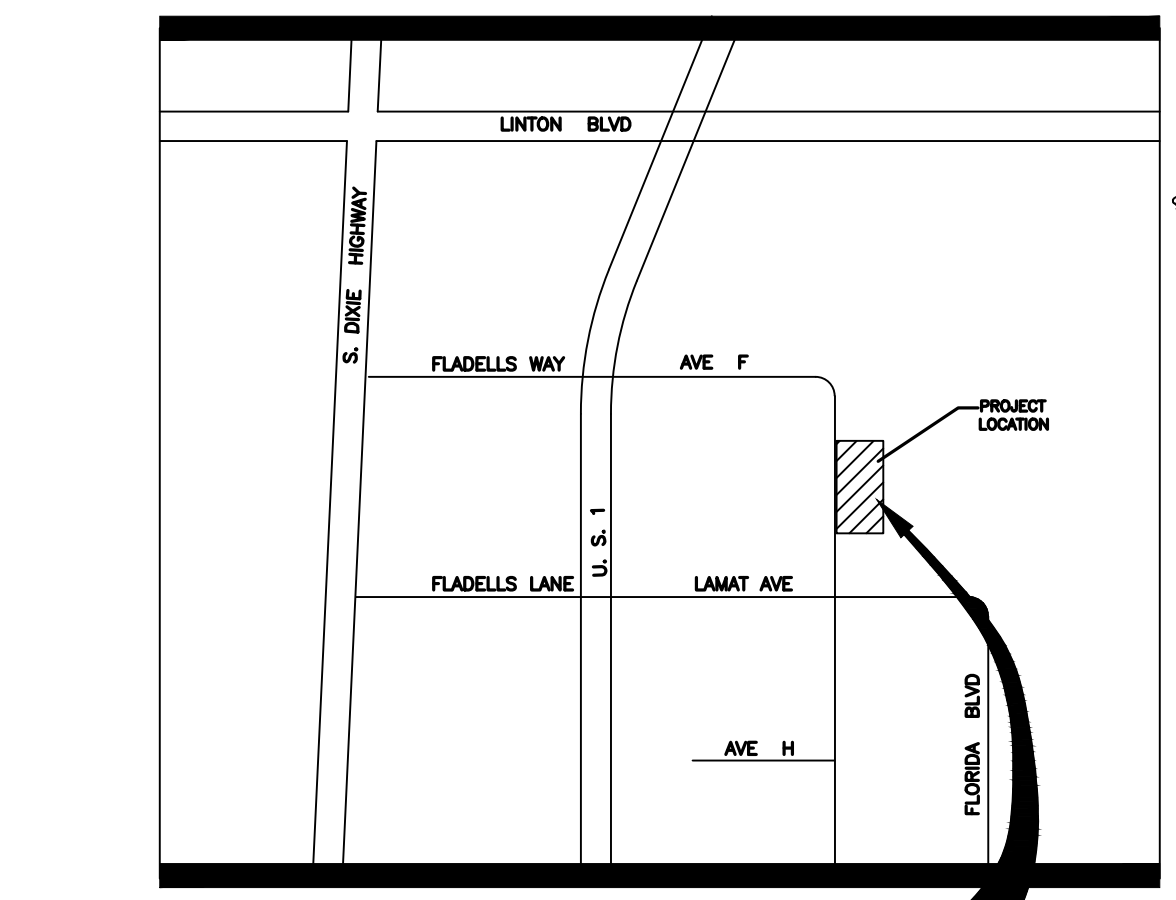
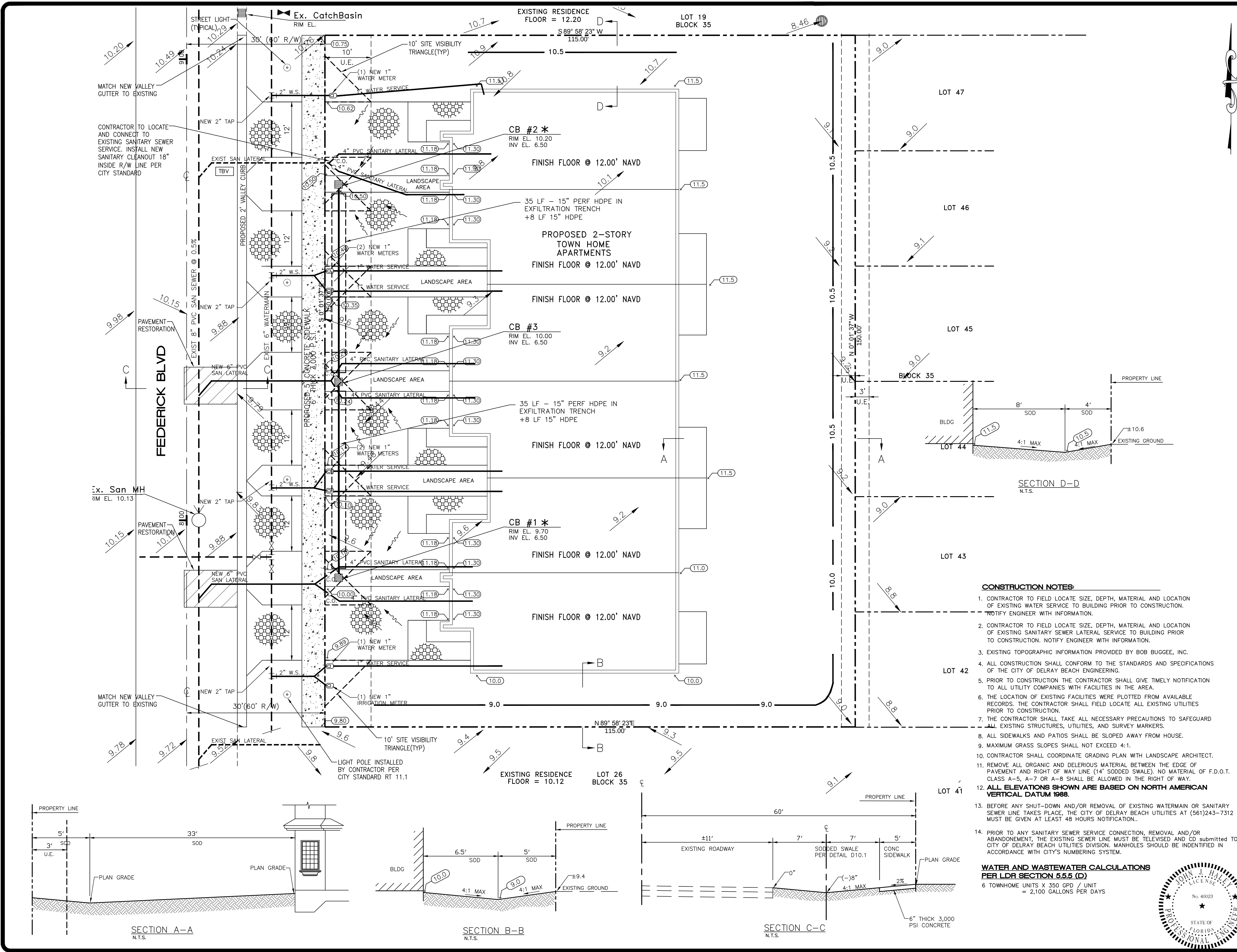




LEGAL DESCRIPTION:
N.T.S.
LOTS 20, 21, 22, 23, 24 & 25, BLOCK 35, DEL RATION PARK, ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 14, PAGE 9, OF THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA.

