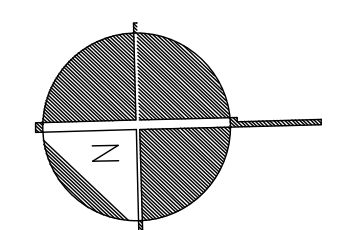


N.E. 5th Avenue

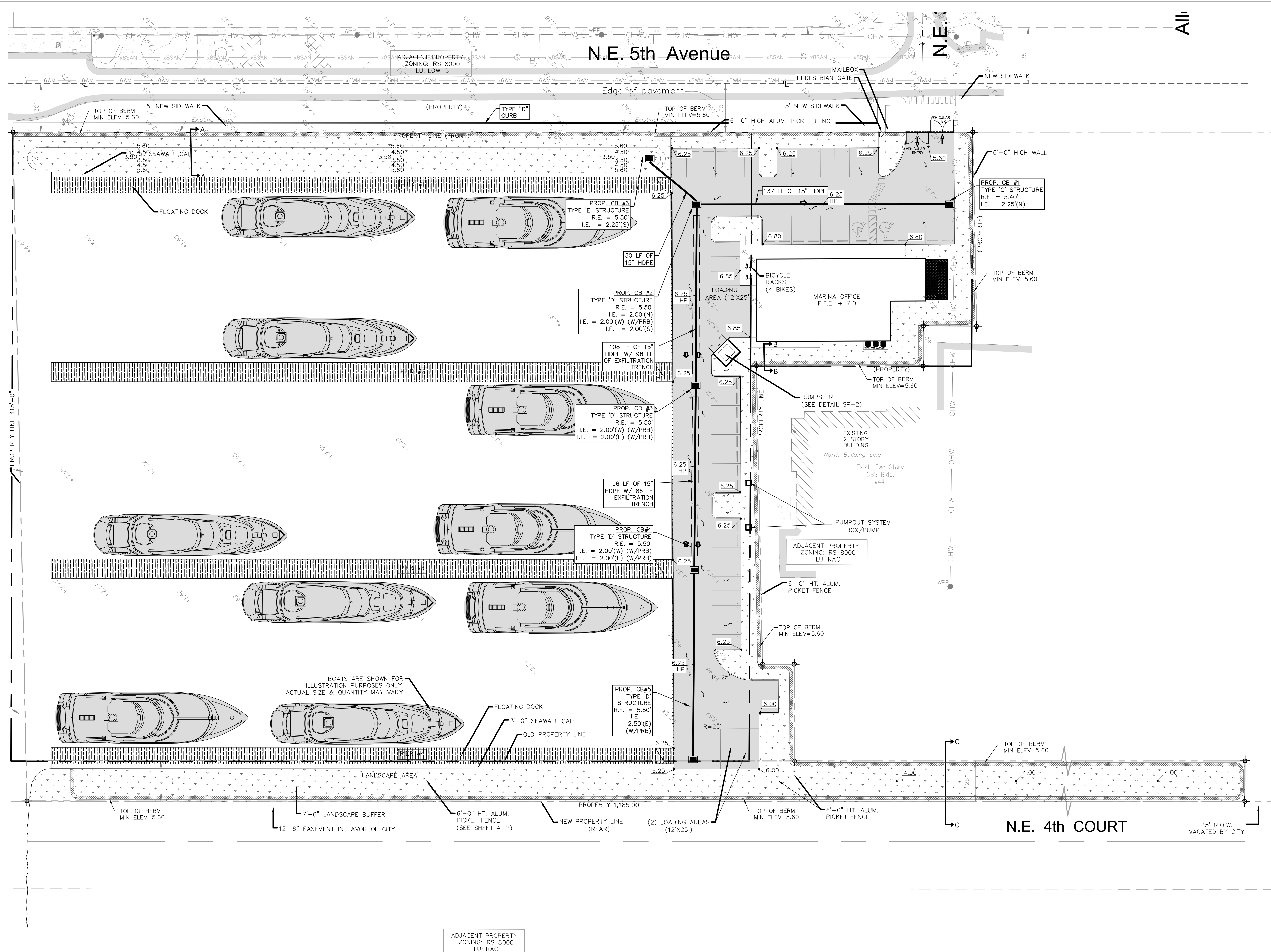
All



SCALE: 1"=30'

LEGEND

	PROPERTY LINE		PROPOSED BUILDING
	EXISTING GRADE		FLOW ARROW
	EXISTING PIPE		PROPOSED GRADE
	PROPOSED DRAINAGE		PROPOSED CATCH BASIN
	PROPOSED SOD		PROPOSED BERM



- NOTES:
1. ALL ELEVATIONS DATUM SHOWN ON THE CONSTRUCTION DOCUMENTS ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 2. CONTRACTOR TO VERIFY ALL UTILITIES LOCATION AND ELEVATION PRIOR TO START OF CONSTRUCTION
 3. ALL EXISTING AND PROPOSED RIM ELEVATIONS SHALL BE SET TO FINISHED SURFACE GRADE, UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLAN. THIS SHALL INCLUDE ALL UTILITY, SEWER, WATER AND DRAINAGE STRUCTURES, MANHOLES, INLETS, VAULTS, VALVES AND OTHER APPURTENANCES.



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APPROVED BY	DATE	No.	DATE	REVISIONS

