEED OR LOAM AND SOD

SCALE: NOT TO SCALE

RECEIVED
FEB 26 2019
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 MAR 5 2019 FILE # 180127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE ON SITE

KEVIN M. AGUIAR
No. 6913
1-25-19
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

Construction Details No. 3

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019

File: 5391 Con Details.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

Scale

As Shown

Drawing Status:

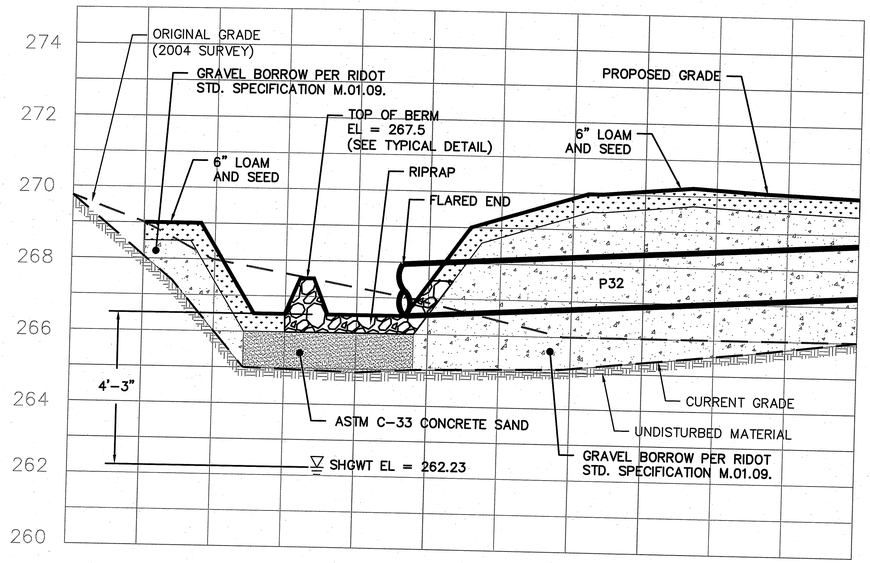
Construction

Sheet No.:

12 of 15

Plot Date: 1/25/2019 3:47 PM

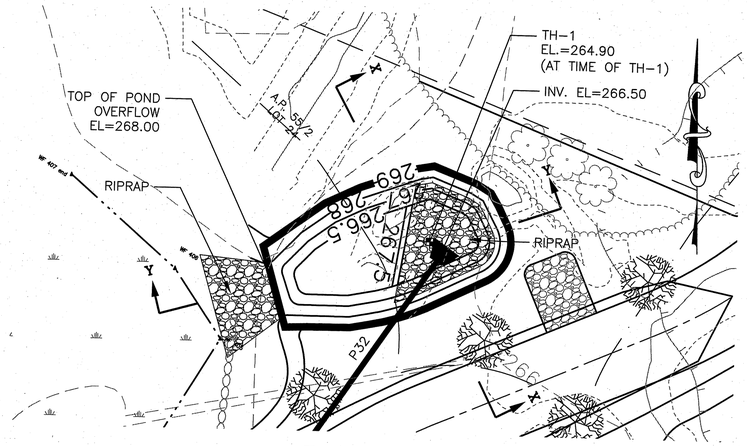
N:\5300s\5391 Charda – Residential Johnston\AutoCAD Files\Plan Sheets\5391 Con Details.dwg



POND 1

SECTION "X-X"