LEGEND:

- EXISTING ELEVATION (NAVD)
- PROPOSED ELEVATION
- RUNOFF FLOW
- PAVER BLOCK
- PROPOSED CONCRETE
- EXISTING CONCRETE
- PAVEMENT RESTORATION
- TBR TO BE REMOVED
- TBV TO BE VERIFIED
- SWALE CONTOUR
- EXIST GATE VALVE
- EXIST WATER METER
- POLLUTION RETARDANT BAFFLE
- PROPERTY LINE
- EXIST UTILITY
- PROPOSED CATCH AND EXFILTRATION TRENCH
- PROPOSED LIGHT POLE

AREA COVERAGES:

AREA	AREA	AREA	AREA	AREA
BUILDING AREA	=	3,056 SF	=	0.070 ACRE 17.7 %
POOL DECK AND PAVEMENT AREA	=	5,505 SF	=	0.126 ACRE 30.3 %
PERVIOUS AREA	=	8,255 SF	=	0.190 ACRE 47.9 %
TOTAL AREA	=	17,250 SF	=	0.396 ACRE 100 %

NOTES:

- LOCAL DRAINAGE DISTRICT: CITY OF DELRAY BEACH
- 10 YEAR - 1 DAY RAINFALL = 10.5 INCHES
- 25 YEAR - 1 DAY RAINFALL = 13.0 INCHES
- 100 YEAR - 1 DAY RAINFALL = 17.0 INCHES
- WATER METER SIZES SHALL BE DESIGNED BY ENGINEER OF RECORD AND SHALL BE CHECKED AND AUTHORIZED BY CITY OF DELRAY BEACH UTILITIES DIVISION. CALL 561-243-7312, CITY UTILITY DEPT. TO ORDER WATER SERVICE INSPECTION.
- ONCE ALL PERMITS ARE SECURED, A PRE-CONSTRUCTION MUST BE SCHEDULED THROUGH THE DEPUTY DIRECTOR OF CONSTRUCTION AT 561-243-7320 PRIOR TO STARTING ANY SITE WORK.
- IN CASE ANY WATER OR SEWER SERVICE REQUIRES ROADWAY RESTORATION, MILLING AND RESURFACING OF THE ASPHALT FOR 50 FEET IN BOTH DIRECTIONS WILL BE REQUIRED. CONTACT MUST BE MADE WITH WATER/SEWER NETWORK MANAGER SCOTT SOLOMON OR RALPH LUGO FOR ASSISTANCE.
- IF ANY EXISTING SIDEWALK IS DAMAGED DURING CONSTRUCTION, A NEW SIDEWALK MUST BE CONSTRUCTED. ALL SIDEWALKS MUST COMPLY WITH CITY DETAIL RT 5.1. THICKNESS SHALL BE 4", 6" AT DRIVEWAY CROSSING.
- PER CITY LDR 6.1.3, NEW RESIDENTIAL CONSTRUCTION REQUIRES SIDEWALKS TO BE CONSTRUCTED PER RT 5.1.
- ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER, OR DRAINAGE EASEMENTS SHALL CONFORM TO THE CITY OF DELRAY BEACH STANDARD DETAILS LD1.1 & LD1.2.
- SIGHT TRIANGLE REQUIREMENTS MUST BE MET AT EACH DRIVEWAY PER LDR SECTION 4.6.14. ALL VISIBLE OBSTRUCTION WITHIN THE SIGHT TRIANGLE SHALL PROVIDE UNOBSTRUCTED CROSS VISIBILITY BETWEEN 3FT AND 6FT HEIGHT.

SAWCUT NOTES:

- SAWCUT EXISTING ASPHALT PAVEMENT. MATCH NEW CONCRETE SLAB GRADE TO EXISTING ASPHALT GRADE.
- SAWCUT EXISTING CONCRETE SIDEWALK. MATCH NEW CONCRETE SIDEWALK GRADE TO EXISTING SIDEWALK GRADE.

NOTES:

FLOOD ZONE : X
BASE FLOOD ELEVATION : NA
FLOOD MAP :
COMMUNITY NUMBER : 125102-0987-F
DATE: 10-5-17

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NOTE : OWNER SHALL SUBMIT FINAL SURVEY TO THE CITY WITH SUFFICIENT TOPOGRAPHY TO VERIFY CONFORMANCE TO DESIGN

Designed J.J.H.
Drawn E.L.H.
Checked J.J.H.

NO.	DATE	REVISION	BY

HALEY ENGINEERING, INC.
CIVIL ENGINEERING SERVICES.
1680 SE 4th Street - Deerfield Beach, Fla. 33441
Phone: (954) 260-6194
Email: johnjhaley@comcast.net
F.B.P.E. Authorization No. 9463

