

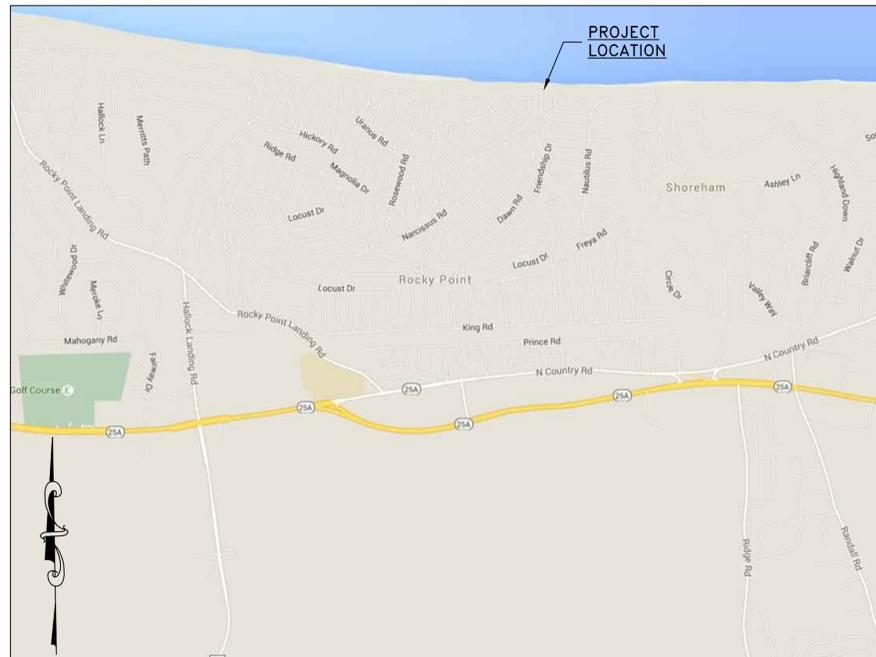
TOWN OF BROOKHAVEN

SUFFOLK COUNTY, NY



CONSTRUCTION PLANS FOR FRIENDSHIP DRIVE SHORELINE STABILIZATION NOVEMBER 2015

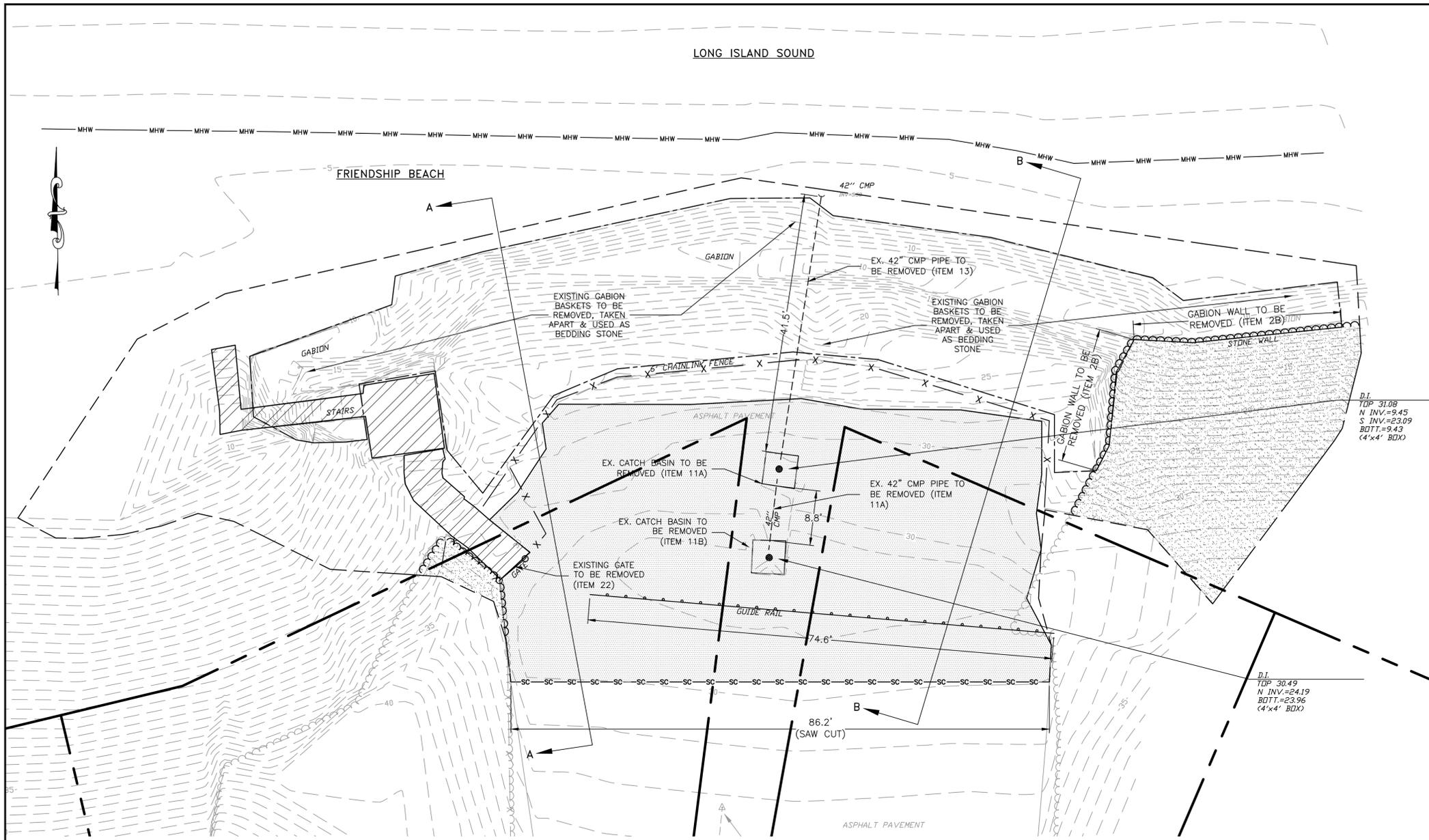
SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	TITLE PAGE
2	EXISTING CONDITIONS & DEMOLITIONS PLAN
3	PROPOSED SITE PLAN
4	GRADING & DRAINAGE PLAN
5	SITE DETAILS
6	DRAINAGE DETAILS 1
7	DRAINAGE DETAILS 2
8	STAIR DETAILS
9	STEEL SHEETING DETAILS



LOCATION MAP
N.T.S.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION			
TITLE PAGE			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KM	Scale:	AS NOTED
Drawn By:	MF	Date:	NOV. 2015
Approved By:	RGD	File No.:	13051.000
			Sheet No. 1

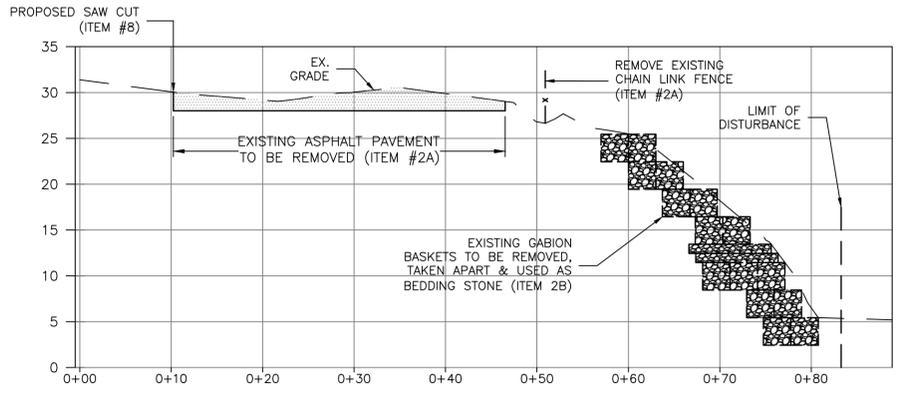
THE EDUCATION LAW OF THE STATE OF NEW YORK PROHIBITS ANY PERSON FROM ALTERING ANYTHING ON THE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATIONS, UNLESS IT'S UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, WHERE SUCH ALTERATIONS ARE MADE, THE PROFESSIONAL ENGINEER MUST SIGN, SEAL, DATE AND DESCRIBE THE FULL EXTENT OF THE ALTERATION ON THE DRAWING AND/OR IN THE SPECIFICATION (NYS ED. LAW SECTION 7209-2).



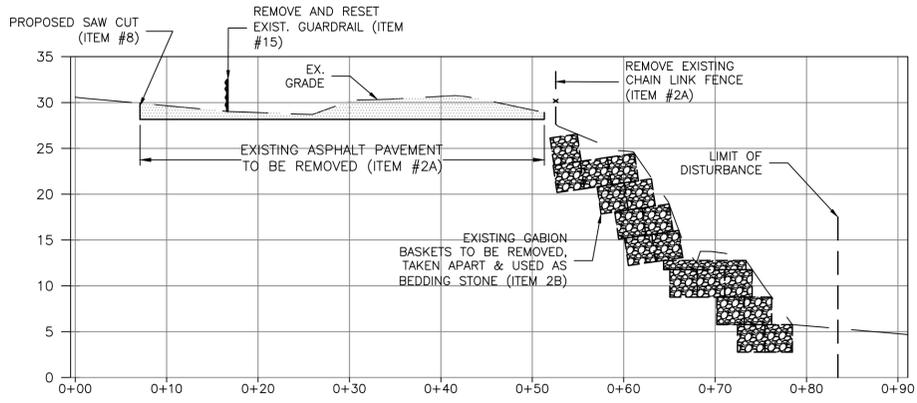
SITE PLAN
SCALE: 1"=10'

- LEGEND:**
- EX. ASPHALT PAVEMENT TO BE REMOVED (ITEM #3)
 - EXISTING STAIRS TO BE REMOVED (ITEM #2A)
 - APPROXIMATE PROPERTY LINE
 - LIMIT OF DISTURBANCE
 - LIMIT OF GABION BASKETS TO BE REMOVED, TAKEN APART & USED AS BEDDING MATERIAL (ITEM 2B)
 - MEAN HIGH WATER LINE (ELEV. 4.50±)
 - 11.0- EXISTING CONTOUR
 - EXISTING TREE LINE
 - PROPOSED TREE CLEARING LIMIT (ITEM #2A)
 - PROPOSED TREE CLEARING AREA (ITEM #2A)
 - EXISTING 6' HIGH CHAIN LINK FENCE TO BE REMOVED (ITEM #2A)
 - PROPOSED SAW CUT (ITEM #8)
 - EXISTING GUARDRAIL TO BE REMOVED & RESET (ITEM #15)

- DEMOLITION NOTES:**
1. THE CONTRACTOR SHALL PERFORM ALL REMOVALS AND RELATED WORK AS SHOWN ON THE DRAWINGS DESCRIBED IN THESE NOTES AND REASONABLY INFERRED AS NECESSARY TO COMPLETE THE SCOPE OF WORK.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO THOROUGHLY INSPECT THE SITE IN ORDER TO VERIFY ACTUAL CONDITIONS AND FULL SCOPE OF DEMOLITION WORK AND REMOVAL REQUIRED PRIOR TO BID.
 3. THE CONTRACTOR SHALL INSPECT ALL EXISTING SURFACES TO REMAIN AND PROVIDE REASONABLE AND ADEQUATE PROTECTION FROM DEMOLITION WORK.
 4. THE CONTRACTOR SHALL PROVIDE DUST PROTECTION AT POINTS OF DEMOLITION, AND EXISTING AREAS TO REMAIN.
 5. UPON COMPLETION OF THE DEMOLITION WORK, THE CONTRACTOR SHALL ENSURE THAT ALL AREAS BE LEFT CLEAN.
 6. THE CONTRACTOR SHALL EMPLOY MEANS AND METHODS THAT MINIMIZE VIBRATION, NOISE, DUST, POLLUTANTS AND OTHER DISTURBANCES TO DAILY OPERATIONS.
 7. THE CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR SPACES AND ASSEMBLIES ADJACENT TO THE AREA OF OPERATION UNDER THIS CONTRACT. ANY DAMAGE OR DISTURBANCE RESULTING FROM WORK DONE UNDER THIS CONTRACT SHALL BE PROMPTLY RESTORED, REPLACED, OR REPAIRED AT NO EXTRA COST TO THE OWNER.
 8. ALL DEBRIS AND ADDITIONAL MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
 9. PROTECT, REROUTE, ALL MISCELLANEOUS PIPES, CONDUITS AND APPURTENANCES LOCATED THROUGHOUT THE AREA OF WORK. CONTRACTOR SHALL BE DEEMED RESPONSIBLE IF THERE ARE DAMAGES TO THIS EQUIPMENT DURING CONSTRUCTION. ALL REPAIRS NEED TO RESTORE DAMAGED SYSTEMS DURING CONSTRUCTION SHALL BE THE CONTRACTORS RESPONSIBILITY AT NO COST TO THE OWNER.