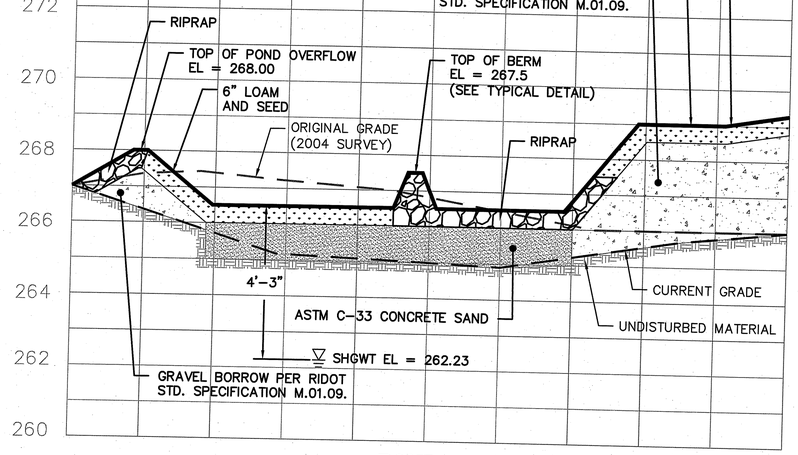
SECTION SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=2'



POND 1 PLAN

SCALE: 1"=20'

NOTE:
RIPRAP TO BE 6" DUMPED STONE



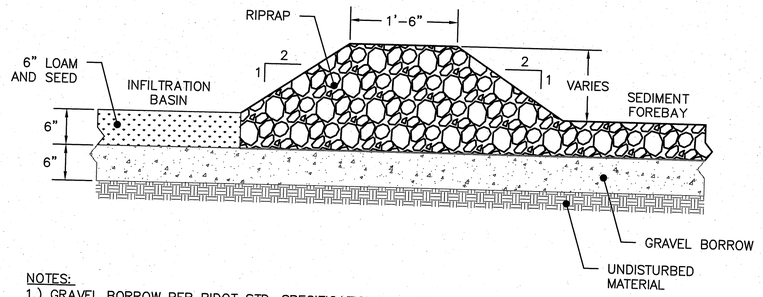
POND 1

SECTION "Y-Y"

SECTION SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=2'

INFILTRATION BASIN BERM NOTES:

1.) IF THE REQUIRED COMPACTED DEPTH OF THE BERM EXCEEDS 12 INCHES, THE BERM SHALL BE CONSTRUCTED IN TWO OR MORE LAYERS OF APPROXIMATE EQUAL THICKNESS. THE MAXIMUM COMPACTED THICKNESS OF ANY ONE LAYER SHALL NOT EXCEED 12 INCHES.
2.) COMPACTION OF EACH LAYER SHALL CONTINUE UNTIL A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH AASHTO T180 HAS BEEN ACHIEVED.
3.) WHERE THE BERM IS TO BE PLACED AGAINST EXISTING EARTH SLOPES, STEEPER THAN 3 TO 1, THE SLOPE SHALL BE BROKEN INTO BENCHES OF A SUFFICIENT WIDTH TO ACCOMMODATE PLACING AND COMPACTION OPERATIONS AS THE FILL IS PLACED IN ORDER TO PROVIDE A SUITABLE BOND BETWEEN THE EXISTING GROUND AND THE NEW EMBANKMENT. THE BENCH SHALL BE COMPACTED ALONG WITH AND TO THE SAME DEGREE AS THE MATERIAL BEING PLACED.