6 TOWNHOMES
2621 FREDERICK BLVD.
FREDERICK ISLES
DELRAY BEACH, FLORIDA

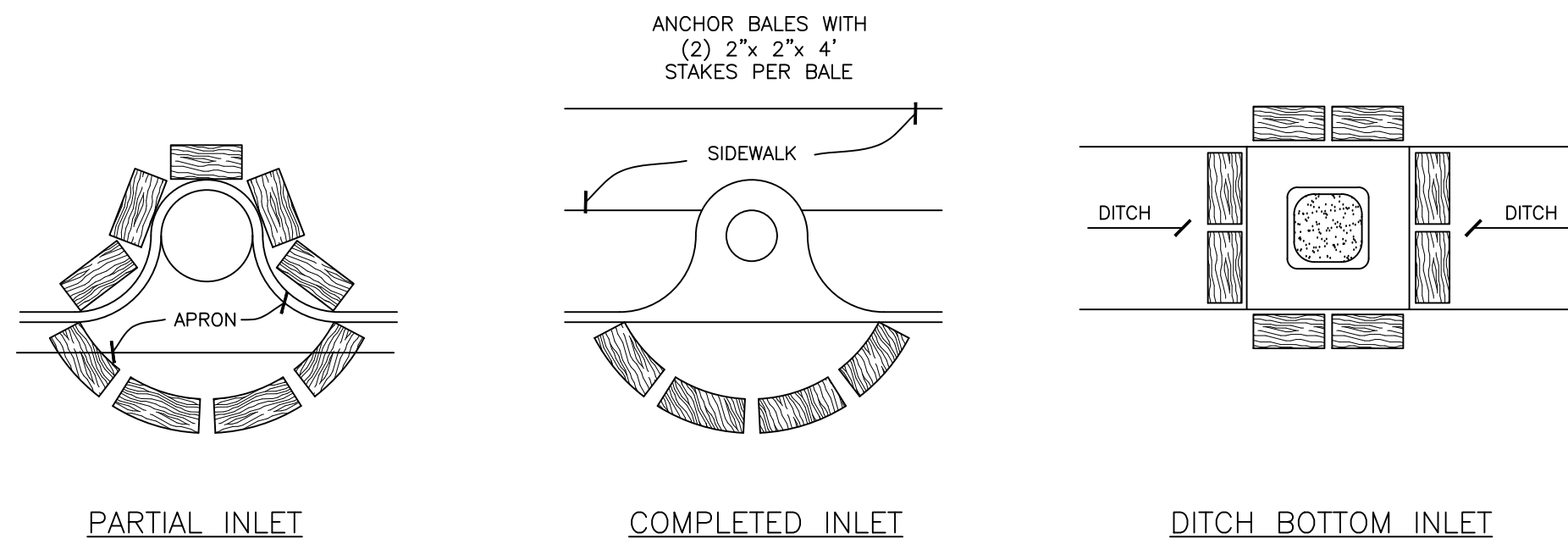
WATER, SEWER, PAVING
AND DRAINAGE PLAN

APPROVED:
DATE:
JOHN J. HALEY, P.E.
REGISTERED ENGINEER NO. 40023
STATE OF FLORIDA

SCALE
1" = 10'

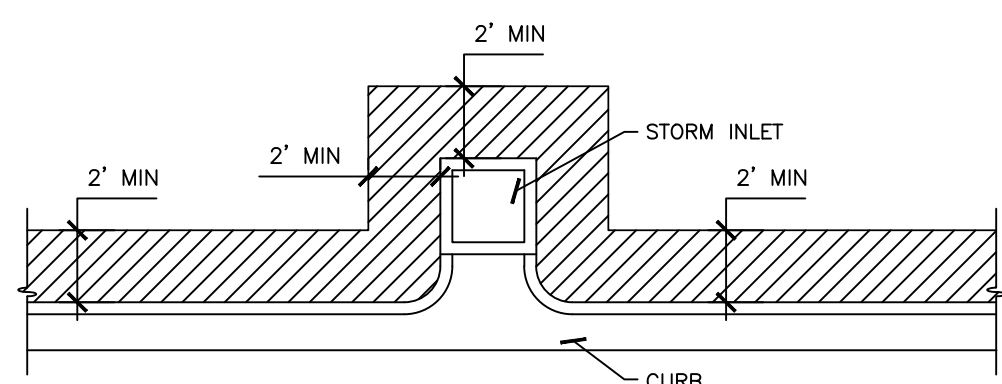
PROJECT NUMBER
20-2695

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4



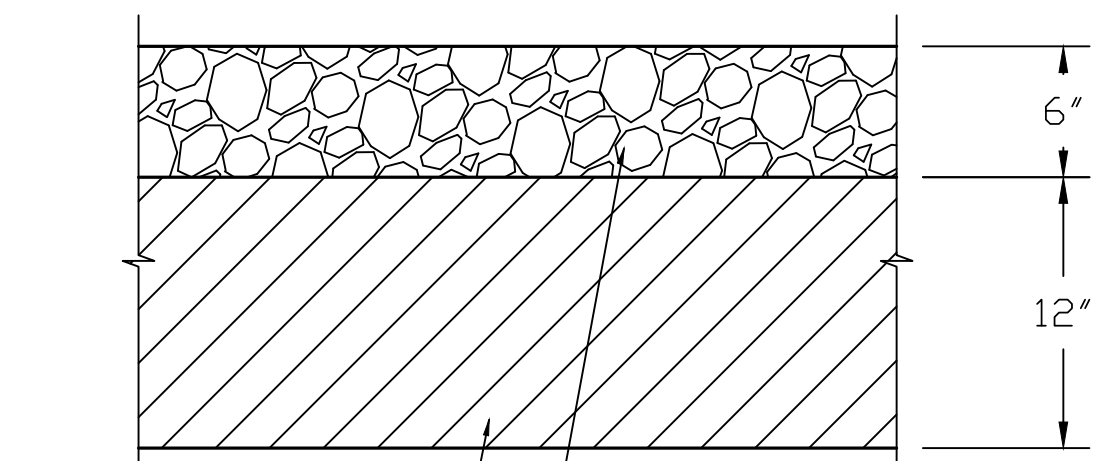
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
N.T.S.

FIGURE 6



SOD ALONG CURB
AND AROUND INLET
N.T.S.