SECTION A-A
N.T.S.

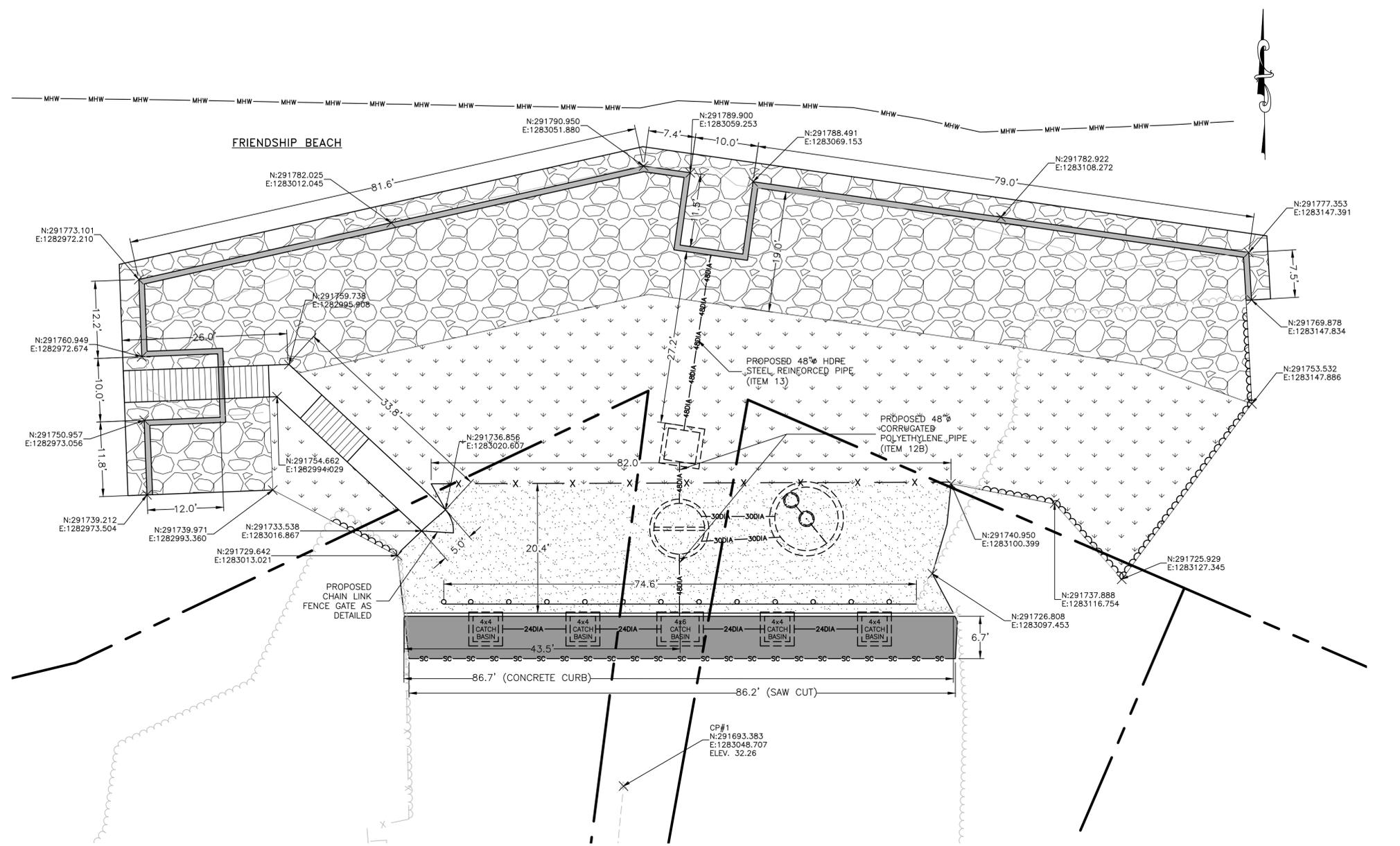


SECTION B-B
N.T.S.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION EXISTING CONDITIONS & DEMOLITIONS PLAN			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KJM	Scale: AS NOTED	Sheet No.
Drawn By:	MF	Date: NOV. 2015	2
Approved By:	RGD	File No. 13051.000	

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SITE PLAN
SCALE: 1"=10'

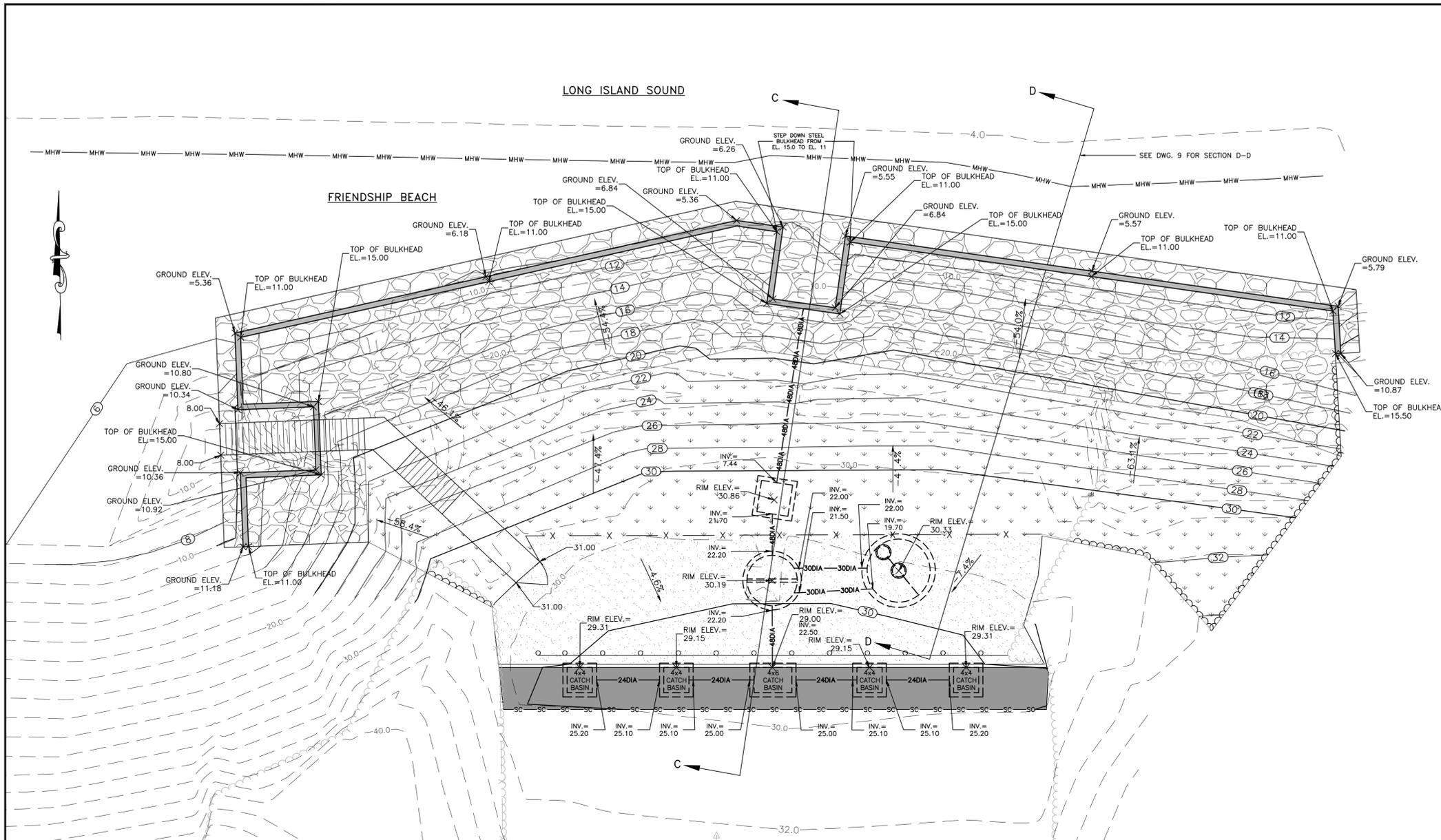
- LEGEND:**
- PROPOSED ASPHALT PAVEMENT (ITEM #5, #6 & #7)
 - PROPOSED HEAVY STONE (ITEM #18)
 - PROPOSED BEACH GRASS (ITEM #20)
 - PROPOSED 6" #1 & #2 SUBANGULAR STONE (ITEM #16)
 - APPROXIMATE PROPERTY LINE
 - MHW — MEAN HIGH WATER LINE (ELEV. 4.50±)
 - PROPOSED CONCRETE CURB (ITEM #9)
 - x — PROPOSED CHAIN LINK FENCE (ITEM #22)
 - PROPOSED CHAIN LINK FENCE GATE (ITEM #22)
 - sc — PROPOSED SAW CUT (ITEM #8)
 - r — RESET EXISTING GUARDRAIL (ITEM #15)
 - PROPOSED 4'x6' CATCH BASIN (ITEM #11A) (SEE GRADING & DRAINAGE PLAN)
 - PROPOSED 4'x4' CATCH BASIN (ITEM #11A) (SEE GRADING & DRAINAGE PLAN)
 - PROPOSED OVERFLOW STRUCTURE W/WEIR (ITEM #11B) (SEE GRADING & DRAINAGE PLAN)
 - PROPOSED PRECAST CONC. MANHOLE (ITEM #11C) (SEE GRADING & DRAINAGE PLAN)
 - PROPOSED 10"Ø HYDRODYNAMIC SEPARATION UNIT (ITEM #19) (SEE GRADING & DRAINAGE PLAN)
 - 24DIA — PROPOSED 24" DRAINAGE PIPE (ITEM #12A) (SEE GRADING & DRAINAGE PLAN)
 - 30DIA — PROPOSED 30" DRAINAGE PIPE (ITEM #19) (SEE GRADING & DRAINAGE PLAN)
 - 48DIA — PROPOSED 48"Ø DRAINAGE PIPE (ITEM #12B, #13) (SEE GRADING & DRAINAGE PLAN)
 - s — PROPOSED STEEL SHEETING (ITEM #14)
 - PROPOSED STAIRS (ITEM #10)
 - PROPOSED TREE LINE