NOTES:
1.) GRAVEL BORROW PER RIDOT STD. SPECIFICATION M.01.09, TABLE 1.
2.) LOAM SHALL BE IN ACCORDANCE WITH M.18.02 – PLANTABLE LOAM OF THE RIDOT STD. SPECIFICATIONS.
3.) SEEDING SHALL BE IN ACCORDANCE WITH L.02.01 – SEEDING OF THE RIDOT STD. SPECIFICATIONS. THE FOLLOWING MIXES SHALL BE USED:
   - TYPE 1 – SLOPE SEED MIX (IN AREAS WITH 3:1 SLOPE OR GREATER)
   - TYPE 2 – RESIDENTIAL SEED MIX (ALL OTHER AREAS)
4.) ALL SEEDING SHALL BE DONE BETWEEN APRIL 1 TO MAY 31 OR AUGUST 15 TO OCTOBER 15 IN ACCORDANCE WITH L.02.03.1 OF THE RIDOT STD. SPECIFICATIONS.
5.) RIPRAP PER RIDOT STD. SPECIFICATION M.10.02.2, CLASS R-3.
6.) CARE SHALL BE TAKEN TO PREVENT THE COMPACTION OF SOILS IN THE INFILTRATION BASIN AREA BY MATERIALS AND/OR EQUIPMENT DURING ALL STAGES OF CONSTRUCTION, AS ANY SUCH COMPACTION MAY COMPROMISE THE ABILITY OF THE UNDERLYING SOILS TO RECEIVE AND INFILTRATE STORMWATER RUNOFF. CONTRACTOR SHALL IMPLEMENT PROTECTION MEASURES INCLUDING ERECTING SIGNAGE AND TEMPORARY BARRIERS AROUND THE PERIMETER OF THE BASIN.

TYPICAL FOREBAY BERM DETAIL

NOT TO SCALE

RECEIVED
FEB 26 2019

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WORK SHALL BE PERFORMED
AS SPECIFIED IN THIS APPROVAL
DATED MAR. 6, 2019 FILE 18-0127
NO CHANGES ALLOWED WITHOUT FURTHER APPROVAL
APPROVED PLANS MUST BE ON SITE

NOTE:
THE ORIGINAL GRADES WERE OBTAINED FROM A DECEMBER 2004 SURVEY (REVISED AUGUST 2005). ROCK REMOVAL AND EARTHWORK OPERATIONS HAVE BEEN PERFORMED UNDER THE WETLAND PERMIT #05-0215 AND THEREFORE THE CURRENT GRADES VARY FROM THE EXISTING CONTOURS SHOWN ON THE PLAN.

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

BMP Details No. 1

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019
3	RIDEM COMMENTS (02/22/2019)	02/26/2019

File: 5391 BMP Details.dwg
Drawn By: LTD
Designed By: NBI
Checked By: KMA
Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
2-25-19
REGISTERED
PROFESSIONAL ENGINEER
CIVIL

Scale

As Shown

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

Drawing Status:

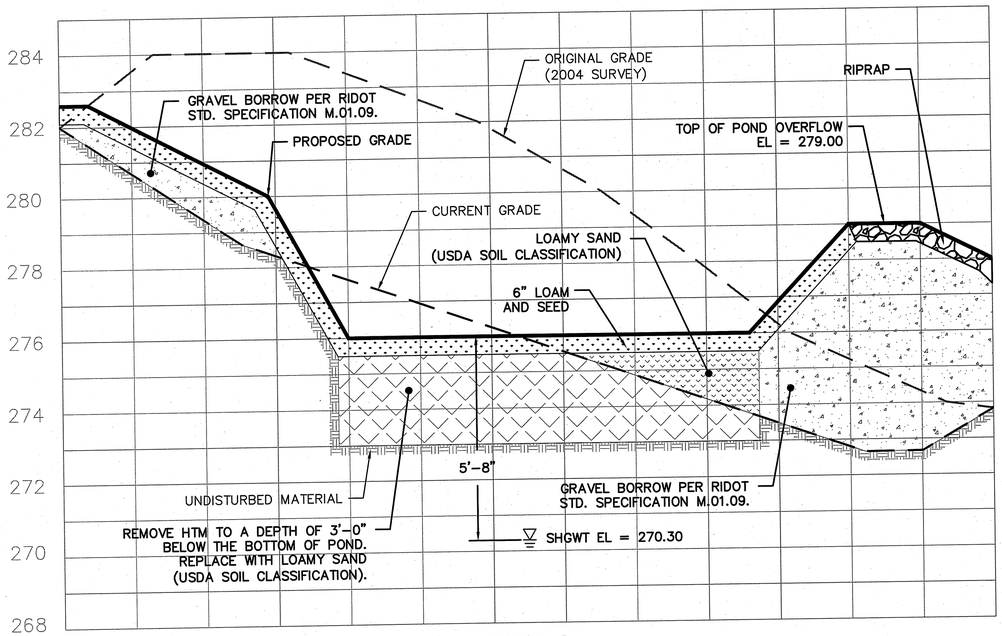
Construction

Sheet No.:

13 of 15

N:\5300s\5391 Charda - Residential Johnston\AutoCAD Files\Plan Sheets\5391 BMP Details.dwg

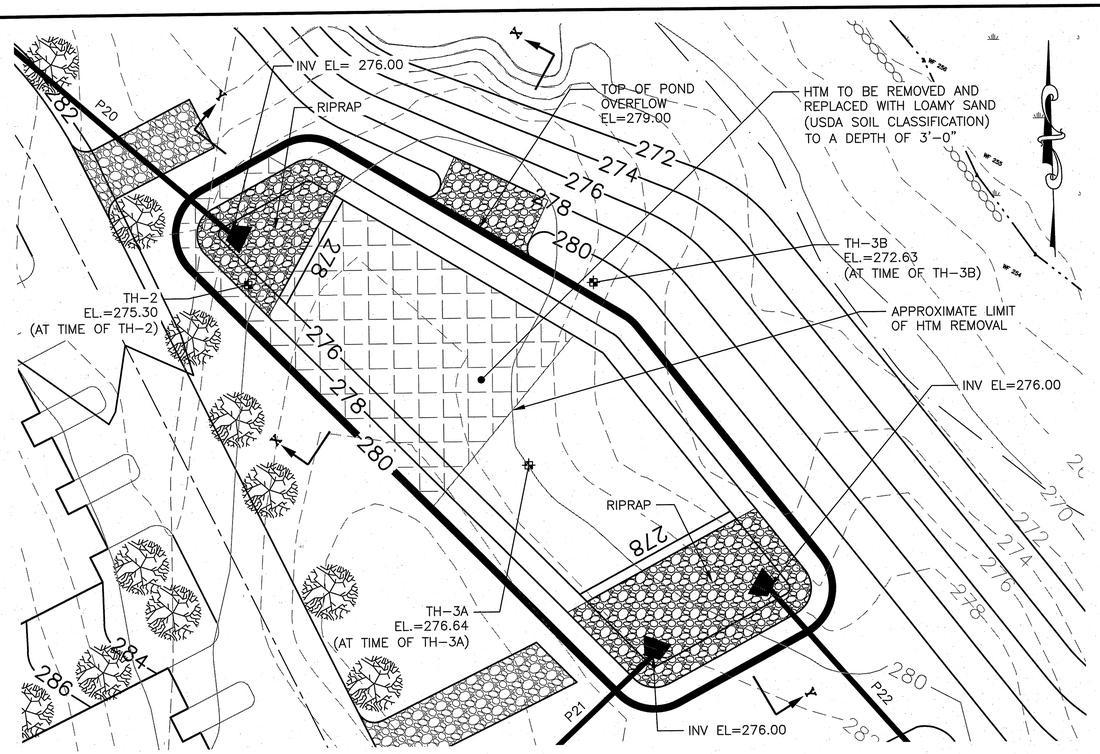
Plot Date: 2/25/2019 4:58 PM



POND 2

SECTION "X–X"