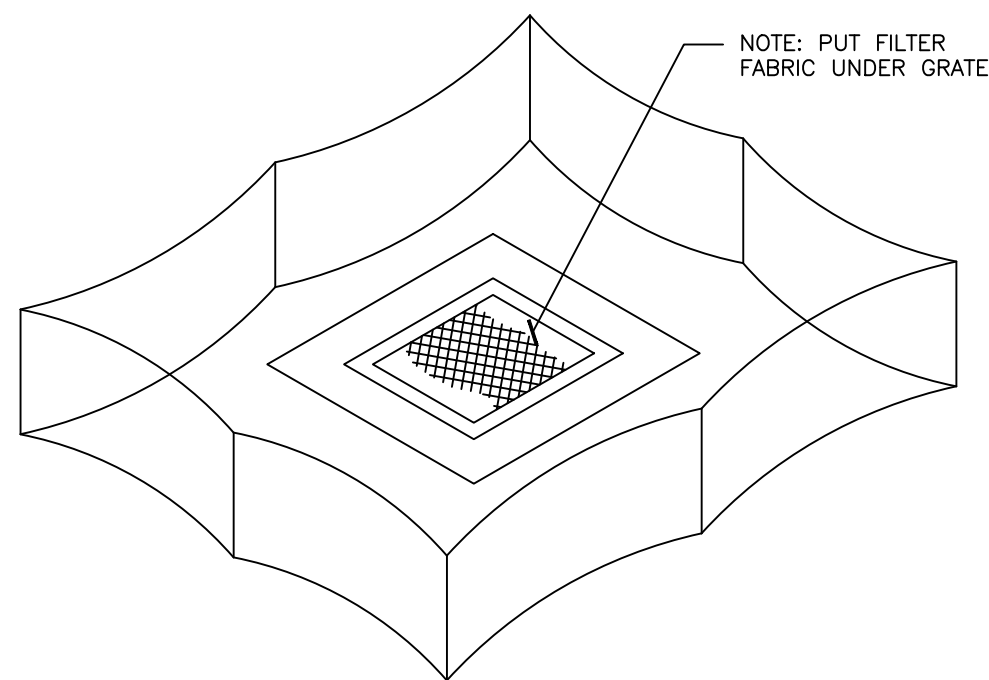
FIGURE 9



12" COMPACTED SUBGRADE
LBR 40 MIN., COMPACTED TO 98%
MAX. DENSITY PER AASHTO T-180

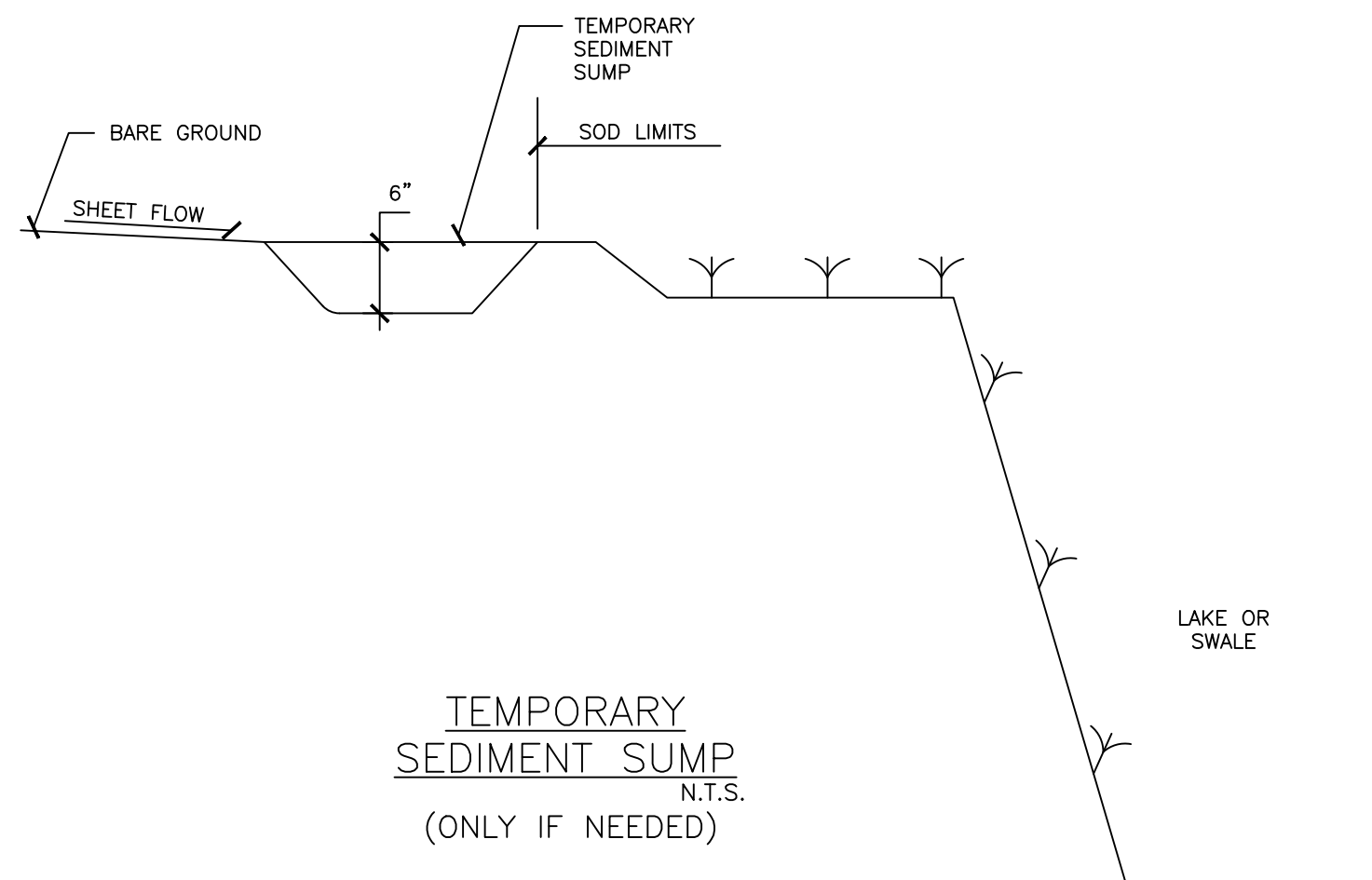
6" F.D.O.T. GRAVEL

CONSTRUCTION ENTRANCE SECTION



STAKED SILK BARRIER OR SILT FENCE
PROTECTION AROUND DITCH BOTTOM
INLETS
N.T.S.