GENERAL NOTES:

1. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR SEQUENCES AND PROCEDURES TO BE USED.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WITH WORK, SHALL REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS TO THE ENGINEER. IF CONCEALED CONDITIONS ARE ENCOUNTERED AT THE SITE WHICH DIFFER MATERIALLY OR DIMENSIONALLY FROM THOSE INDICATED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
3. THE CONTRACTOR SHALL NOT SCALE THE DRAWINGS. IF A DISCREPANCY EXISTS OR A DIMENSION IS OMITTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
4. ALL DEMOLITION SHALL BE PERFORMED BY METHODS WHICH WILL PREVENT DAMAGE TO AREAS THAT ARE EXISTING TO REMAIN. CONTRACTOR SHALL PROVIDE TEMPORARY SITE PROTECTION AS REQUIRED TO THESE AREAS. DAMAGE THAT DOES OCCUR, SHALL BE CORRECTED TO THE ENGINEER'S SATISFACTION, AT THE CONTRACTORS EXPENSE AND AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN TEMPORARY BARRIERS AND GUARDS AND/OR TEMPORARY SHORING AND BRACING IN ACCORDANCE WITH THE NEW YORK STATE BUILDING CODE & OSHA.
6. WHEN REQUIRED FOR THE WORK, THE CONTRACTOR SHALL PROVIDE ADEQUATE WEATHER PROTECTION DURING THE COURSE OF WORK.
7. THE CONTRACTOR SHALL REMOVE OR RELOCATE ALL WIRING, PLUMBING AND MECHANICAL EQUIPMENT AFFECTED BY DEMOLITION. REMOVED PIPES SHALL BE CUT TO A POINT OF CONCEALMENT BEHIND OR BELOW FINISHED SURFACES, AND SHALL BE PROPERLY CAPPED OR PLUGGED. REMOVED ELECTRICAL OR COMMUNICATION LINES SHALL BE COMPLETELY REMOVED BACK TO AND DISCONNECTED FROM THE RESPECTIVE ELECTRICAL PANEL, CIRCUIT BOX OR TERMINATION POINT. COMMUNICATIONS SYSTEM TO BE KEPT ACTIVE AT ALL TIMES.
8. THE CONTRACTOR SHALL EXERCISE ALL DUE CARE TO ENSURE THAT THERE WILL BE NO DISRUPTION IN ELECTRICAL, GAS, WATER OR COMMUNICATING SERVICE TO SURROUNDING AREAS DURING DEMOLITION.
9. MATERIALS AND/OR ITEMS NOT DESIGNATED TO BECOME THE PROPERTY OF THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE OWNERS PROPERTY.
10. THE CONTRACTOR SHALL PERFORM WORK AS SHOWN, SPECIFIED OR IMPLIED IN THE CONTRACT DOCUMENTS.
11. MINOR DETAILS NOT CUSTOMARILY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER CONSTRUCTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY ARE INDICATED ON THE DRAWINGS.
12. THE CONTRACTOR SHALL ASSIGN A SITE SUPERINTENDENT THAT WILL BE ON THE SITE EVERY DAY AND WILL DIRECT THE DAY TO DAY CONSTRUCTION ACTIVITIES AND COORDINATE DAILY WITH THE OWNERS APPOINTED REPRESENTATIVE.
13. A COMPLETE SET OF CONTRACT DOCUMENTS AND CONSTRUCTION SKETCHES SHALL BE KEPT AT THE SITE IN AN ORGANIZED MANNER FOR THE USE OF THE ENGINEER, THE OWNER OR THEIR REPRESENTATIVES.
14. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL SAFETY AND WORK PROCEDURES DURING THE CONSTRUCTION OF THIS PROJECT.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL SURFACES DAMAGED BY HIMSELF OR SUB-CONTRACTORS UNDER HIS CONTROL. THIS SHALL INCLUDE AREAS WITHIN THE CONSTRUCTION ZONE AS WELL AS ALL OTHER AREAS ON THE PREMISES. IF REPAIRS ARE REQUIRED, NEW MATERIALS MUST MATCH EXISTING AND BE ACCEPTED FULLY BY OWNER AND THE ENGINEER.
16. THE GENERAL CONTRACTOR SHALL PROVIDE ALL CUTOUTS AND PATCHING REQUIRED FOR WORK.
17. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE FLOW THROUGHOUT THE INSTALLATION OF DRAINAGE STRUCTURES.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION			
PROPOSED SITE PLAN			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KJM	Scale: AS NOTED	Sheet No.
Drawn By:	MF	Date: NOV. 2015	3
Approved By:	RGD	File No. 13051.000	

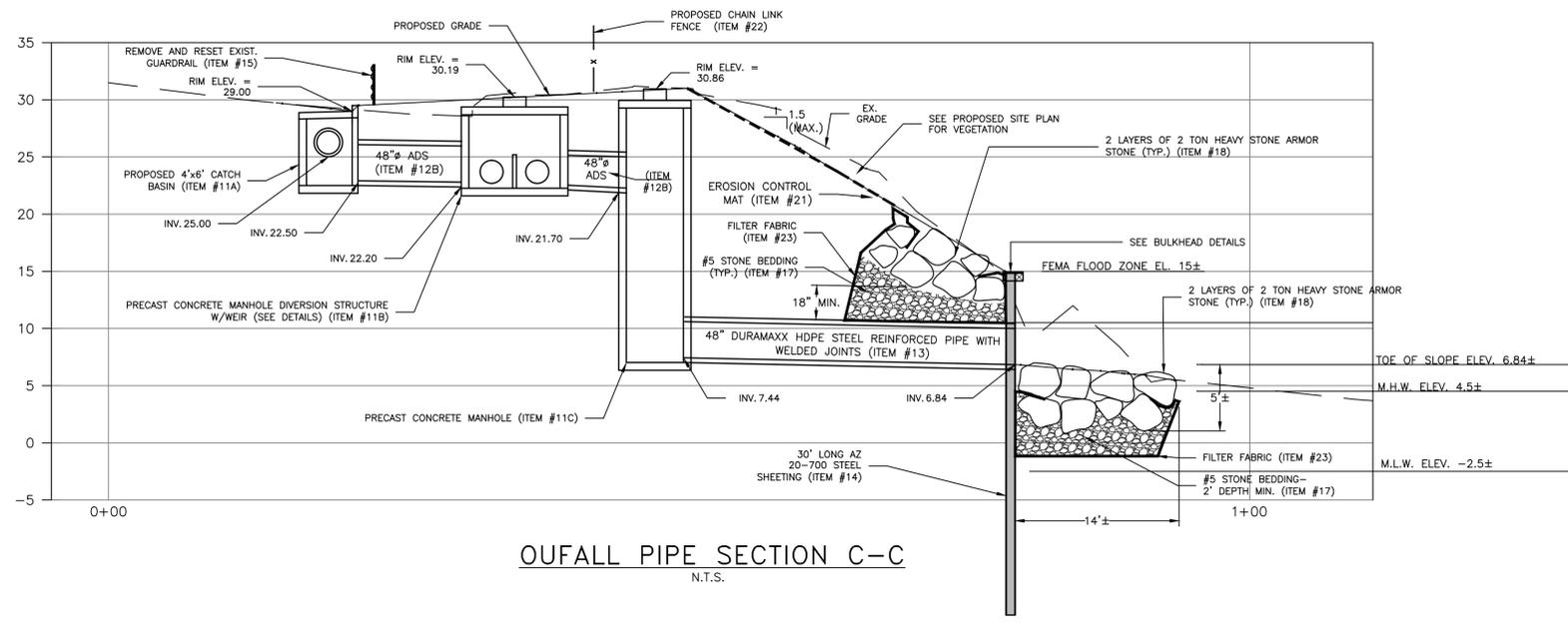
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SITE PLAN
 SCALE: 1"=10'

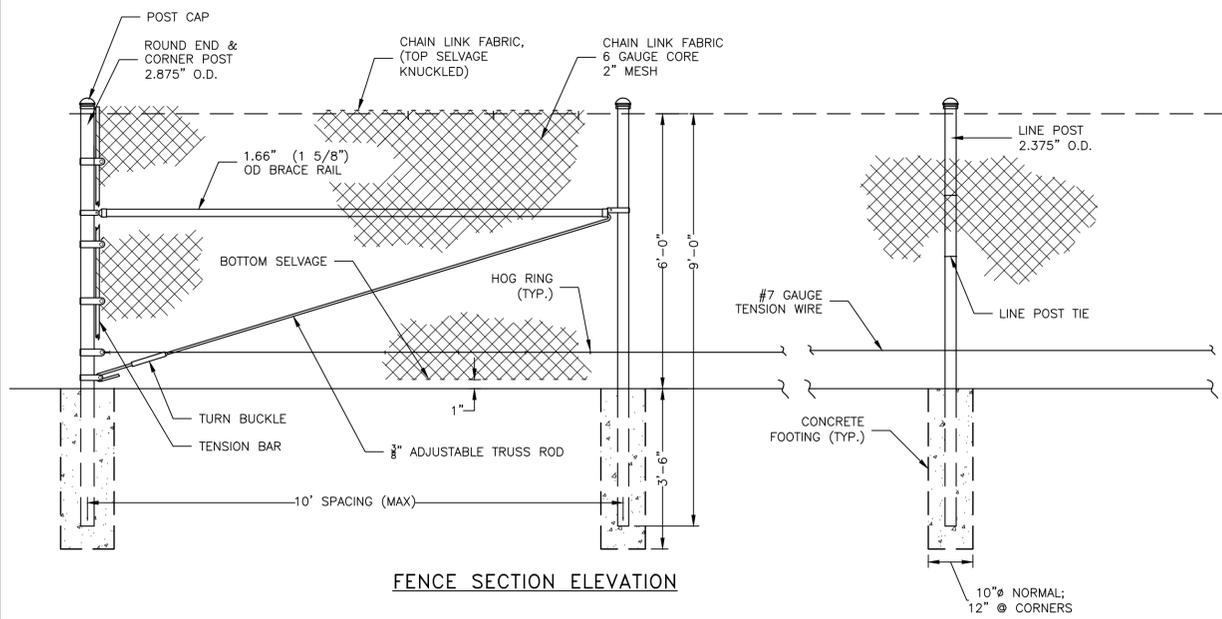
- LEGEND:**
- PROPOSED ASPHALT PAVEMENT (ITEM #5,#6,#7)
 - ▨ PROPOSED HEAVY STONE (ITEM #18)
 - ▨ PROPOSED BEACH GRASS (ITEM #20)
 - ▨ PROPOSED 6" #1 & #2 SUBANGULAR STONE (ITEM #16)
 - PROPOSED CONTOUR
 - - 11.0 - - EXISTING CONTOUR
 - MHW — MEAN HIGH WATER LINE (ELEV. 4.50±)
 - PROPOSED CONCRETE CURB (ITEM #9)
 - X — PROPOSED CHAIN LINK FENCE (ITEM #22)
 - | — PROPOSED CHAIN LINK FENCE GATE (ITEM #22)
 - sc — PROPOSED SAW CUT (ITEM #8)
 - | — RESET EXISTING GUARDRAIL (ITEM #15)
 - PROPOSED 4'x6' CATCH BASIN (ITEM #11A)
 - PROPOSED 4'x6' CATCH BASIN (ITEM #11A)
 - PROPOSED OVERFLOW STRUCTURE W/WEIR (ITEM #11B)
 - PROPOSED PRECAST CONC. MANHOLE (ITEM #11C)
 - PROPOSED 10'Ø HYDRODYNAMIC SEPARATION UNIT (ITEM #19)
 - 24DIA — PROPOSED 24" DRAINAGE PIPE (ITEM #12A)
 - 30DIA — PROPOSED 30" DRAINAGE PIPE (ITEM #19)
 - 48DIA — PROPOSED 48"Ø DRAINAGE PIPE (ITEM #12B, #13)
 - | — PROPOSED STEEL SHEETING (ITEM #14)
 - ▨ PROPOSED STAIRS (ITEM #10)
 - | — PROPOSED TREE LINE