DANIA BEACH MEGAPORT
441 N.E. 2ND STREET
DANIA BEACH, FLORIDA



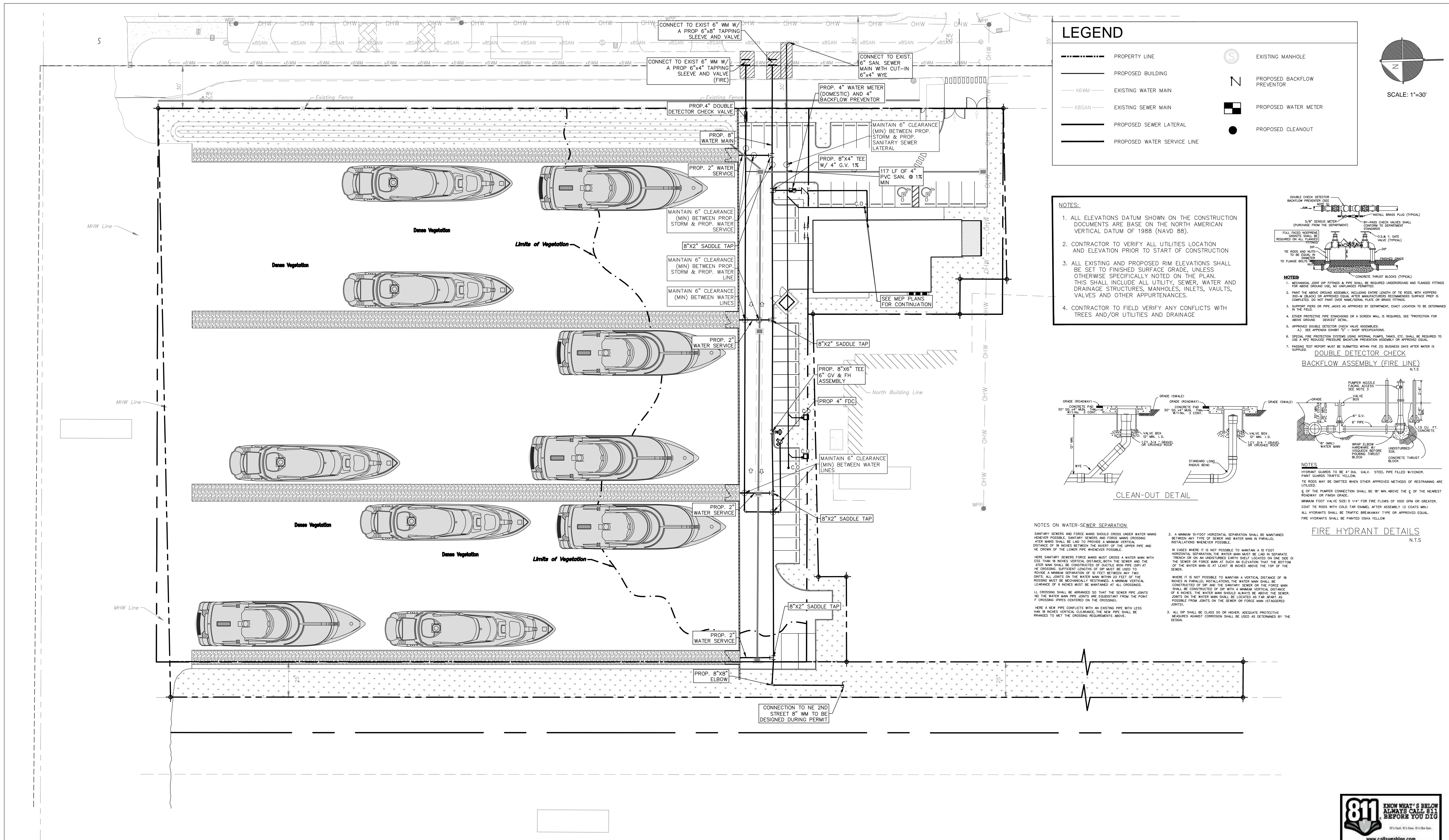
3325 S. UNIVERSITY DRIVE, SUITE 111
DAVIE, FLORIDA 33328
(954)318-0624 (954)358-0190 FAX
CERTIFICATE OF AUTHORIZATION No. 9808

ROBERT J. ROSS, P.E.
FLORIDA P.E. No. 59485
DATE: 7/6/2015

PAVING GRADING AND DRAINAGE PLAN

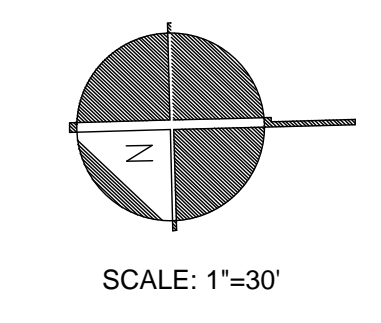
SCALE: 1"=30'

SHEET No. C-1

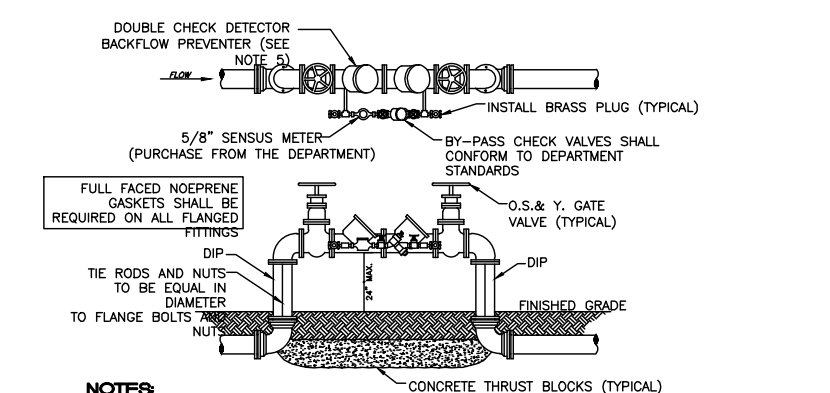


LEGEND

	PROPERTY LINE		EXISTING MANHOLE
	PROPOSED BUILDING		PROPOSED BACKFLOW PREVENTOR
	EXISTING WATER MAIN		PROPOSED WATER METER
	EXISTING SEWER MAIN		PROPOSED CLEANOUT
	PROPOSED SEWER LATERAL		
	PROPOSED WATER SERVICE LINE		

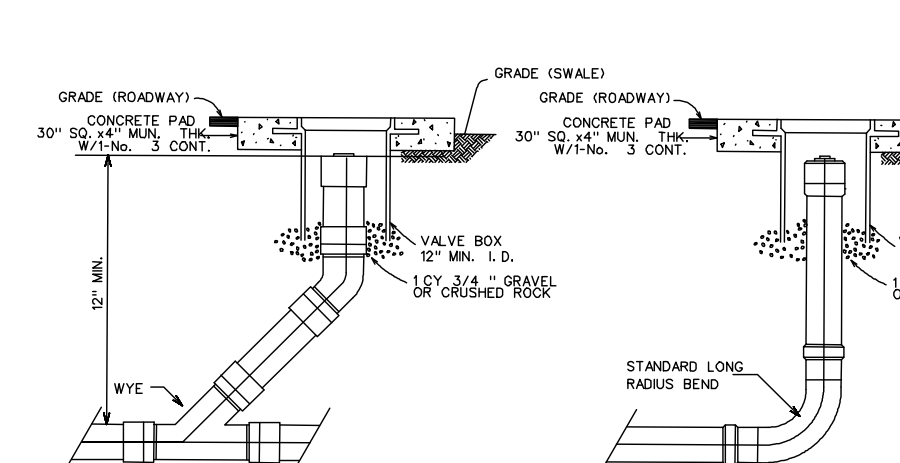


- ### NOTES:
- ALL ELEVATIONS DATUM SHOWN ON THE CONSTRUCTION DOCUMENTS ARE BASE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 - CONTRACTOR TO VERIFY ALL UTILITIES LOCATION AND ELEVATION PRIOR TO START OF CONSTRUCTION.
 - ALL EXISTING AND PROPOSED RIM ELEVATIONS SHALL BE SET TO FINISHED SURFACE GRADE, UNLESS OTHERWISE SPECIFICALLY NOTED ON THE PLAN. THIS SHALL INCLUDE ALL UTILITY, SEWER, WATER AND DRAINAGE STRUCTURES, MANHOLES, INLETS, VAULTS, VALVES AND OTHER APPURTENANCES.
 - CONTRACTOR TO FIELD VERIFY ANY CONFLICTS WITH TREES AND/OR UTILITIES AND DRAINAGE.