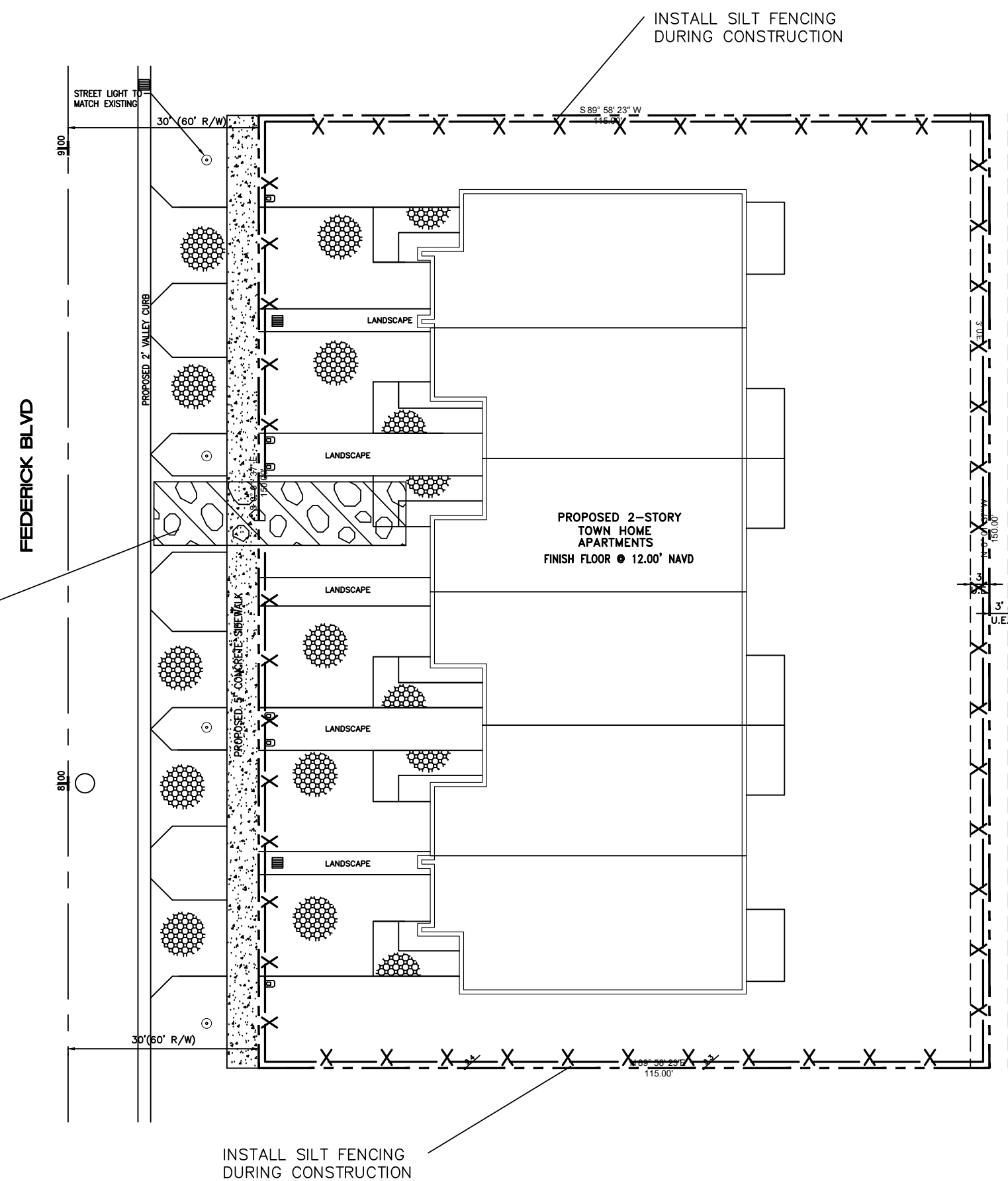
FIGURE 7



TEMPORARY
SEDIMENT SUMP
N.T.S.
(ONLY IF NEEDED)

FIGURE 10

12 FT X 50 FT 6 IN. GRAVEL
AREA FOR WHEEL WASH



BEST MANAGEMENT
PRACTICES PLAN
SCALE 1"=20'-0"

BEST MANAGEMENT PRACTICES

SECTION A GENERAL EROSION CONTROL

- A.1 General erosion control BMP's shall be employed to minimize soil erosion and potential lake slope cave-ins. While the various techniques required will be site and plan specific, they should be employed as soon as possible during construction activities.
- A.2 Cleared site development areas not continually scheduled for construction activities shall be covered with hay or overseeded and periodically watered sufficient to stabilize the temporary groundcover.
- A.3 Slopes of banks retention/detention ponds shall be constructed not steeper than 4H:1V from top of bank to two feet below normal water level as shown in Figure 5.
- A.4 All grass slopes constructed steeper than 4H:1V shall be sodded as soon as practical after their construction as shown in Figure 8.
- A.5 Sod shall be placed for a 3-foot wide strip adjoining all curbing and around all inlets as shown in Figure 9. Sod shall be placed before silt barriers, shown in Figure 6, are removed.
- A.6 Where required to prevent erosion from sheet flow across bare ground from entering a lake or swale, a temporary sediment sump shall be constructed as shown in Figure 10. The temporary sediment sump shall remain in place until vegetation is established on the ground draining to the sump.

SECTION B PROTECTION OF SURFACE WATER QUALITY DURING AND AFTER CONSTRUCTION

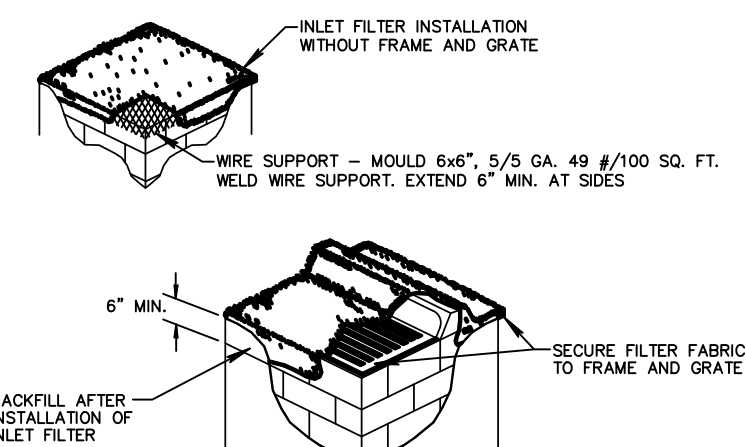
- B.1 Surface water quality shall be maintained by employing the following BMP's in the construction planning and construction of all improvements.
- B.2 Where practical, stormwater shall be conveyed by swales. Swales shall be constructed as shown in Figure 5.
- B.3 Erosion control measures shall be employed to minimize turbidity of surface waters located downstream of any construction activity. While the various measures required will be site specific, they shall be employed as needed in accordance with the following.
- a. In general erosion shall be controlled at the furthest practical upstream location.
- b. Stormwater inlets shall be protected during construction as shown in Figures 6 and 7. Protection measures shall be employed as soon as practical during the various stages of inlet construction. Silt barriers shall remain in place until sodding around inlets is complete.
- B.4 Heavy construction equipment parking and maintenance areas shall be designed to prevent oil, grease and lubricants from entering site drainage features in cluding stormwater collection and treatment systems. Contractors shall provide broad dikes, hay bales or silt screens around, and sediment sumps within, such areas as required to contain spills of oil, grease or lubricants. Contractors shall have available, and shall use absorbent filter pods to clean up spills as soon as possible after occurrence.
- B.5 Silt barriers, any silt which accumulates behind the barriers, and any fill used to anchor the barriers shall be removed promptly after the end of the maintenance period specified for the barriers.

SECTION C CONTROL OF WIND EROSION

- C.1 Wind erosion shall be controlled by employing the following methods as necessary and appropriate:
- a. Bare earth areas shall be watered during construction as necessary to minimize the transport of fugitive dust. It may be necessary to limit construction vehicle speed if bare earth has not been effectively watered. In no case shall fugitive dust be allowed to leave the site under construction.
- b. As soon as practical after completion of construction, bare earth areas shall be vegetated.
- c. At any time both during and after site construction that watering and/or vegetation are not effective in controlling wind erosion and/or transport of fugitive dust, other methods as are necessary for such control shall be employed. These methods may include erection of dust control fences. If required, dust control fences shall be constructed in accordance with the detail for a silt fence shown in Figure 2, except the minimum height shall be 4 feet.