- NOTES:**
1. CONTRACTOR SHALL READ AND FOLLOW ALL PERMIT CONDITIONS AND SPECIAL CONDITIONS CONTAINED IN THE PERMIT 1-4722-06002/00006. TO ENSURE COMPLIANCE DURING THE TERM OF THE PERMIT, THE PERMIT IS ATTACHED TO THE SPECIFICATIONS' BOOK.
 2. CONTRACTOR SHALL NOTIFY ALL NEIGHBORS TO THE EAST AND WEST OF R.O.W. OF THE PROPOSED CONSTRUCTION START.
 3. CONTRACTOR SHALL ENTER THE SITE FROM HALLOCK LANDING ROAD OR ANOTHER APPROVED LOCATION.
 4. CONTRACTOR SHALL RESTORE ANY DISTURBED AREAS IN KIND UNLESS OTHERWISE INDICATED ON PLANS.
 5. FILL REQUIRED BEHIND THE PROPOSED BULKHEAD SHALL BE CLEAN SAND FROM AN APPROVED SOURCE.
 6. THE HORIZONTAL DATUM IS THE NEW YORK STATE PLANE COORDINATE SYSTEM, L.I. ZONE, NAD83(2011) AND THE VERTICAL DATUM IS NAVD88(GEOD12A) THROUGH STATIC GPS OBSERVATIONS.



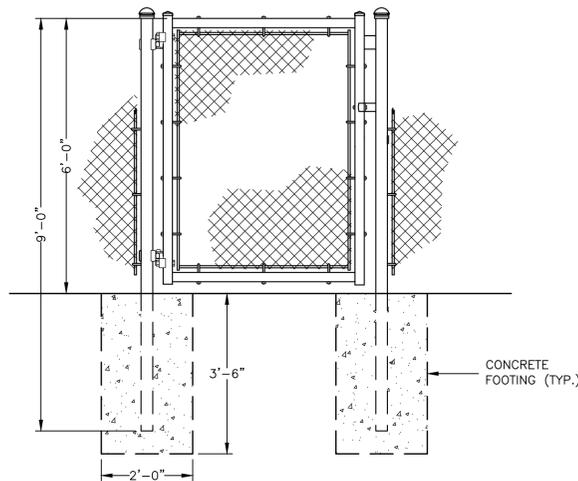
OUTFALL PIPE SECTION C-C
 N.T.S.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
 TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION			
GRADING & DRAINAGE PLAN			
L. K. McLEAN ASSOCIATES, P.C. <small>CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719</small>			
Designed By:	KJM	Scale: AS NOTED	Sheet No.
Drawn By:	MF	Date: NOV. 2015	4
Approved By:	RGD	File No. 13051.000	



FENCE SECTION ELEVATION

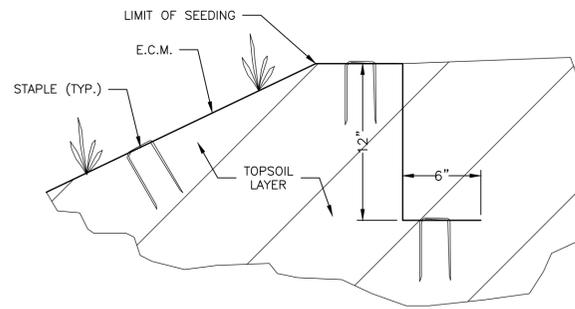
6' BLACK VINYL COATED CHAIN LINK FENCE (ITEM #22)
N.T.S.



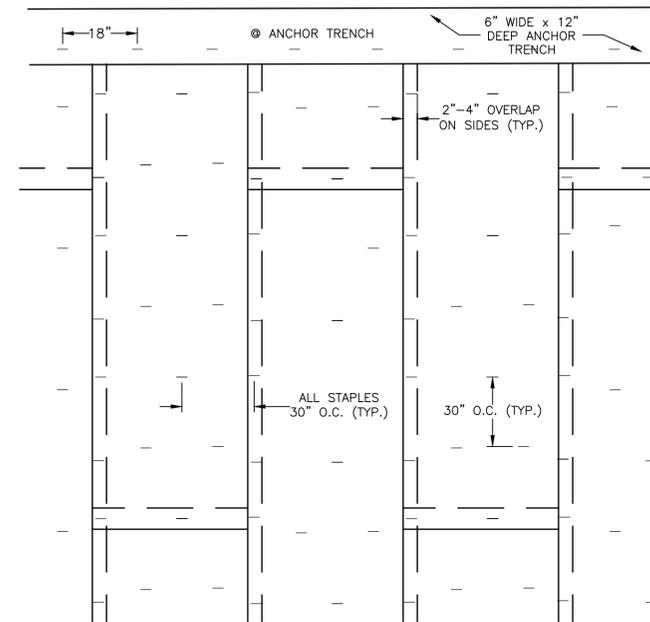
6' HIGH x 4' WIDE BLACK VINYL COATED CHAIN LINK FENCE GATE DETAIL (ITEM #22)
N.T.S.

FENCE NOTES:

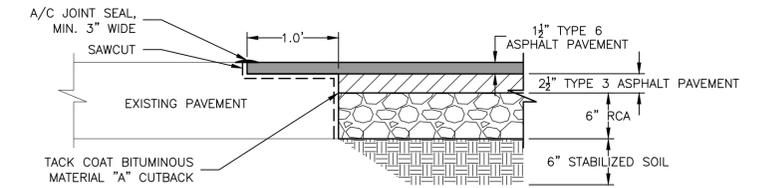
1. CONCRETE FOR CURB AND POST FOUNDATIONS SHALL BE 4,000 P.S.I. 28 DAY STRENGTH
2. WHERE "NO CURB" IS SPECIFIED PROVIDE COIL SPRING WIRE 6" ABOVE BOTTOM OF WIRE.
3. VINYL CLAD FABRIC SHALL HAVE PVC COATING ACCORDING TO FEDERAL SPEC. RRF 191B 1R TYPE IV CLASS 1A THERMAL EXTRUSION METHOD 0.22 MILS OF PVC OVER GALVANIZED CORE WITH 0.40 OZ/FT ZINC. COLOR SHALL BE BLACK.
4. VINYL CLAD POST, BRACES, GATE FRAMES AND ACCESSORIES SAME SPEC AS FABRIC.
5. VINYL CLAD FENCE: CORNER AND END POST SHALL BE SS-40 2.875" O.D. WEIGHING 4.64 LBS/LF VINYL CLAD.
6. VINYL CLAD FENCE: LINE POST SHALL BE SS-40 PIPE 2.375" O.D. WEIGHING 4.64 LBS/LF VINYL CLAD.
7. VINYL CLAD FENCE: POST CAPS SHALL BE GALVANIZED STEEL VINYL CLAD.
8. TOP AND BOTTOM TENSION WIRE SHALL BE NO. 7 GAUGE ATTACHED WITH 12-1/2 GAUGE HOG RINGS AT 12" O.C.. ALL WIRE SHALL CONFORM TO LATEST ASTM DESIGNATION A641 CLASS 3 REQUIREMENTS.
9. FABRIC TIES FOR POSTS SHALL BE NO. 6 GAUGE ALUMINUM AND SPACED VERTICALLY AT 1'-2" O.C. MAX.
10. INSTALL GATES AS SPECIFIED BY THE FENCING MANUFACTURER.
11. CENTER UPRIGHT REQUIRED ON GATE LEAVES 8'-0" & WIDER.
12. GATE HINGES SHALL BE DESIGNED TO PROVIDE A FULL 180 DEGREE SWING.
13. GATE SHALL BE PROVIDED WITH A DOUBLE GATE LATCH WITH CYPHER LOCK.



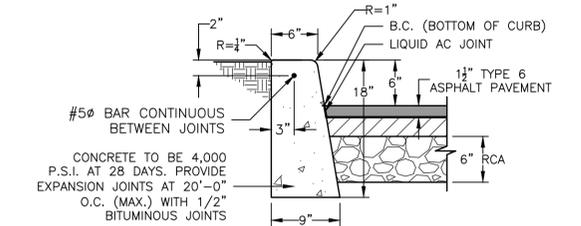
TYPICAL E.C.M. @ ANCHOR TRENCH DETAIL (ITEM #21)
N.T.S.



EROSION CONTROL MAT (E.C.M.) INSTALLATION (ITEM #21)
N.T.S.



FULL DEPTH PAVEMENT TERMINATION DETAIL (ITEM #5,#6,#7)
N.T.S.

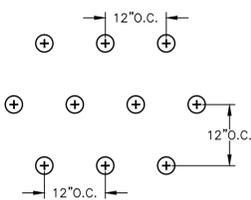


- NOTES:
1. CONCRETE SHALL BE A MONOLITHIC POUR AND TO BE CURED IN 14 DAYS (MINIMUM) BEFORE ROADWAY PAVING CAN BEGIN.
 2. MAINTAIN GUTTER GRADE RELATIONSHIP TO ϕ OF ROAD. SEE STANDARD ROAD SECTION.

CONCRETE CURB DETAIL (ITEM #9)
N.T.S.