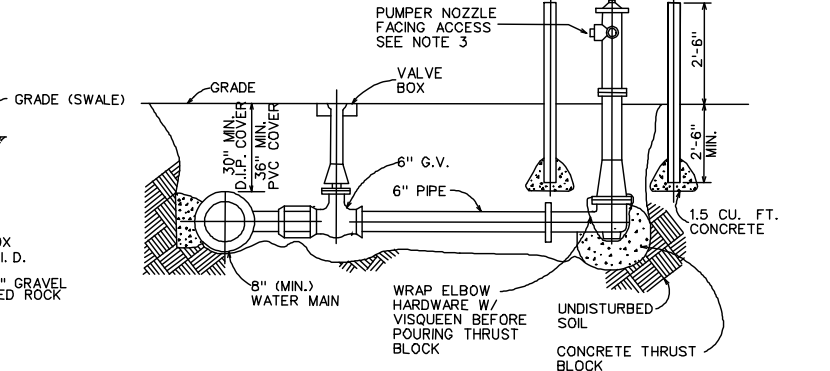


- ### NOTES:
- MECHANICAL JOINTS OF FITTINGS & PIPE SHALL BE REQUIRED UNDERGROUND AND FLANGED FITTINGS FOR ABOVE GROUND USE. NO UNFLANGES PERMITTED.
 - PAINT THE ABOVE GROUND ASSEMBLY, INCLUDING ENTIRE LENGTH OF THE ROSS, WITH HYDRANT PAINT (BLACK) OR APPROVED EQUAL AFTER MANUFACTURER'S RECOMMENDED SURFACE PREP IS COMPLETED. DO NOT PAINT OVER MANUFACTURER'S RECOMMENDED SURFACE PREP.
 - SUPPORT PERS OF PIPE JOINTS AS APPROVED BY DEPARTMENT. EXACT LOCATION TO BE DETERMINED IN THE FIELD.
 - ENTER PROTECTIVE PIPE STRONGBOX OR A SCREEN WALL IS REQUIRED. SEE "PROTECTION FOR ABOVE GROUND" DETAIL.
 - APPROVED DOUBLE DETECTOR CHECK VALVE ASSUMED:
 - SEE APPROVED CHECK VALVE SPECIFICATIONS.
 - SPECIAL FIRE PROTECTION SYSTEMS USING INTERNAL PUMPS, TANKS, ETC. SHALL BE REQUIRED TO USE A PIPE REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY OR APPROVED EQUAL.
 - HYDRANT TEST REPORT MUST BE SUBMITTED WITHIN FIVE (5) BUSINESS DAYS AFTER WATER IS SUPPLIED.

DOUBLE DETECTOR CHECK BACKFLOW ASSEMBLY (FIRE LINE) N.T.S.



CLEAN-OUT DETAIL



- ### NOTES:
- HYDRANT GUARDS TO BE 4" DIA. GALV. STEEL PIPE FILLED W/CONCR. PAINT GUARDS TRAFFIC YELLOW. THE ROSS MAY BE OBTAINED WHEN OTHER APPROVED METHODS OF RESTRAINING ARE UTILIZED.
 - 1/2" OF THE FLAMER CONNECTION SHALL BE 18" MIN. ABOVE THE E OF THE NEAREST ROADWAY OR FINISH GRADE.
 - MINIMUM FOOT VALVE SIZE IS 1/4" FOR FIRE FLOWS OF 1000 GPM OR GREATER. COAT THE ROSS WITH OIL-FREE PAINT AFTER ASSEMBLY. 12 COATS MIN. ALL HYDRANTS SHALL BE TRAFFIC BREAKAWAY TYPE OR APPROVED EQUAL. FIRE HYDRANTS SHALL BE PAINTED OSHA YELLOW.

FIRE HYDRANT DETAILS N.T.S.

- ### NOTES ON WATER-SEWER SEPARATION
- SANITARY SEWERS AND FORCE MAINS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS AND FORCE MAINS CROSSING WATER MAINS SHALL BE LAD TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE CROWN OF THE LOWER PIPE AND THE CROWN OF THE UPPER PIPE WHENEVER POSSIBLE.
- HERE SANITARY SEWERS FORCE MAINS MUST CROSS A WATER MAIN WITH LESS THAN 18 INCHES VERTICAL DISTANCE. BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS DO NOT CROSS OVER THE WATER MAIN JOINTS. THE SEWER PIPE JOINTS SHALL BE LOCATED AS FAR AWAY AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- HERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 18 INCHES VERTICAL CLEARANCE. THE NEW PIPE SHALL BE FRANGED TO MET THE CROSSING REQUIREMENTS ABOVE.
- A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
 - IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAD IN SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
 - WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR THE SEWER MAIN SHALL BE CONSTRUCTED OF DIP WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR AWAY AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
 - ALL DIP SHALL BE CLASS 50 OR HIGHER. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