- THE INTENT OF EROSION CONTROL MEASURES INDICATED GRAPHICALLY ON PLANS IS TO PROVIDE A BARRIER TO CONTROL SOIL AND SEDIMENT ON THE PROJECT SITE. THE REPRESENTATION OF THE EROSION CONTROL MEASURES IS NOT TO BE CONSIDERED AS A GUARANTEE OF THE EROSION CONTROL MEASURES. THE EROSION CONTROL MEASURES SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REGULATIONS SET FORTH BY THE AUTHORITY HAVING JURISDICTION OVER WATER QUALITY CONTROL AND OTHER SEDIMENTATION RESTRICTION REQUIREMENTS IN THE REGION.
- APPROVED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBANCE ACTIVITIES, EXCEPT THOSE OPERATIONS NEEDED TO INSTALL SUCH MEASURES.
- INSPECTION OF ALL EROSION CONTROL MEASURES SHALL BE CONDUCTED WEEKLY, OR AFTER EACH RAINFALL EVENT, AND/OR REPLACEMENT OF SUCH MEASURES SHALL BE AS NECESSARY AS REQUIRED.
- KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY ON-SITE INSPECTION.
- FAILURE TO PROPERLY INSTALL AND MAINTAIN EROSION CONTROL PRACTICES SHALL RESULT IN CONSTRUCTION BEING HALTED.
- DRAINAGE INLETS SHALL BE PROTECTED BY FILTER AND GRADED ROCK AS PER INLET PROTECTION DETAIL.
- ANY ACCESS ROUTES TO SITE SHALL BE BASED WITH CRUSHED STONE, WHERE PRACTICAL.
- EROSION CONTROL MEASURES ARE TO BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
- ALL WORK IS TO BE IN COMPLIANCE WITH THE RULES AND REGULATIONS SET FORTH BY THE STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE CITY OF DELRAY BEACH.
- DISCHARGE FROM DRAINAGE OPERATIONS SHALL BE RETAINED ON-SITE IN A CONTAINMENT AREA.

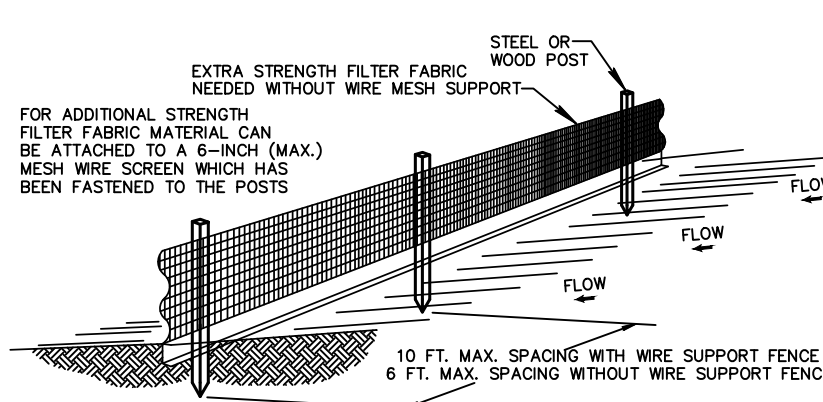
EROSION CONTROL NOTES DETAIL D9.1



NOTES:
1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR TO REMOVE FABRIC JUST PRIOR TO PAVING.

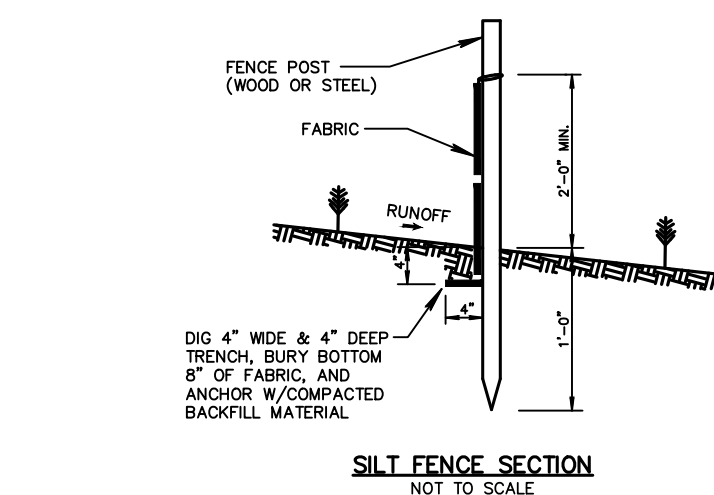
A SEDIMENT TRAP WILL BE EXCAVATED BEHIND THE CURB AT THE INLET. THE BASIN SHALL BE AT LEAST 12 TO 14 INCHES IN DEPTH, APPROXIMATELY 36 INCHES IN WIDTH, AND APPROXIMATELY 7 TO 10 FEET IN LENGTH PARALLEL TO THE CURB. STORM WATER WILL REACH THE SEDIMENT TRAP VIA CURB CUTS ADJACENT TO EACH SIDE OF THE INLET STRUCTURE. THESE OPENINGS SHALL BE AT LEAST 12 INCHES IN LENGTH. STORM WATER MAY ALSO REACH THE BASIN VIA OVERLAND FLOW LAND AREA BEHIND THE CURB. THE CURB CUTS SHALL BE REPAIRED WHEN THE SEDIMENT TRAP IS REMOVED.

INLET FILTER DETAIL D 8.1



- NOTES:
- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 CM).
 - THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
 - POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 M) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 CM). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 M).
 - A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10 CM) WIDE AND 4 INCHES (10 CM) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
 - WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 MM) LONG. THE WIRES, OR HOE RINGS, THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 CM) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
 - THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 6 INCHES (20 CM) OF THE FABRIC SHALL BE EXTENDED BEHIND THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
 - THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.

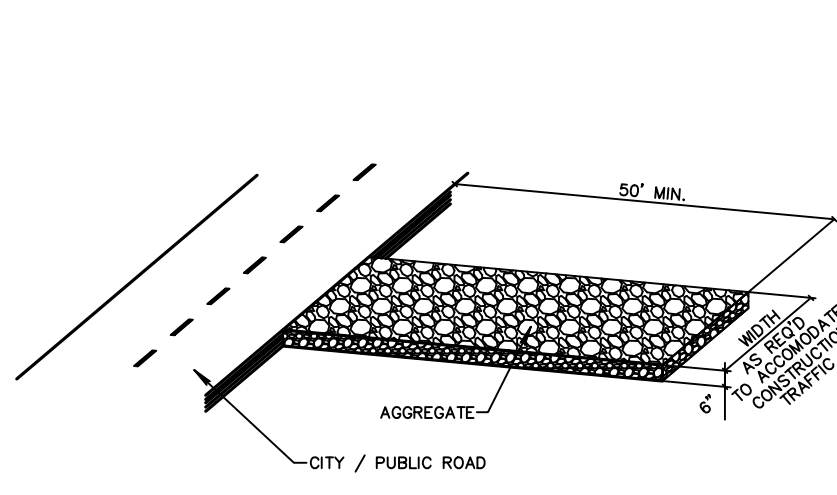
SILT FENCE INSTALLATION DETAIL D 9.1a



- NOTES:
- PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
 - ROTATE BOTH POSTS AT LEAST 90 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
 - DRIVE BOTH POSTS ABOUT 18 INCHES INTO THE GROUND AND BURY FLAP.