PAVEMENT/SURFACE SCHEDULE

SYMBOL	SECTION/DESCRIPTION	REMARKS
(Symbol: Hatched area)		PROPOSED ASPHALT PAVEMENT
(Symbol: Dotted area)		SUBANGULAR STONE AREA (ITEM #16)



NOTES:

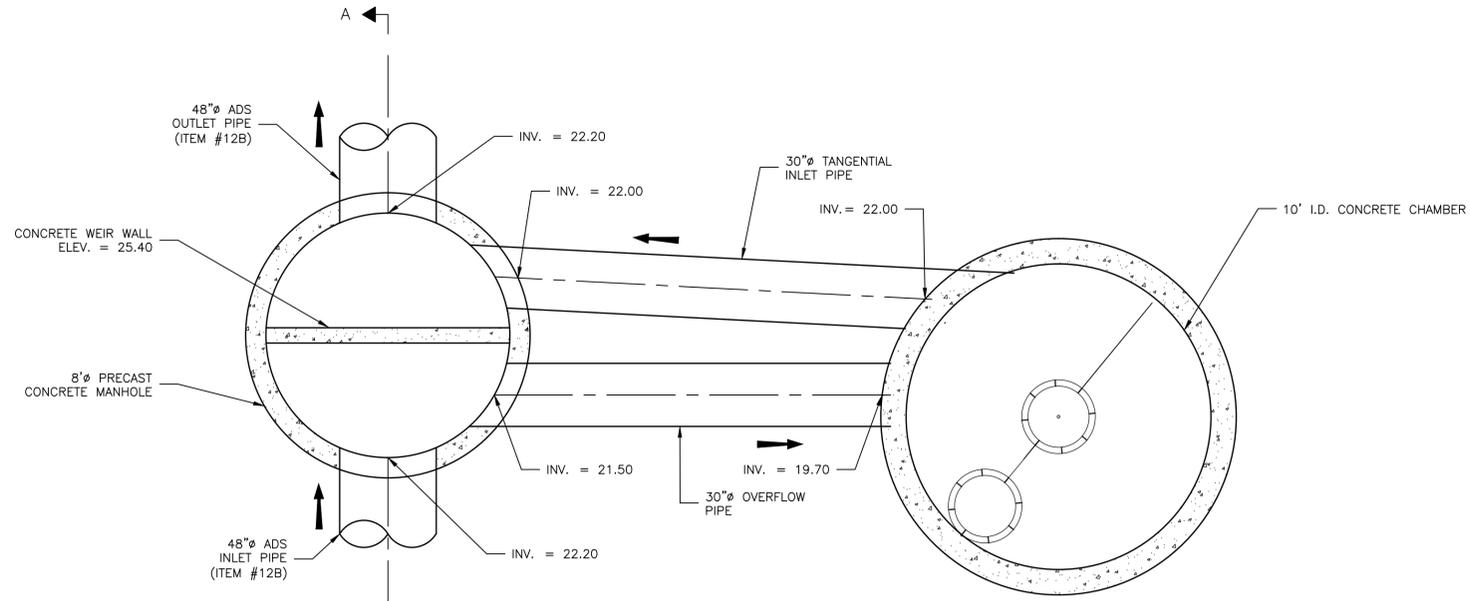
1. PLACE PLUGS AT 12" O.C. IN STAGGERED PLANTINGS AS SHOWN. CULMS SHOULD BE PLANTED MIN. 8" DEEP. ADD 10Z. OF TIME RELEASE FERTILIZER OF 10-10-10 (NPK) FORMULATION TO EACH PLANTING.
2. PLANT AS SHOWN IN AREAS ON THE PROPOSED SITE PLAN.

PLANT SCHEDULE
GRASSES & HERBACEOUS PLANTS

BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	COMMENTS
AMMOPHILA BRE VILIGULATA 'CAPE'	CAPE BEACHGRASS	2 CULMS/UNIT	BAREFOOT	12" O.C.	-

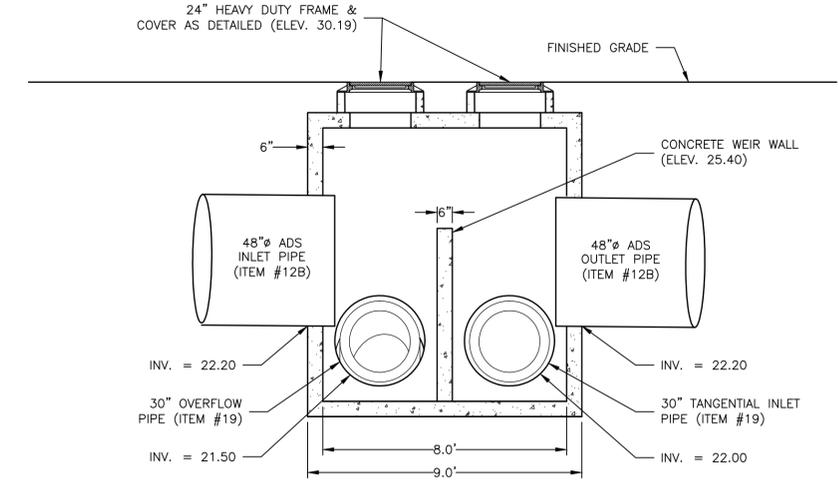
TYPICAL BEACHGRASS PLANTING DETAIL (ITEM #20)
N.T.S.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION SITE DETAILS			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KJM	Scale: AS NOTED	Sheet No.
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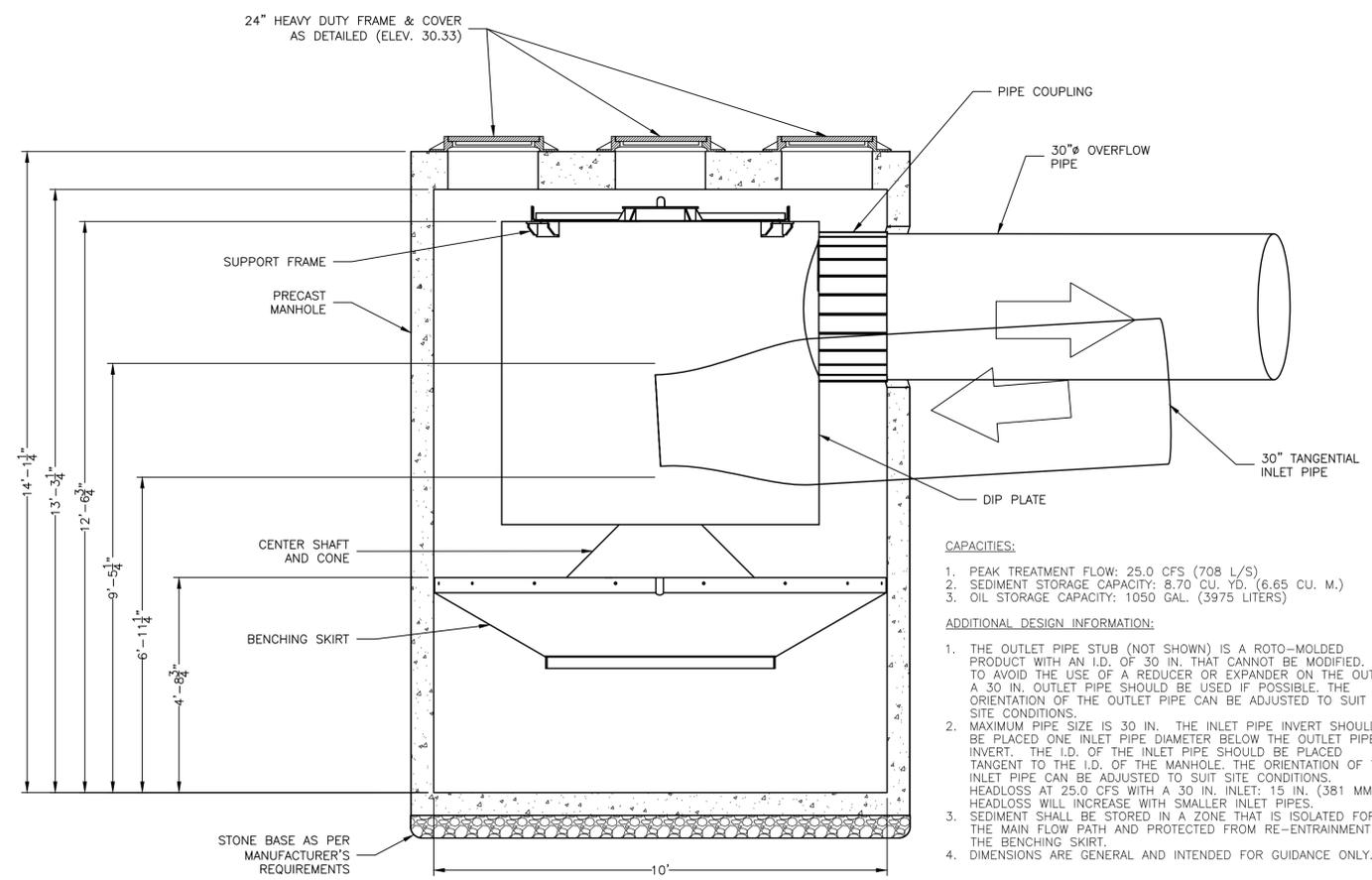


DIVERSION STRUCTURE
N.T.S.

DOWNSTREAM DEFENDER STORMWATER TREATMENT SYSTEM (ITEM #19)
N.T.S.

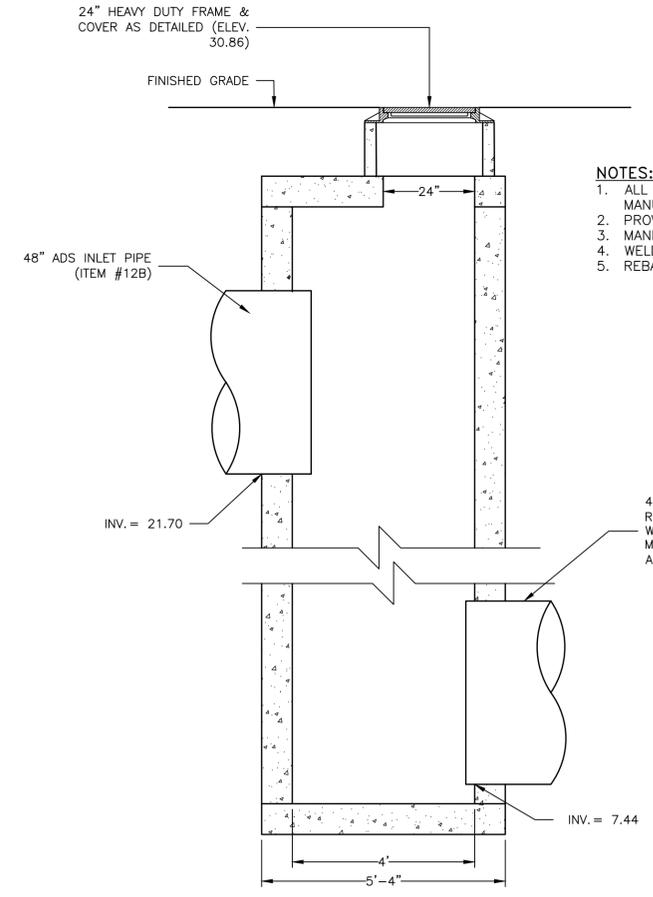


DIVERSION STRUCTURE SECTION A-A (ITEM #11B)
N.T.S.



10' Ø HYDRODYNAMIC SEPARATION UNIT SECTION (ITEM #19)
N.T.S.

- CAPACITIES:**
1. PEAK TREATMENT FLOW: 25.0 CFS (708 L/S)
 2. SEDIMENT STORAGE CAPACITY: 8.70 CU. YD. (6.65 CU. M.)
 3. OIL STORAGE CAPACITY: 1050 GAL. (3975 LITERS)
- ADDITIONAL DESIGN INFORMATION:**
1. THE OUTLET PIPE STUB (NOT SHOWN) IS A ROTO-MOLDED PRODUCT WITH AN I.D. OF 30 IN. THAT CANNOT BE MODIFIED. TO AVOID THE USE OF A REDUCER OR EXPANDER ON THE OUTLET A 30 IN. OUTLET PIPE SHOULD BE USED IF POSSIBLE. THE ORIENTATION OF THE OUTLET PIPE CAN BE ADJUSTED TO SUIT SITE CONDITIONS.
 2. MAXIMUM PIPE SIZE IS 30 IN. THE INLET PIPE INVERT SHOULD BE PLACED ONE INLET PIPE DIAMETER BELOW THE OUTLET PIPE INVERT. THE I.D. OF THE INLET PIPE SHOULD BE PLACED TANGENT TO THE I.D. OF THE MANHOLE. THE ORIENTATION OF THE INLET PIPE CAN BE ADJUSTED TO SUIT SITE CONDITIONS. HEADLOSS AT 25.0 CFS WITH A 30 IN. INLET: 15 IN. (381 MM). HEADLOSS WILL INCREASE WITH SMALLER INLET PIPES.
 3. SEDIMENT SHALL BE STORED IN A ZONE THAT IS ISOLATED FROM THE MAIN FLOW PATH AND PROTECTED FROM RE-ENTRAINMENT BY THE BENCHING SKIRT.
 4. DIMENSIONS ARE GENERAL AND INTENDED FOR GUIDANCE ONLY.