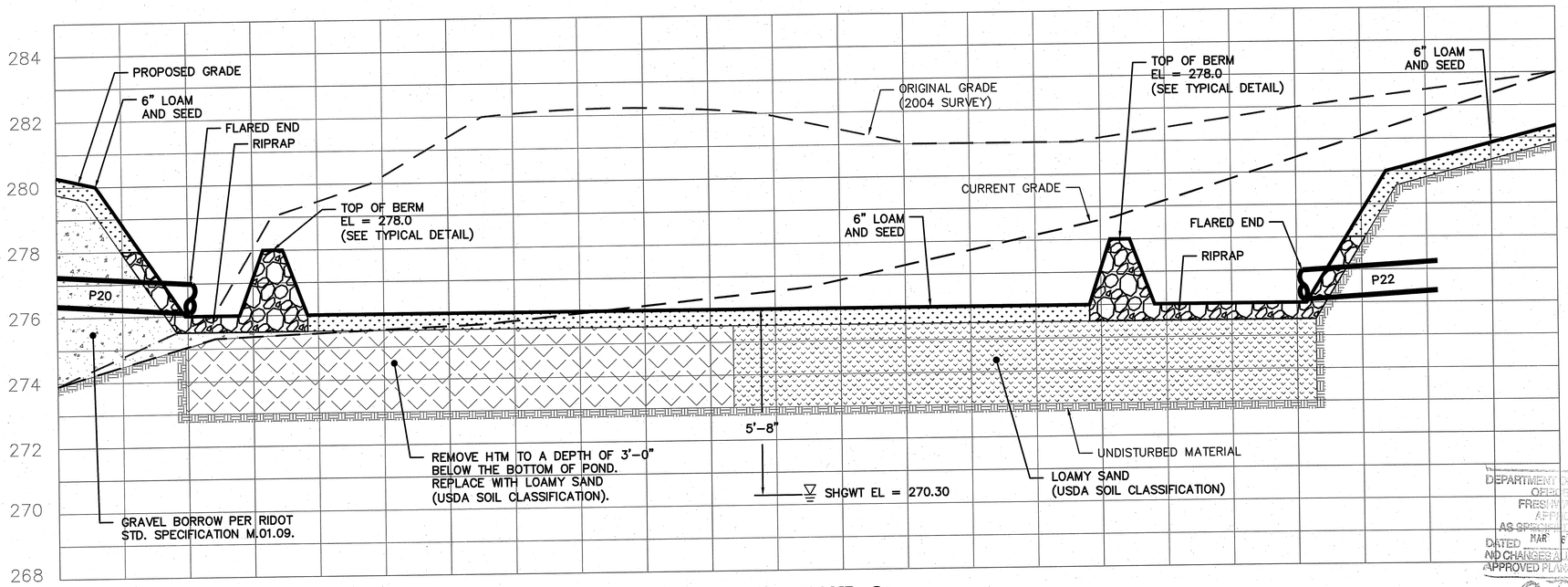
SECTION SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=2'



PLAN

SCALE: 1"=20'

NOTE:
RIPRAP TO BE 6" DUMPED STONE



POND 2

SECTION "Y–Y"

SECTION SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=2'

INFILTRATION BASIN BERM NOTES:

1.) IF THE REQUIRED COMPACTED DEPTH OF THE BERM EXCEEDS 12 INCHES, THE BERM SHALL BE CONSTRUCTED IN TWO OR MORE LAYERS OF APPROXIMATE EQUAL THICKNESS. THE MAXIMUM COMPACTED THICKNESS OF ANY ONE LAYER SHALL NOT EXCEED 12 INCHES.

2.) COMPACTION OF EACH LAYER SHALL CONTINUE UNTIL A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH AASHTO T180 HAS BEEN ACHIEVED.

3.) WHERE THE BERM IS TO BE PLACED AGAINST EXISTING EARTH SLOPES, STEEPER THAN 3 TO 1, THE SLOPE SHALL BE BROKEN INTO BENCHES OF A SUFFICIENT WIDTH TO ACCOMMODATE PLACING AND COMPACTION OPERATIONS AS THE FILL IS PLACED IN ORDER TO PROVIDE A SUITABLE BOND BETWEEN THE EXISTING GROUND AND THE NEW EMBANKMENT. THE BENCH SHALL BE COMPACTED ALONG WITH AND TO THE SAME DEGREE AS THE MATERIAL BEING PLACED.