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 DANIA BEACH, FLORIDA

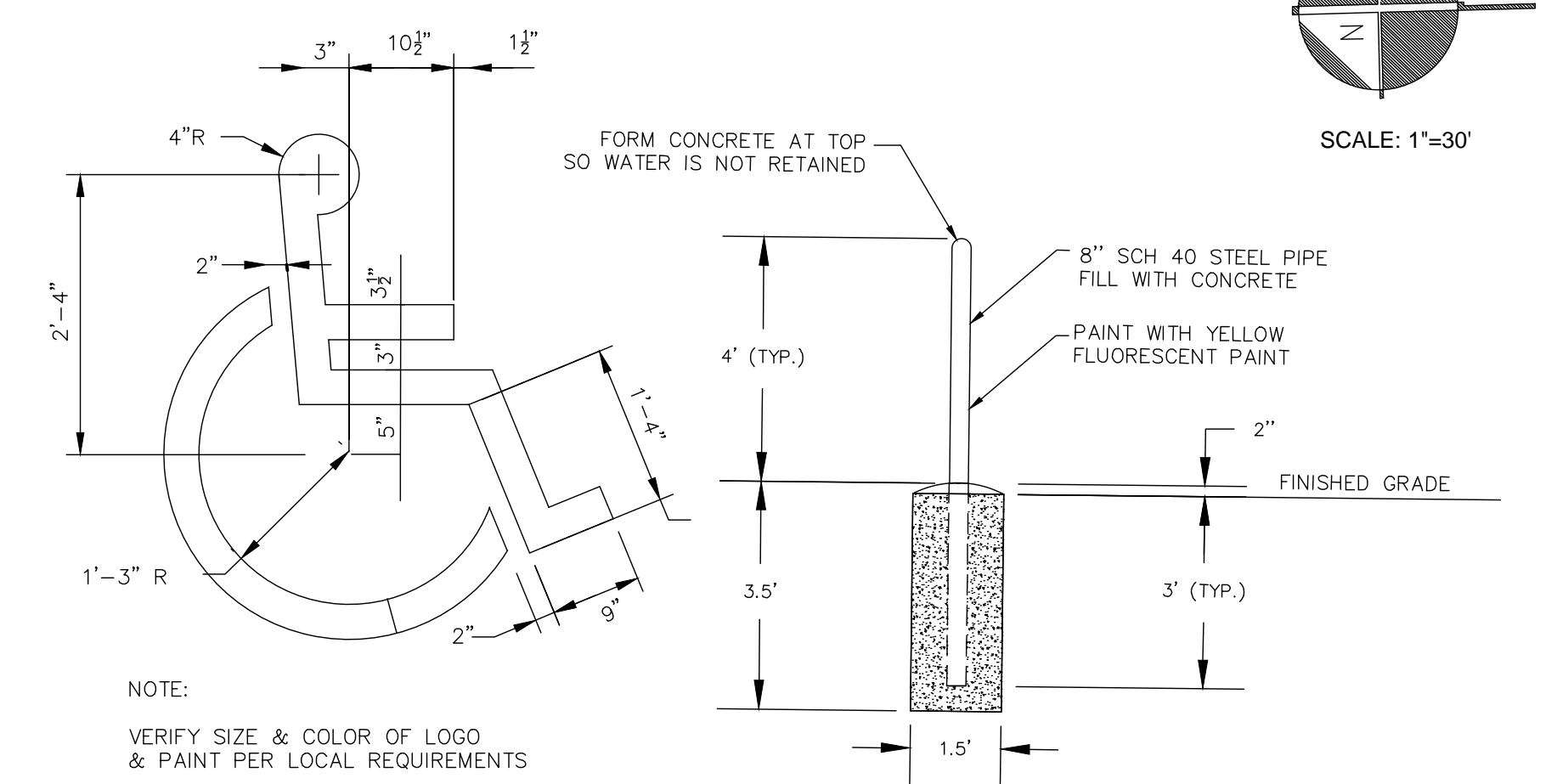
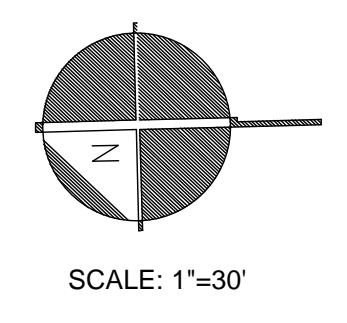
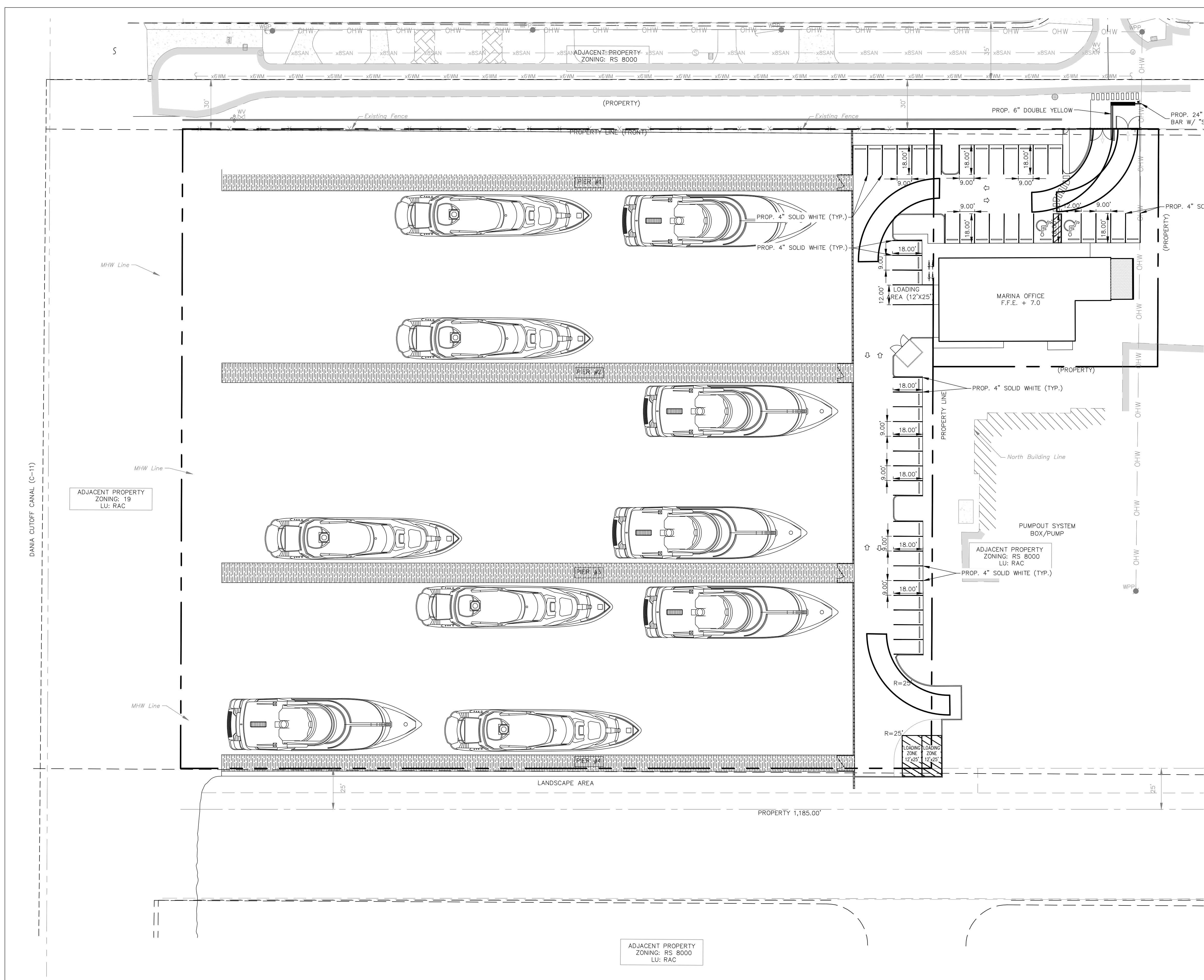