CONCRETE MANHOLE DETAIL (ITEM #11C)
N.T.S.

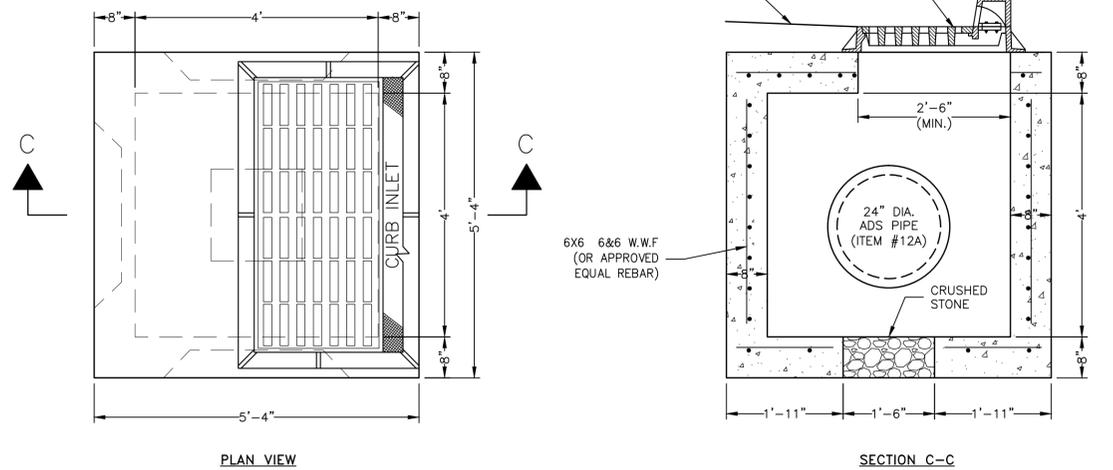
- NOTES:**
1. ALL CONCRETE TO BE 4,000 P.S.I. @ 28 DAYS PRECAST BOX AS MANUFACTURED BY LONG ISLAND PRECAST OR APPROVED EQUAL.
 2. PROVIDE PIPE OPENINGS AS REQUIRED.
 3. MANHOLE TO SUPPORT AASHTO H-20 TRAFFIC LOADING.
 4. WELDED WIRE MESH ASTM A185.
 5. REBAR ASTM A615 GRADE 60.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION			
DRAINAGE DETAILS 1			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
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Drawn By:	MF	Date: NOV. 2015	6
Approved By:	RGD	File No. 13051.000	

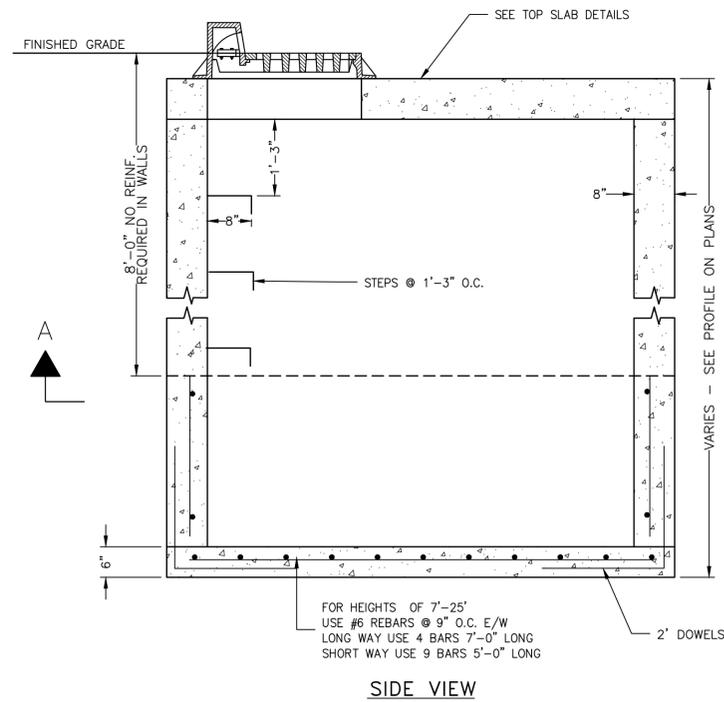
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NOTES:

1. ALL CONCRETE TO BE 4,000 P.S.I. @ 28 DAYS PRECAST BOX AS MANUFACTURED BY LONG ISLAND PRECAST OR APPROVED EQUAL.
2. PROVIDE PIPE OPENINGS AS REQUIRED.
3. MANHOLE TO SUPPORT AASHTO H-20 TRAFFIC LOADING.
4. WELDED WIRE MESH ASTM A185.
5. REBAR ASTM A615 GRADE 60.



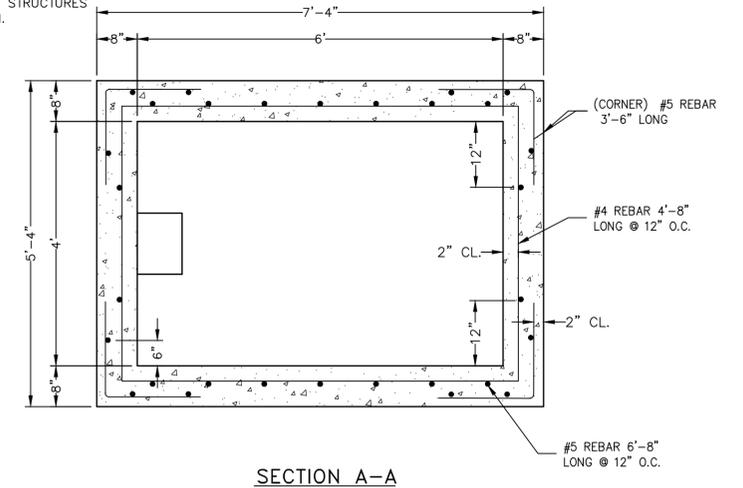
4'X4' CURB INLET-CATCH BASIN (ITEM #11A)
N.T.S.



SIDE VIEW

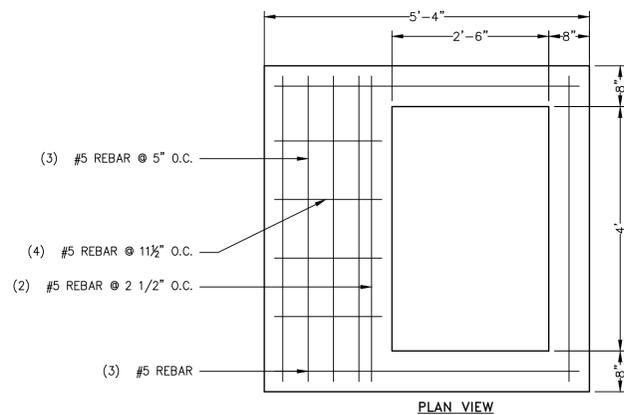
NOTES:

1. CONCRTE SCDPW CLASS "A"
2. REBAR TO BE ASTM A-615 GRADE 60
3. NO STEPS REQUIRED FOR STRUCTURES 3'-0" OR LESS IN DEPTH.

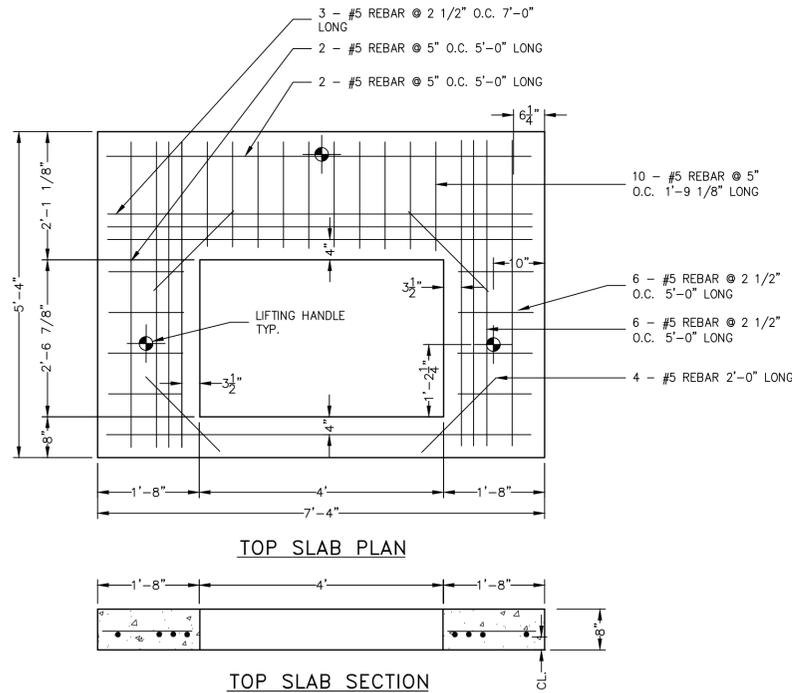


SECTION A-A

4'X6' CURB INLET-CATCH BASIN (ITEM #11A)
N.T.S.



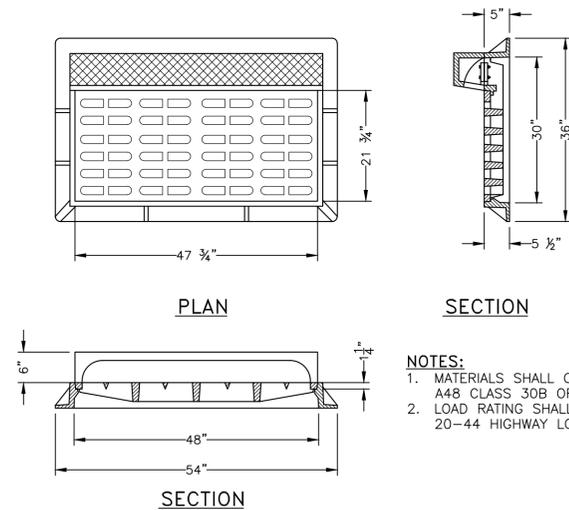
4'X4' CURB INLET-CATCH BASIN TOP SLAB DETAIL (ITEM #11A)
N.T.S.



4'X6' CURB INLET-CATCH BASIN TOP SLAB DETAIL (ITEM #11A)
N.T.S.