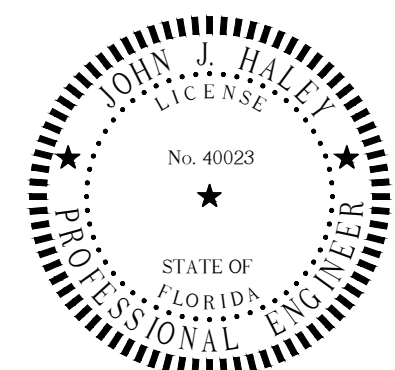
ATTACHING TWO SILT FENCES
NOT TO SCALE

SILT FENCE INSTALLATION DETAIL D 9.1b



NOTE:
A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AND CONTAIN AN AGGREGATE LAYER (FOOT AGGREGATE NO.1), AT LEAST 6-INCHES THICK. IT MUST EXTEND TO THE WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA.

STABILIZED CONSTRUCTION ENTRANCE DETAIL D9.1C



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Designed J.J.H.

Drawn E.L.H.

Checked J.J.H.

NO.	DATE	REVISION	BY

HALEY ENGINEERING, INC.
CIVIL ENGINEERING SERVICES.
1680 SE 4th Street - Deerfield Beach, Fla. 33441
Phone: (954) 260-6194
Email: johnjhaley@comcast.net
F.B.P.E. Authorization No. 9463

6 TOWNHOMES
2621 FREDERICK BLVD.
FREDERICK ISLES
DELRAY BEACH, FLORIDA

BEST MANAGEMENT
PRACTICES DETAILS

APPROVED:

DATE: _____
JOHN J. HALEY, P.E.
REGISTERED ENGINEER NO. 40023
STATE OF FLORIDA

SCALE

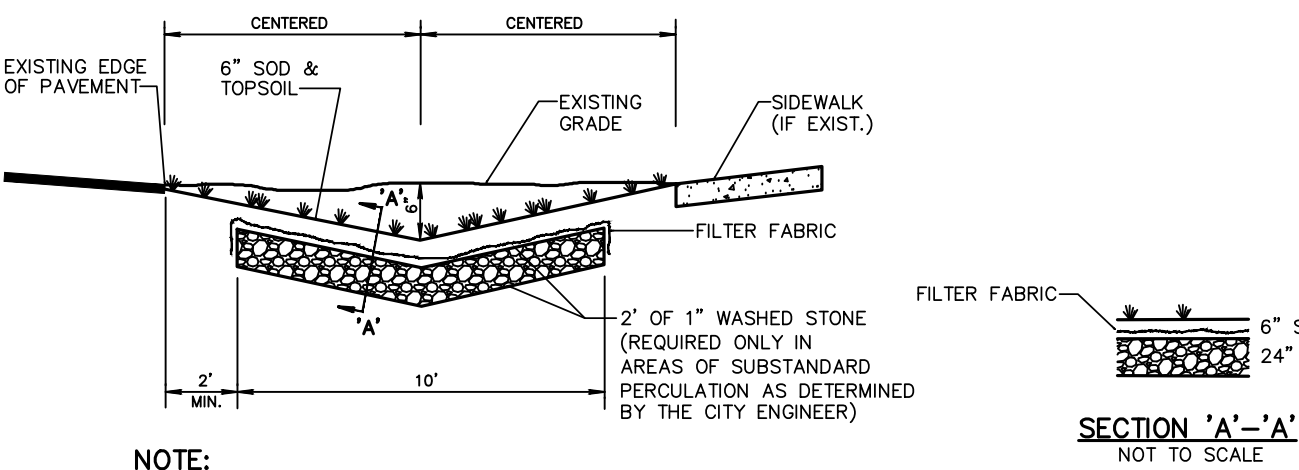
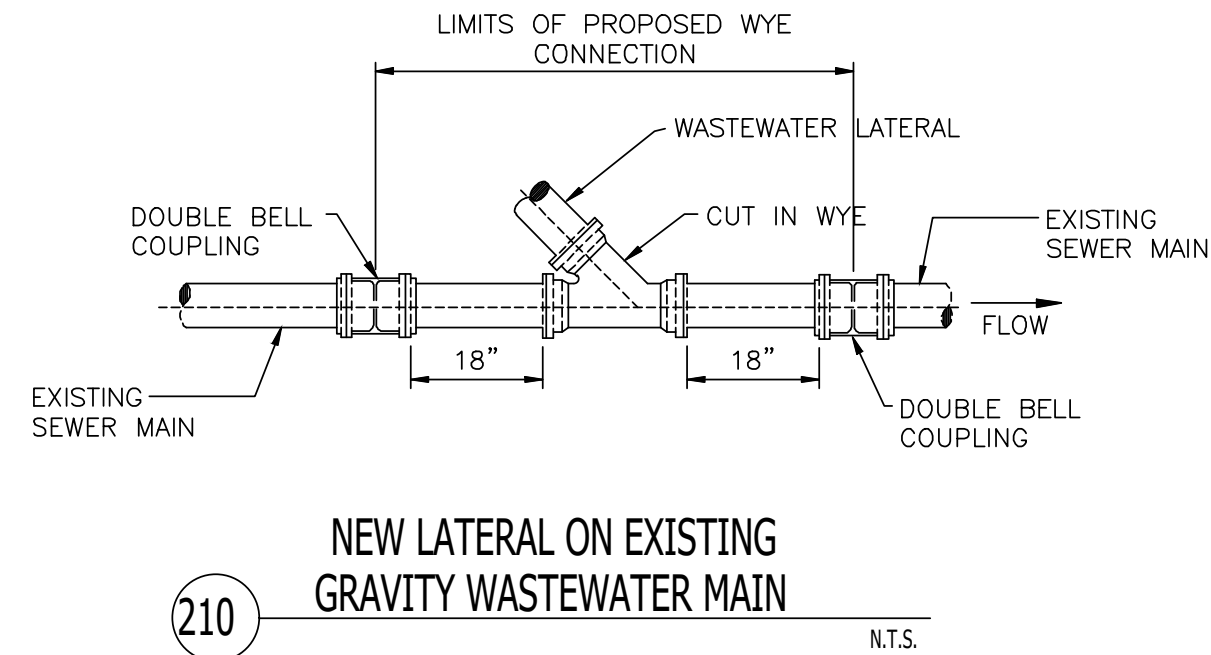
PROJECT
NUMBER

2

N.T.S.