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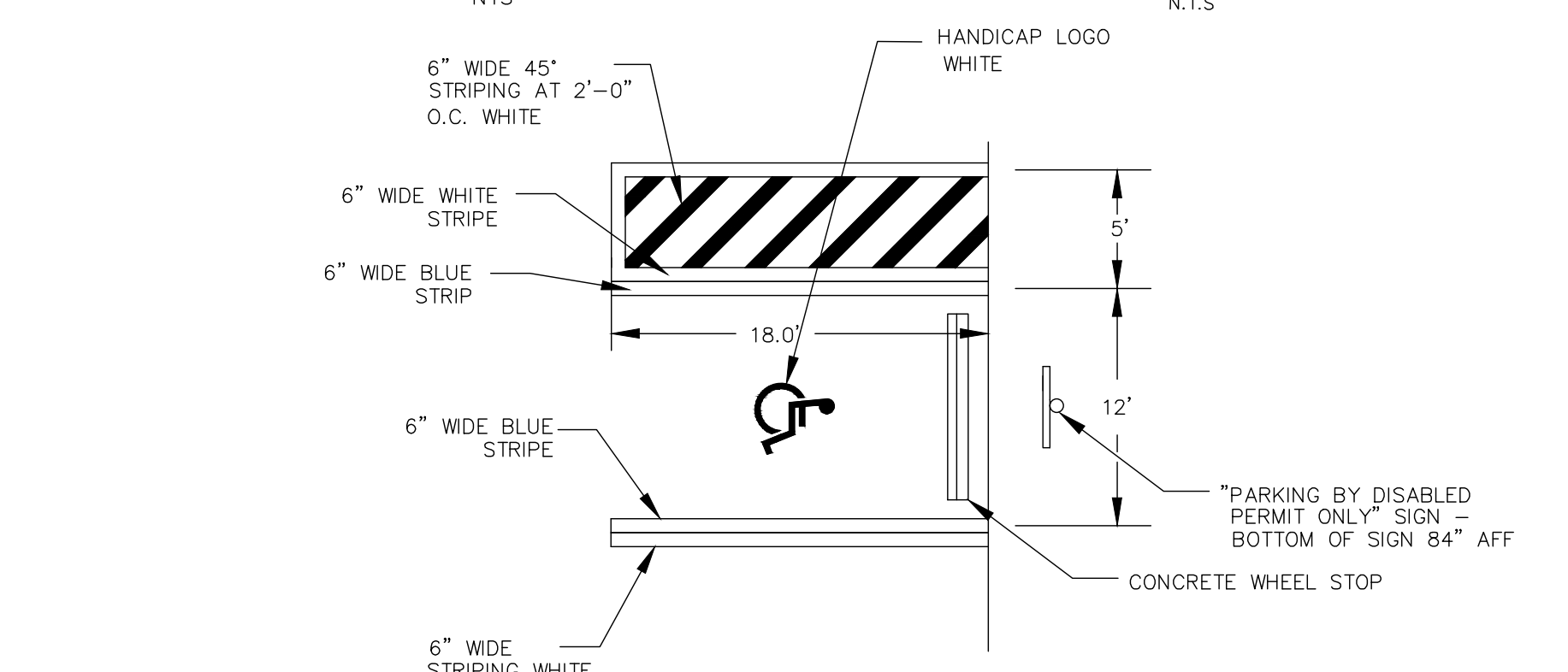
ROBERT J. ROSS, P.E.
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WATER AND SANITARY SEWER PLAN