DRAINAGE NOTES:

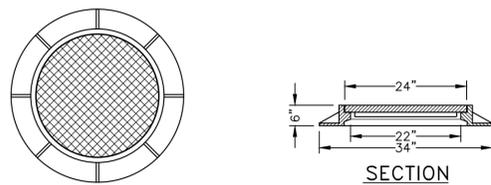
1. ALL CONCRETE TO BE 4000PSI @ 28 DAYS
2. UTILITY LOCATIONS SHOWN ON THESE DRAWINGS ARE BASED ON EXISTING UTILITY RECORDS AND ARE APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THESE LOCATIONS AS WELL AS OTHER UTILITIES THAT MAY NOT BE SHOWN ON THE PLANS.
3. ANY TRENCH, PIT, OR OTHER EXCAVATION THAT IS LEFT OPEN AND UNATTENDED SHALL BE PROTECTED AS DIRECTED BY THE ENGINEER WITH FENCES, BARRICADES OTHER APPROVED METHODS. NO DIRECT PAYMENT WILL BE MADE
4. INVERT ELEVATIONS MAY BE ADJUSTED IN THE FIELD TO MEET FIELD CONDITIONS OR AVOID CONFLICT WITH UTILITIES AS ORDERED BY THE ENGINEER.
5. ALLOW FOUR (4) INCHES FOR FINAL ADJUSTMENT OF CASTING. ADEQUATE BEARING WILL BE PROVIDED USING CONCRETE BLOCK, BRICK, AND/OR 1:2 MORTAR MIX.
6. USE TWO (2) INCH MINIMUM COVER ON ALL REINFORCING BARS UNLESS OTHERWISE NOTED.
7. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND SHORING DURING TRENCHING TO INSURE THE SAFETY OF WORKMEN AND THE GENERAL PUBLIC EXPOSED TO THE HAZARDS OF FALLING AND SLIDING MATERIAL IN CONFORMANCE WITH THE REQUIREMENTS OF TITLE 29 CODE OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA). NO DIRECT PAYMENT WILL BE MADE FOR THIS OPERATION.
8. IF CHIMNEY IS REQUIRED, MIN. WALL THICKNESS 3".



30" X 48" FLAT CURB INLET DETAIL (ITEM #11A)
N.T.S.

NOTES:

1. MATERIALS SHALL CONFORM TO ASTM A48 CLASS 30B OR 35B
2. LOAD RATING SHALL BE AASHTO & HS 20-44 HIGHWAY LOADING



24"Ø HEAVY DUTY FRAME & COVER (ITEM #11A,11B,19)
N.T.S.

NOTES:

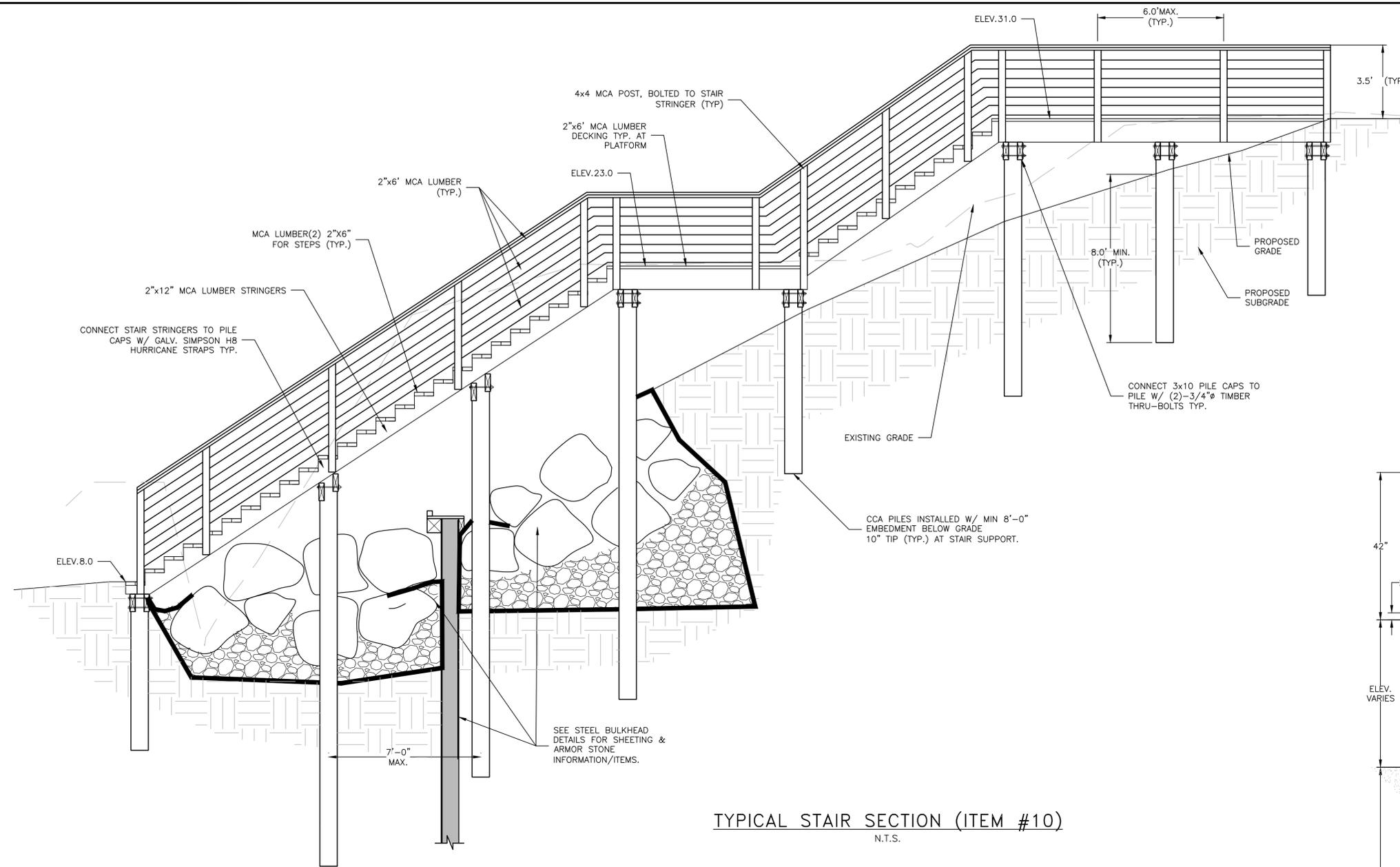
1. MATERIALS SHALL CONFORM TO ASTM A48 CLASS 30B OR 35B
2. LOAD RATING SHALL BE AASHTO & HS 20-44 HIGHWAY LOADING

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION DRAINAGE DETAILS 2			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KJM	Scale: AS NOTED	Sheet No.
Drawn By:	MF	Date: NOV. 2015	7
Approved By:	RGD	File No. 13051.000	

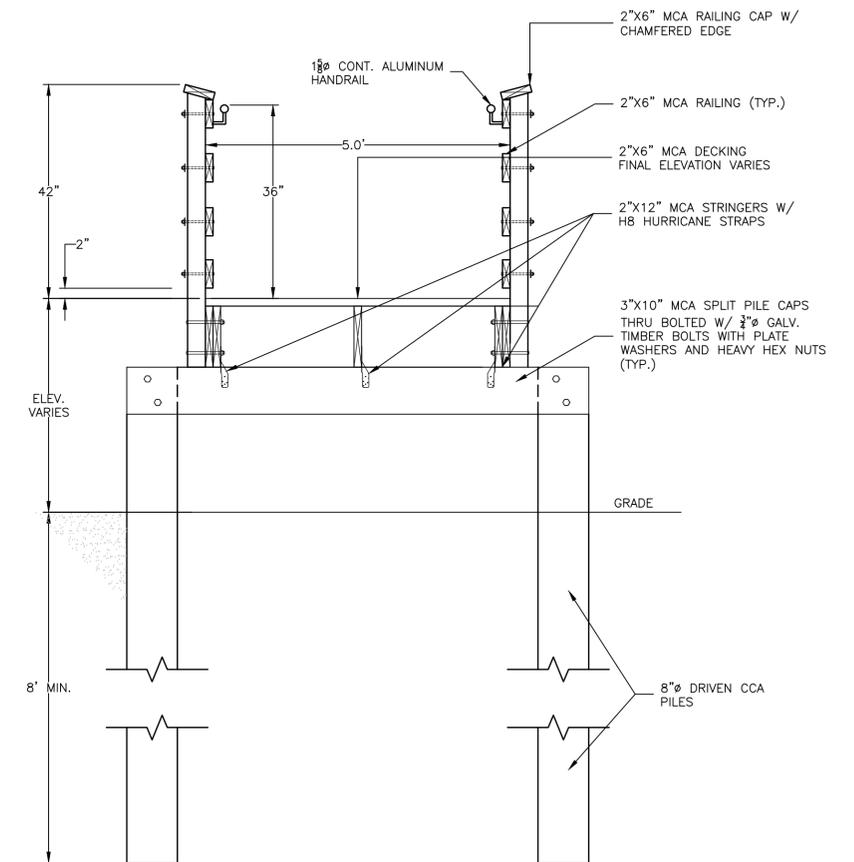
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TIMBER STAIR NOTES:

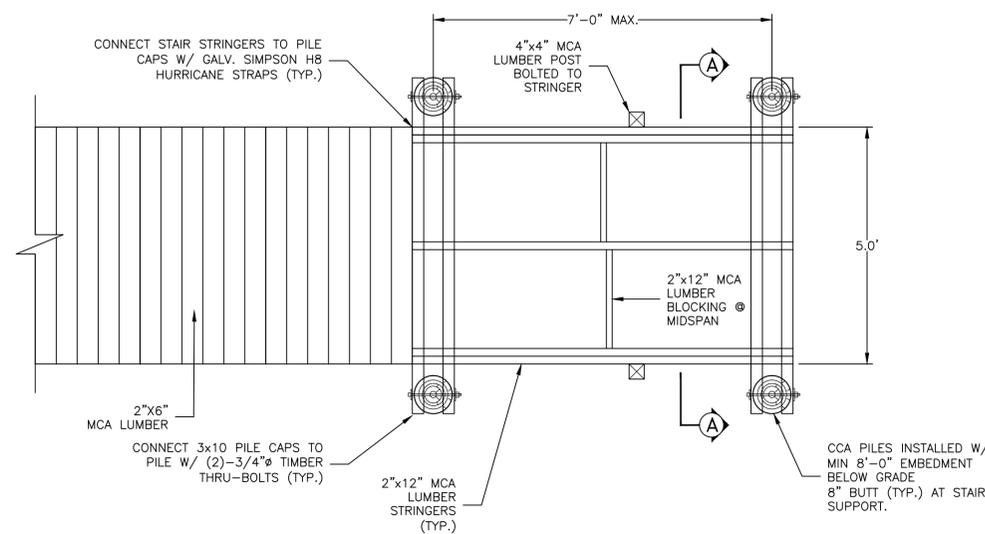
1. THE STRUCTURAL DRIVEN PILE FOUNDATION SHALL CONFORM TO THE BUILDING CODE OF NYS SECTION 1809.1 AND ASCE 24-05.
2. ALL PILE LOCATION/LAYOUTS ARE THE RESPONSIBILITY OF THE CONTRACTOR & SHALL BE COORDINATED W/ THE TOWN.
3. ALL PILES SHALL BE ROUND SOUTHERN PINE OR DOUGLAS FIR AND SHALL CONFORM TO ASTM DESIGN D 25, UNUSED, CLEAN PEELED, UNIFORMLY TAPERED AND ONE PIECE FROM BUTT TO TIP.
4. ALL PILES SHALL BE PRESSURE TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) C3 .
5. PILE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 800 PSI.
6. PILES SHALL HAVE A MINIMUM BUTT DIAMETER OF 8 INCHES AS MEASURED 3 FEET FROM THE END OF THE PILE FOR THE BOARDWALK FOUNDATIONS.
7. LENGTH OF PILES SHALL BE AS REQUIRED TO EXTEND ABOVE GRADE AS INDICATED. A MINIMUM EMBEDMENT OF 8 FEET IS REQUIRED.
8. PILES SHALL BE DRIVEN TO A VERTICAL TOLERANCE OF 2% AND A HORIZONTAL TOLERANCE OF 3". PILES OUT OF TOLERANCE SHALL REQUIRE REMEDIAL ACTION AS PER THE ENGINEER.
9. LOCATION OF PILE FOUNDATION ON PROPERTY IS NOT THE RESPONSIBILITY OF THE DESIGN ENGINEER. ALL SETBACK LINES AND PILE LOCATIONS TO BE LOCATED AND STAKED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
10. EACH PILE SHALL BE A SINGLE PIECE OF SUFFICIENT LENGTH TO PASS THROUGH ANY FILL, BOG, MUD, SAND, ETC.
11. BOLTS FOR CAP TO PILE CONNECTIONS SHALL BE STAGGERED AND THE DIMENSION FROM THE EDGE OF THE HOLES TO THE PILE OR BEAM EDGE SHALL BE 2 IN. MIN.
12. ALL PILE AND DECK HARDWARE SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. ANY DAMAGED AREAS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER. ALL STEEL CONNECTORS SHALL BE GRADE 2 OR EQUAL.
13. ALL TIMBER GIRDERS AND BRACES SHALL BE CCA TREATED FOR GROUND CONTACT USE AS PER AWPA STANDARDS, 0.6 #/CU. FT. TIMBER TO BE SOUTHERN YELLOW PINE No. 2 CONSTRUCTION GRADE.
14. ALL HURRICANE CLIPS SHALL BE HOT DIPPED GALVANIZED AS PER ASTM A653 WITH A G185 COATING
15. ALL DECKING AND RAILS SHALL BE MCA OR APPROVED EQUAL.