NOTE:
THE ORIGINAL GRADES WERE OBTAINED FROM A DECEMBER 2004 SURVEY (REVISED AUGUST 2005). ROCK REMOVAL AND EARTHWORK OPERATIONS HAVE BEEN PERFORMED UNDER THE WETLAND PERMIT #05–0215 AND THEREFORE THE CURRENT GRADES VARY FROM THE EXISTING CONTOURS SHOWN ON THE PLAN.

RECEIVED
Environmental Management
FEB 26 2019

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 6 2019 FILE # 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

BMP Details No. 2

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019
3	RIDEM COMMENTS (02/22/2019)	02/26/2019

File: 5391 BMP Details.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
2-25-19

Scale

As Shown

Drawing Status:

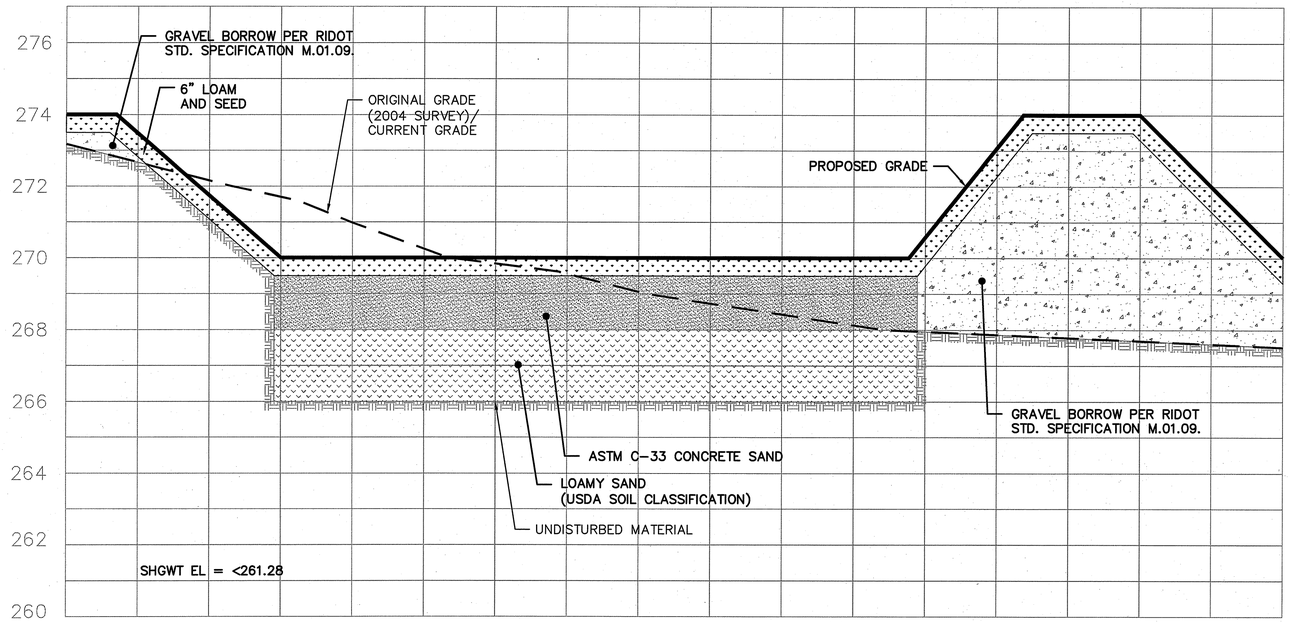
Construction

Sheet No.:

14 of 15

Plot Date: 2/25/2019 4:58 PM

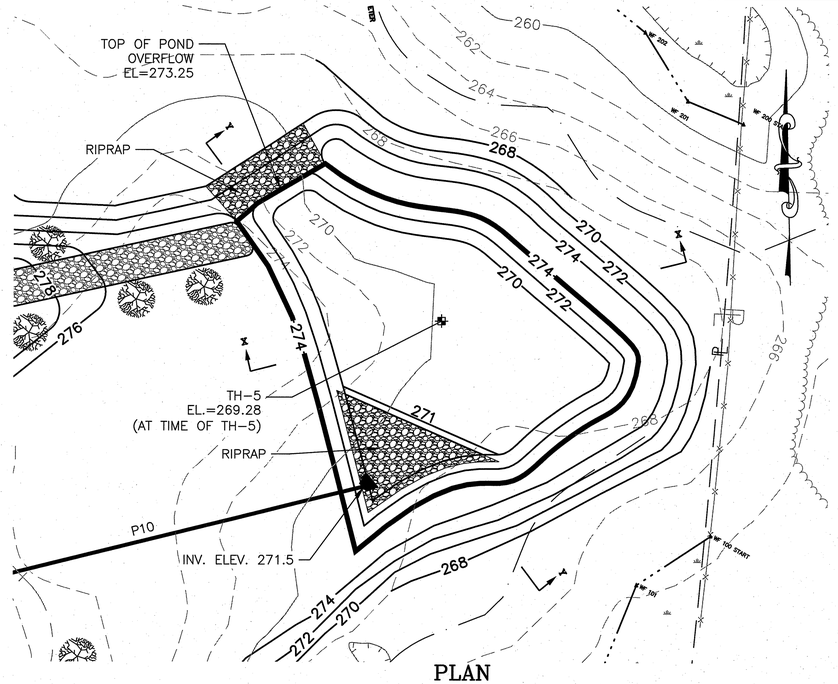
N:\5300s\5391 Chardo – Residential Johnston\AutoCAD Files\Plan Sheets\5391 BMP Details.dwg



POND 3

SECTION "X-X"

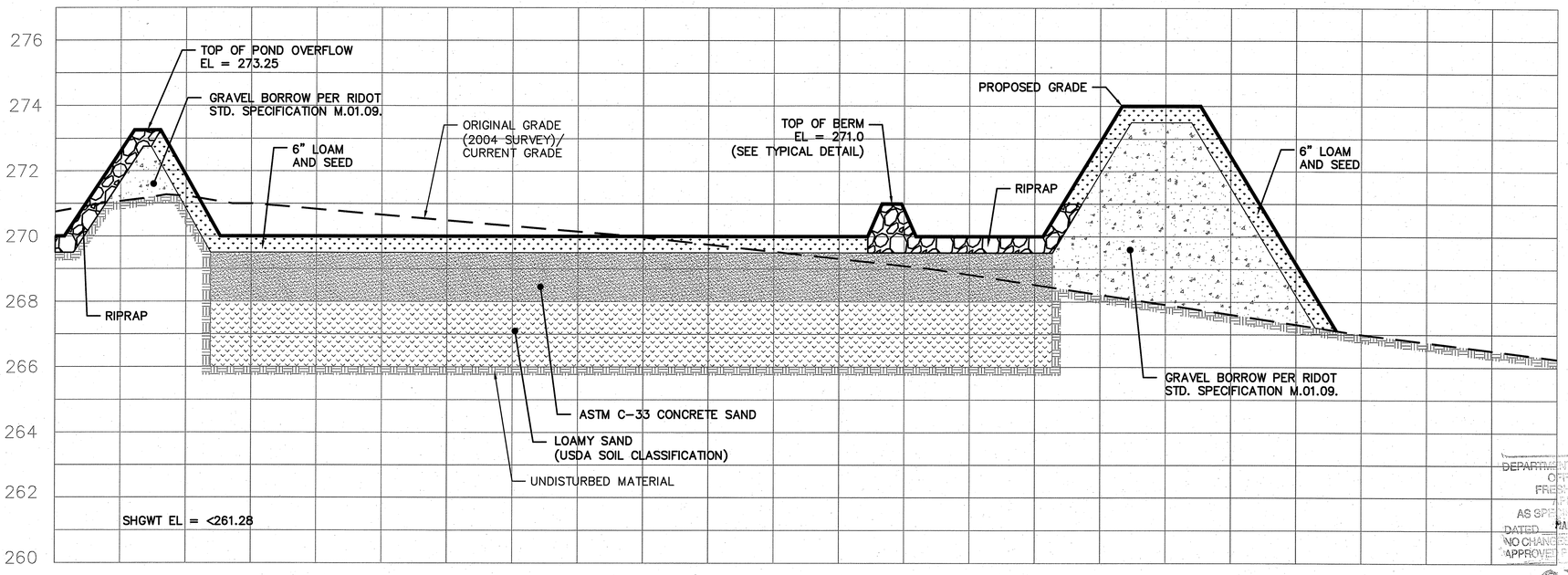
SECTION SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=2'