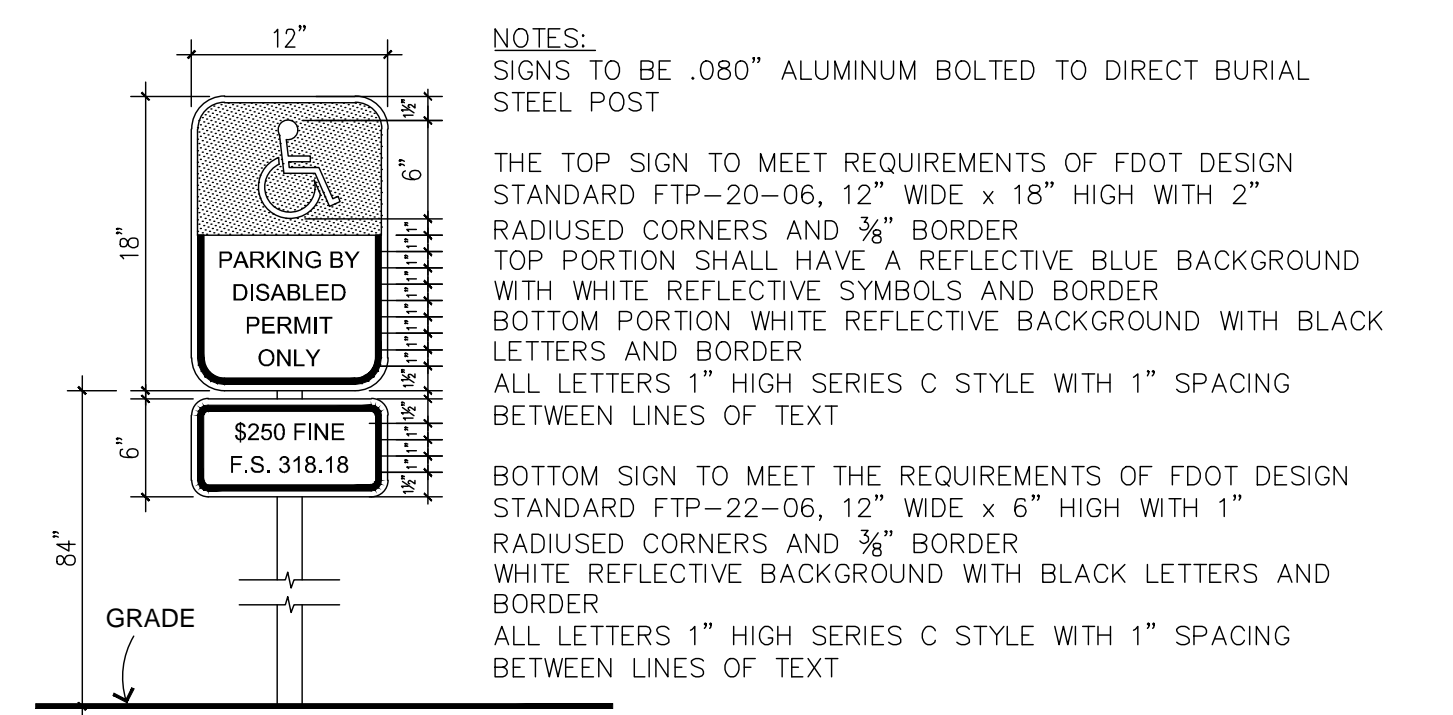




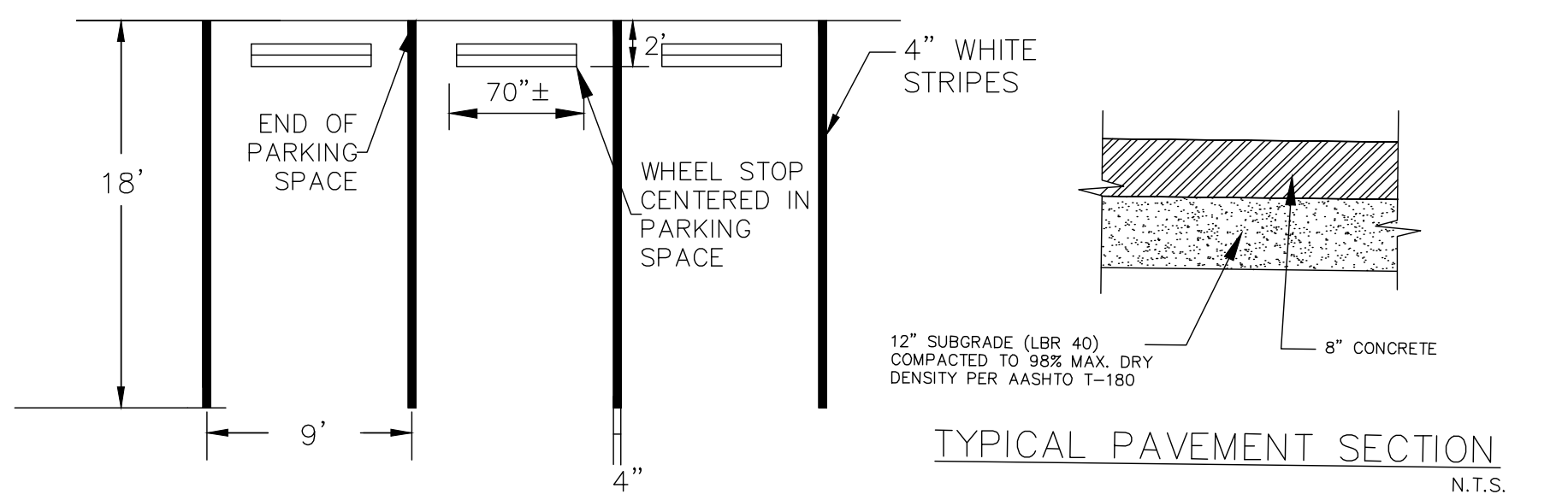
TYPICAL BOLLARD DETAIL N.T.S.



TYPICAL HANDICAP PARKING N.T.S.



ACCESSIBLE PARKING SIGN



TYPICAL PARKING STALL DETAIL N.T.S.

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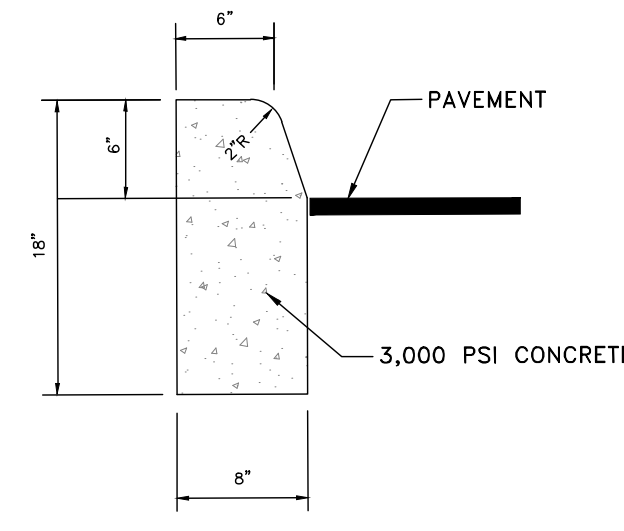
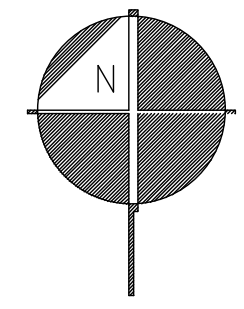
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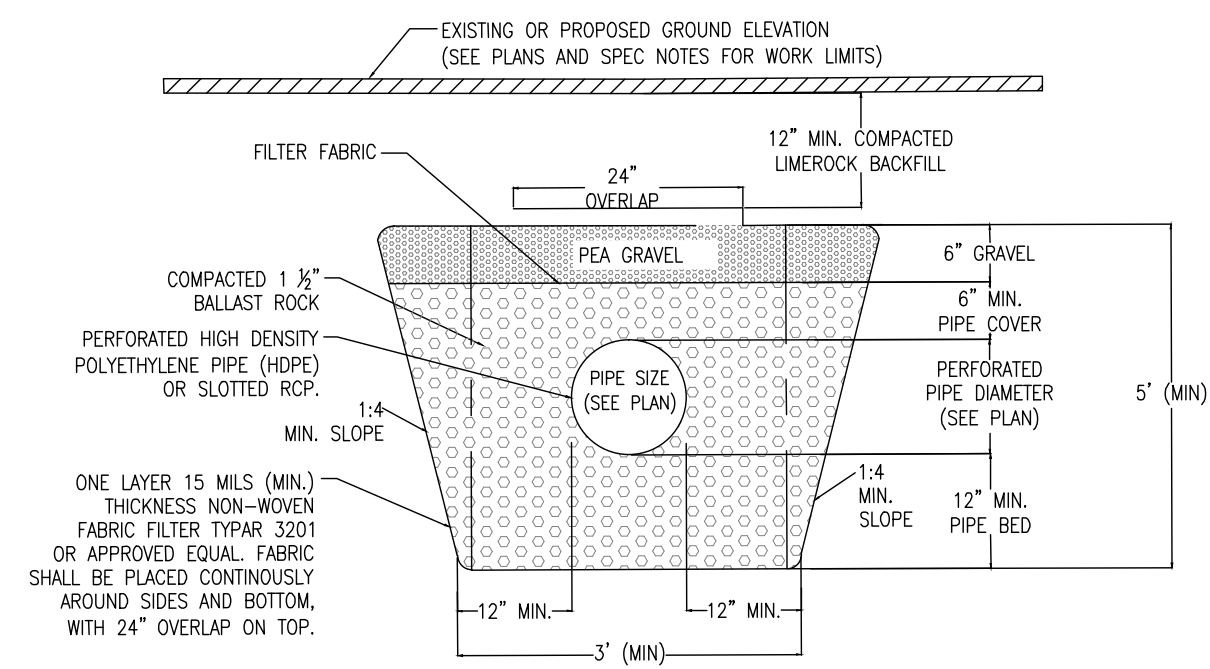
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: 1"=30'