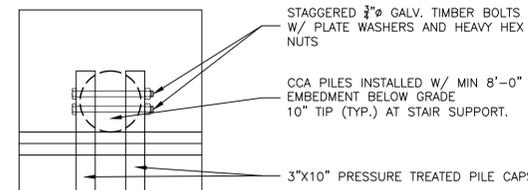
TYPICAL STAIR SECTION (ITEM #10)
N.T.S.



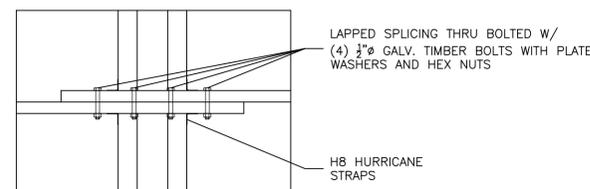
STAIR SECTION A-A (ITEM #10)
N.T.S.



TYPICAL STAIR FRAMING DETAIL (ITEM #10)
N.T.S.



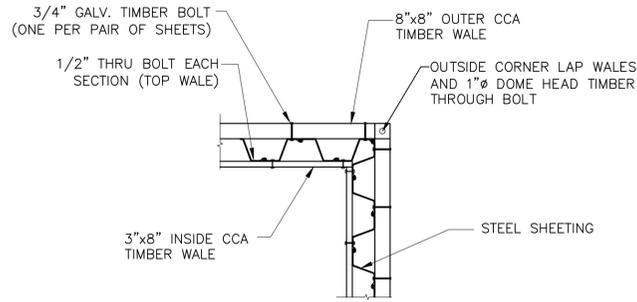
TYPICAL PILE CONNECTION DETAIL (ITEM #10)
N.T.S.



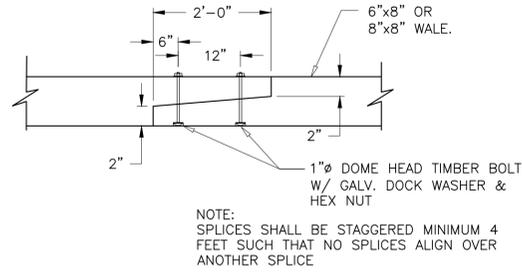
STRINGER LAPPING DETAIL (ITEM #10)
N.T.S.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY FRIENDSHIP DRIVE SHORELINE STABILIZATION			
STAIR DETAILS			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KJM	Scale:	AS NOTED
Drawn By:	MF	Date:	NOV. 2015
Approved By:	RGD	File No.:	13051.000
			Sheet No. 8

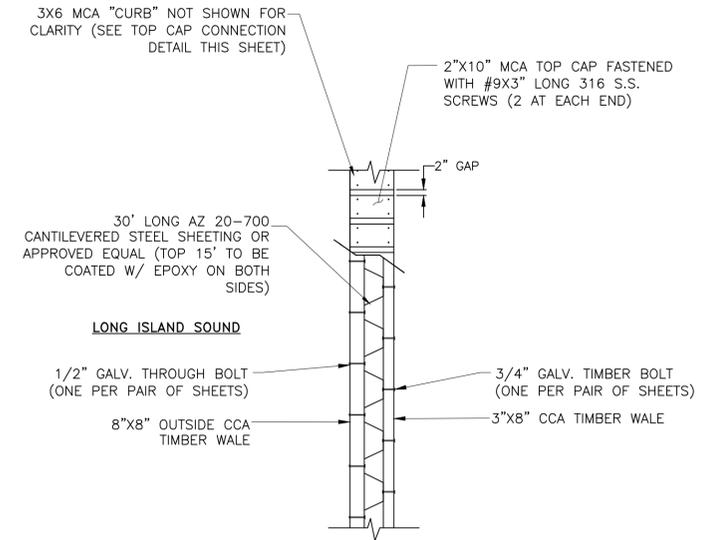
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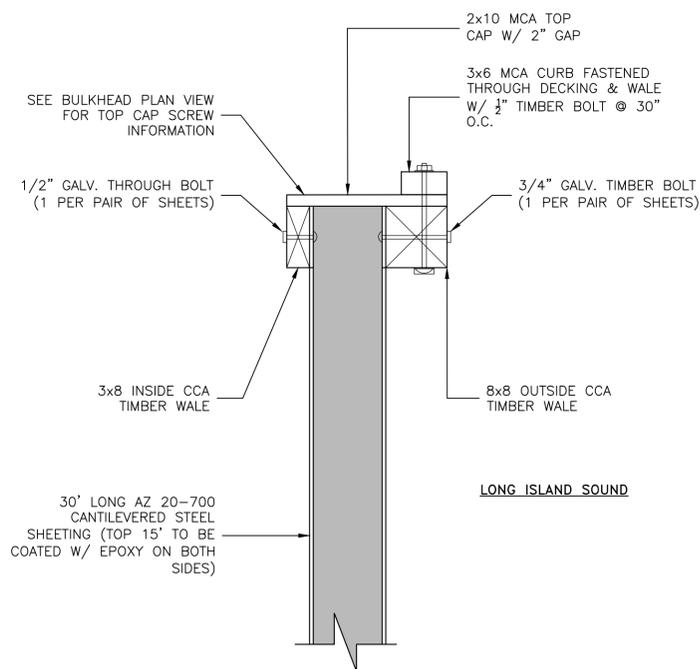
BULKHEAD CORNER DETAIL AT TOP WALE (ITEM #14)
N.T.S.



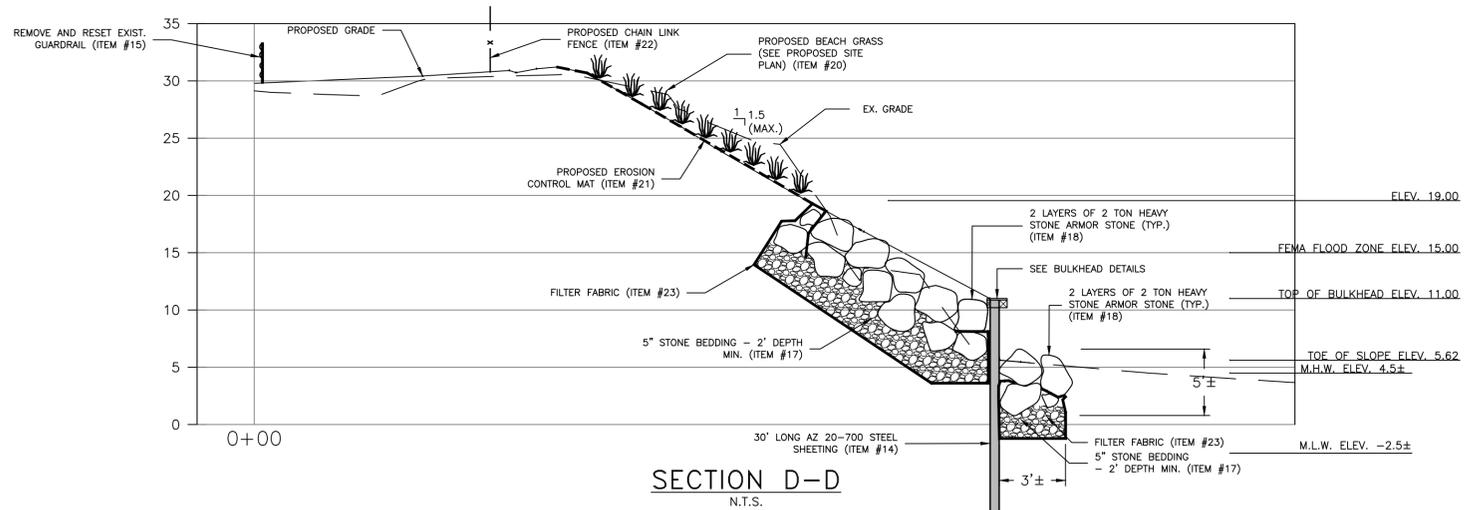
PLAN VIEW - TYPICAL WALE SPLICE (ITEM #14)
N.T.S.



BULKHEAD PLAN VIEW (ITEM #14)
N.T.S.



TOP CAP CONNECTION DETAIL (ITEM #14)
N.T.S.



SECTION D-D
N.T.S.

NOTES:

- MCA DECKING SHALL BE FASTENED W/ #9x3" SS SCREWS, 3/4" FROM THE OUTSIDE EDGE AND 1 1/2" OFF THE END OF EACH PLANK.
- ALL MARINE HARDWARE SHALL BE HOT DIPPED GALVANIZED.
- ALL MARINE LUMBER (OTHER THAN DECKING) SHALL BE TREATED WITH CHROMATED COPPER ARSENATE (CCA) TO A RETENTION OF 2.5 LBS. PER CUBIC FOOT AS SPECIFIED BY THE CURRENT AMERICAN WOOD PROTECTION ASSOCIATION STANDARD C18 FOR STANDARD OF PRESSURE TREATED PILES AND TIMBERS IN MARINE CONSTRUCTION.
- TIMBER DECKING BOARD SHALL BE MICRONIZED COPPER AZOLE (MCA) W/ A RETENTION OF 0.06 POUNDS PER CUBIC FOOT.

DATE	BY	DESCRIPTION	APPROV. BY
REVISIONS			
TOWN OF BROOKHAVEN SUFFOLK COUNTY, NY			
FRIENDSHIP DRIVE SHORELINE STABILIZATION			
STEEL SHEETING DETAILS			
L. K. McLEAN ASSOCIATES, P.C. CONSULTING ENGINEERS 437 SOUTH COUNTRY RD., BROOKHAVEN, NEW YORK 11719			
Designed By:	KJM	Scale:	AS NOTED
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Approved By:	RGD	File No.:	13051.000
			Sheet No. 9

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