PLAN

SCALE: 1"=30'

NOTE:
RIPRAP TO BE 6" DUMPED STONE



POND 3

SECTION "Y-Y"

SECTION SCALE
HORIZONTAL: 1"=10'
VERTICAL: 1"=2'

INFILTRATION BASIN BERM NOTES:

1.) IF THE REQUIRED COMPACTED DEPTH OF THE BERM EXCEEDS 12 INCHES, THE BERM SHALL BE CONSTRUCTED IN TWO OR MORE LAYERS OF APPROXIMATE EQUAL THICKNESS. THE MAXIMUM COMPACTED THICKNESS OF ANY ONE LAYER SHALL NOT EXCEED 12 INCHES.
2.) COMPACTION OF EACH LAYER SHALL CONTINUE UNTIL A DENSITY OF NOT LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH AASHTO T180 HAS BEEN ACHIEVED.
3.) WHERE THE BERM IS TO BE PLACED AGAINST EXISTING EARTH SLOPES, STEEPER THAN 3 TO 1, THE SLOPE SHALL BE BROKEN INTO BENCHES OF A SUFFICIENT WIDTH TO ACCOMMODATE PLACING AND COMPACTION OPERATIONS AS THE FILL IS PLACED IN ORDER TO PROVIDE A SUITABLE BOND BETWEEN THE EXISTING GROUND AND THE NEW EMBANKMENT. THE BENCH SHALL BE COMPACTED ALONG WITH AND TO THE SAME DEGREE AS THE MATERIAL BEING PLACED.

NOTE:
THE ORIGINAL GRADES WERE OBTAINED FROM A DECEMBER 2004 SURVEY (REVISED AUGUST 2005). ROCK REMOVAL AND EARTHWORK OPERATIONS HAVE BEEN PERFORMED UNDER THE WETLAND PERMIT #05-0215 AND THEREFORE THE CURRENT GRADES VARY FROM THE EXISTING CONTOURS SHOWN ON THE PLAN.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED MAR 6 2019 FILE # 18-0127
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Engineered by:

BETA
www.BETA-Inc.com

North Arrow

Project

CHARDA RESIDENTIAL

JOHNSTON, RHODE ISLAND

Title

BMP Details No. 3

Revisions

No.	Description	Date
1	RIDEM COMMENTS (07/16/2018)	10/25/2018
2	RIDEM COMMENTS (12/18/2018)	01/25/2019
3	RIDEM COMMENTS (02/22/2019)	02/26/2019

File: 5391 BMP Details.dwg

Drawn By: LTD

Designed By: NBI

Checked By: KMA

Job No: 5391 **Date:** APRIL 2018

KEVIN M. AGUIAR
No. 6913
2-25-19
REGISTERED PROFESSIONAL ENGINEER
CIVIL

Scale

As Shown

Drawing Status:

Construction

Sheet No.:

15 of 15

N:\5300s\5391 Charda - Residential Johnston\AutoCAD Files\Plan Sheets\5391 BMP Details.dwg

Plot Date: 2/25/2019 4:58 PM