SHEET No.C-3



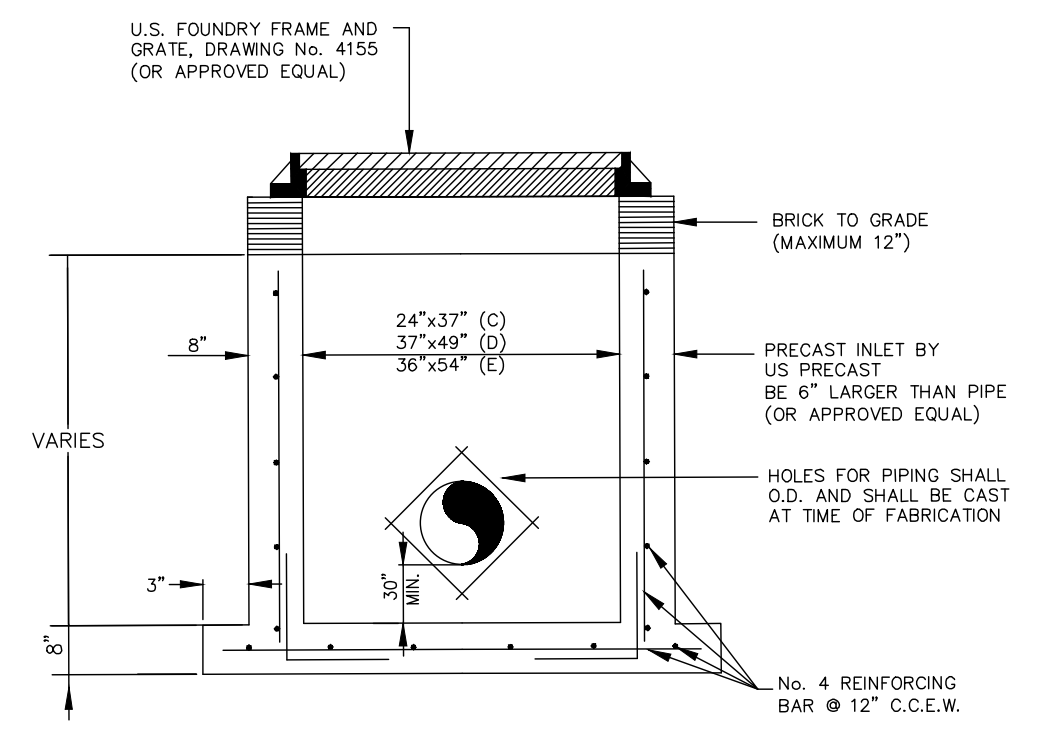
TYPE 'D' CURB DETAIL
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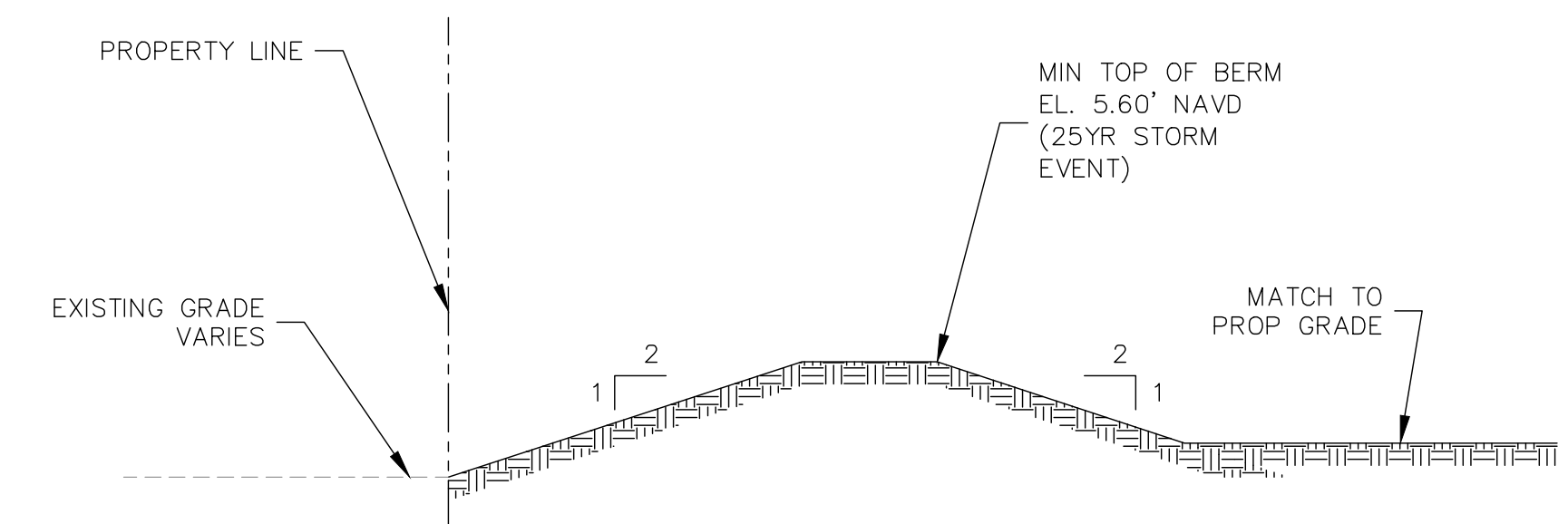
TRANSVERSE CROSS SECTION

- NOTES:
1. CONTRACTOR MUST READ AND ABIDE THE CITY'S GENERAL CONSTRUCTION NOTES AND DRAINAGE DESIGN NOTES PRIOR TO STARTING CONSTRUCTION.
 2. THE STANDARD CROSS SECTION SHALL BE CONSTRUCTED UNLESS OTHER SECTIONS ARE DESCRIBED OR DETAILED ON PLANS.
 3. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PREVENT CONTAMINATION OF THE TRENCH WITH SAND, SILT AND FOREIGN MATERIALS.
 4. THE 12" DEEP HOLE SHALL NOT BE USED IF THE BOTTOM OF THE INLET OR MANHOLE IS BELOW THE NORMAL WATER TABLE, UNLESS OTHERWISE SHOWN ON PLANS.
 5. FRENCH DRAINS MUST BE INSPECTED BY THE ENGINEERING INSPECTOR PRIOR TO CONTRACTOR BACKFILLING.

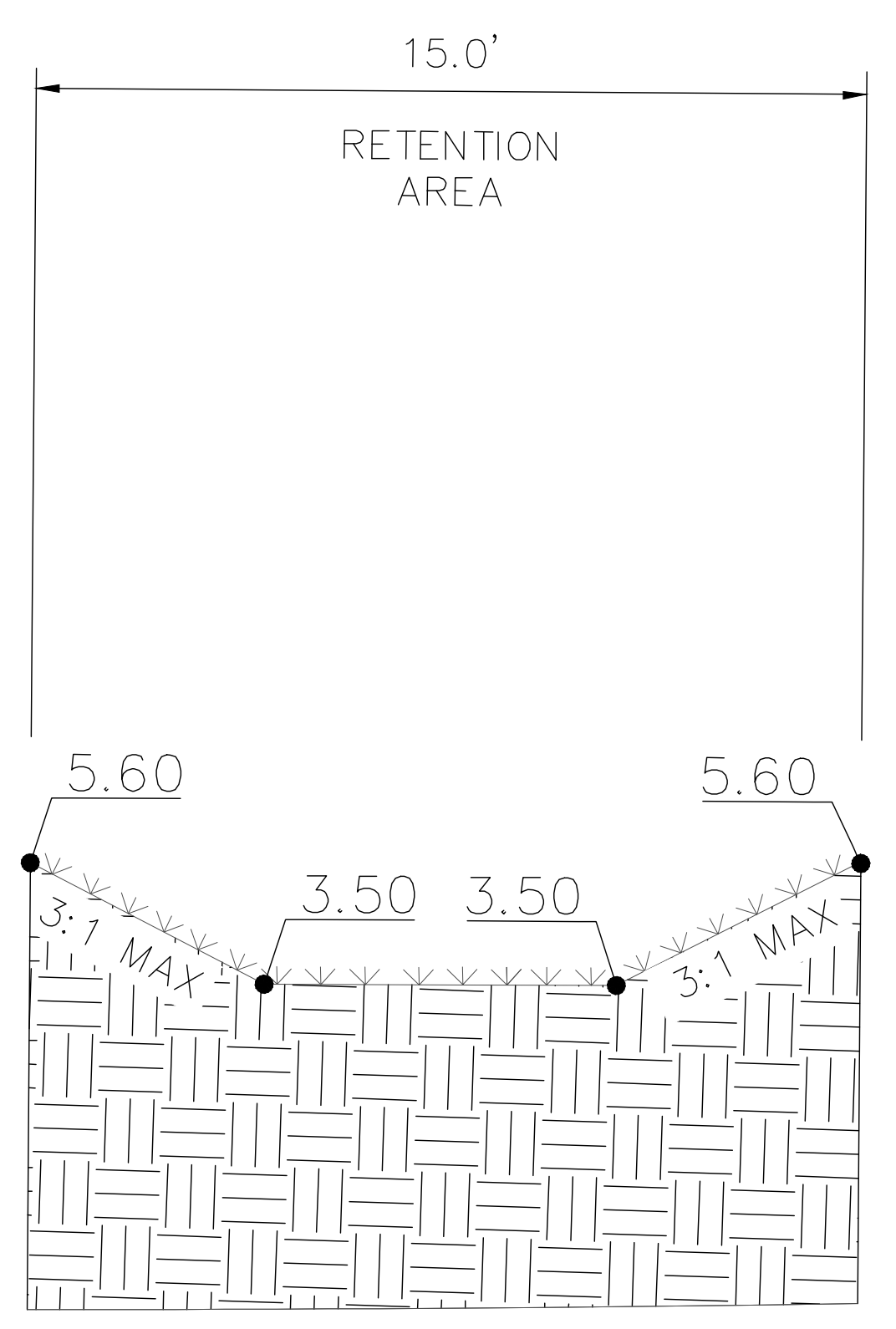
EXFILTRATION TRENCH SYSTEM
N.T.S.



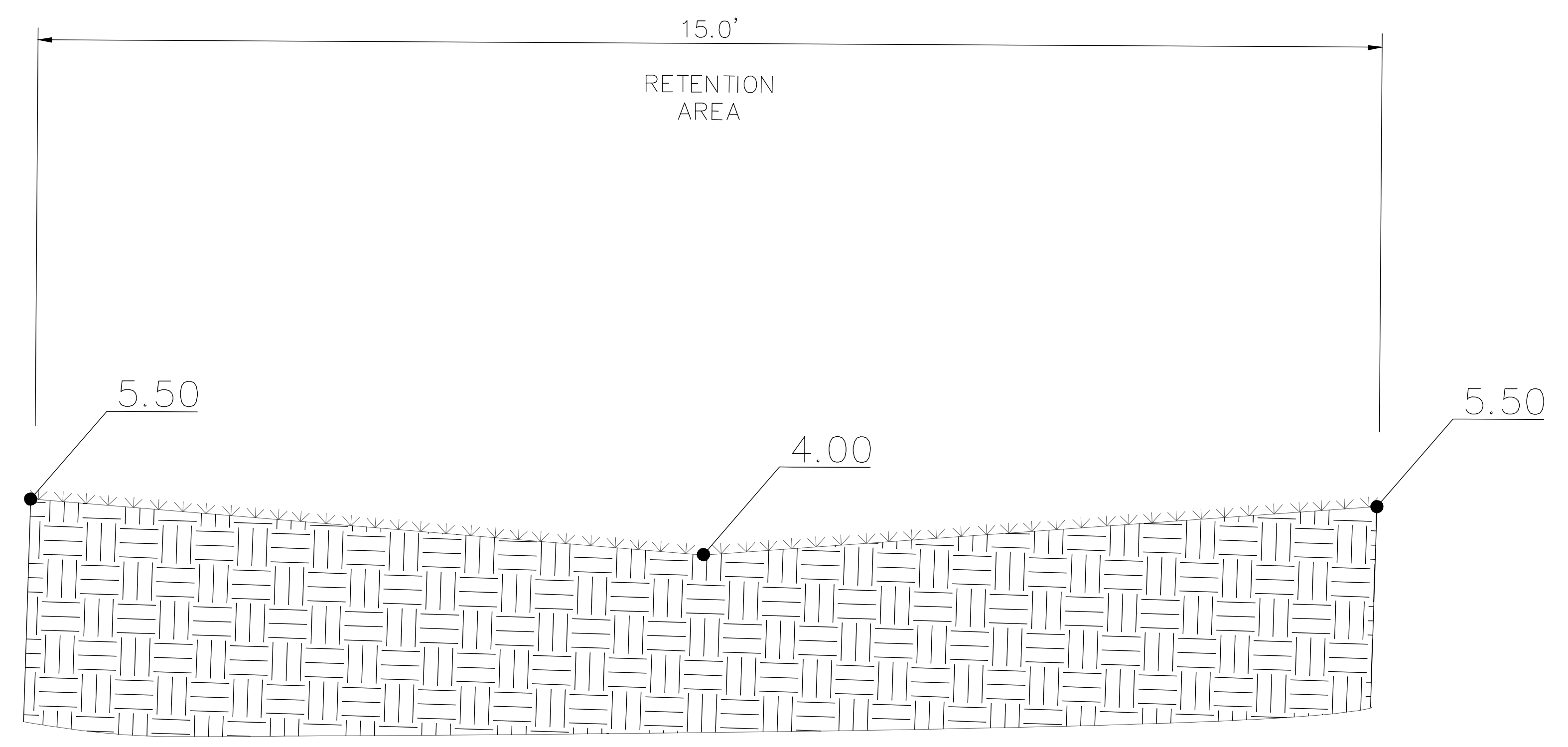
TYPICAL CATCH BASIN DETAIL
N.T.S.



TYPICAL EARTHEN BERM DETAIL
(SECTION B-B)
NTS



SECTION A-A
NTS



SECTION C-C
NTS

MR	7/6/15			
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PAVING, GRADING & DRAINAGE DETAILS

SCALE: NTS

SHEET No. C-4