20-2695

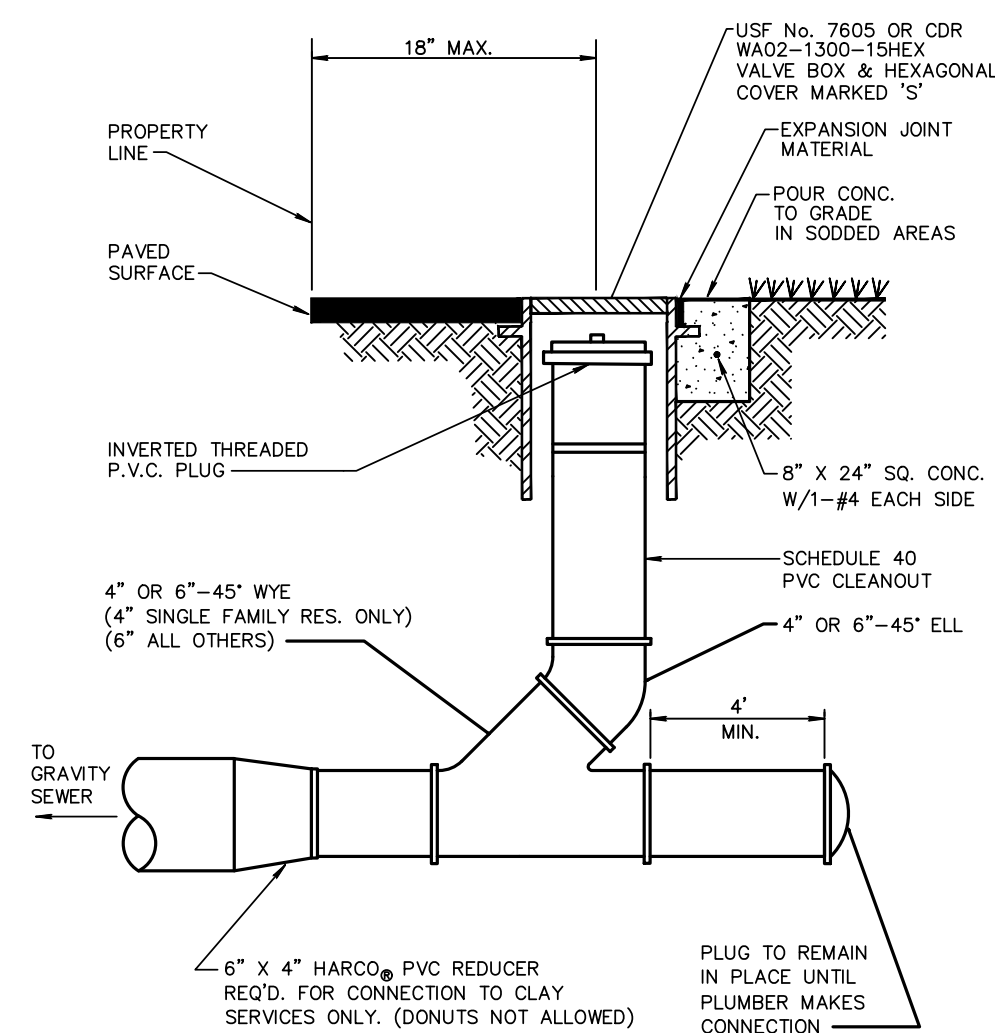
4



NOTE:

1. CONTRACTOR TO REPLACE ALL IRRIGATION, TREES & SHRUBBERY IN SWALES DAMAGED DURING CONSTRUCTION.

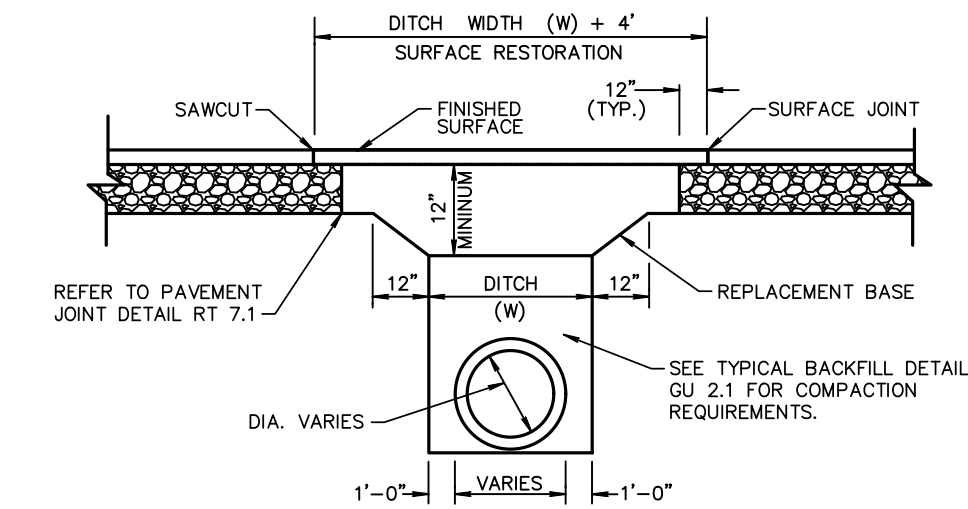
TYPICAL SWALE REPLACEMENT DETAIL D10.1



NOTE:

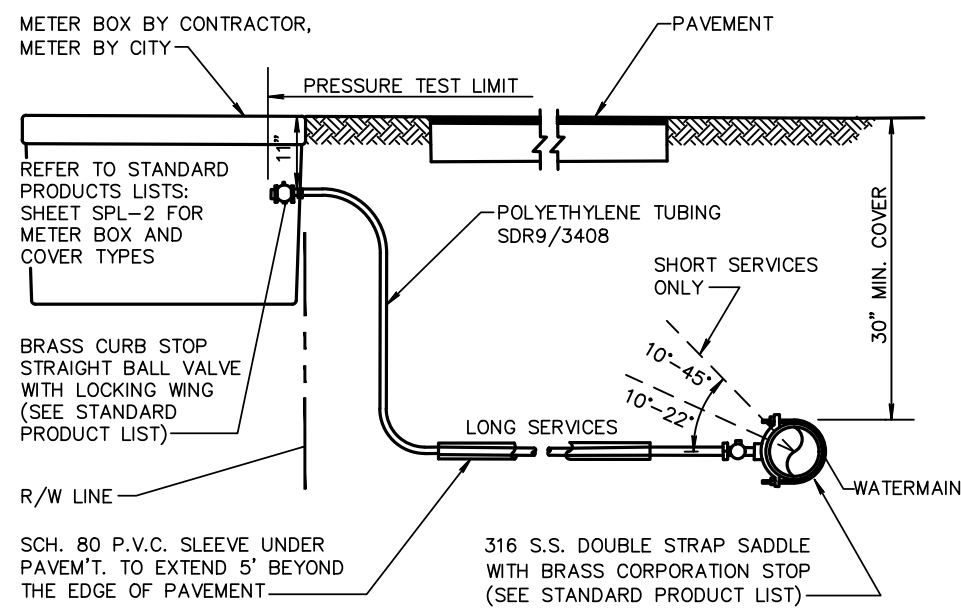
1. INVERTED BRASS CAP SHALL BE USED IN GRASS AREAS LUE OF CASTING AND CONE COLLAR.
2. MINIMUM DEPTH OF SERVICE LATERAL SHALL BE 3 FEET.

TYPICAL CLEANOUT DETAIL WW 5.1



1. REPLACEMENT BASE TO BE AT MIN. 12\"/>

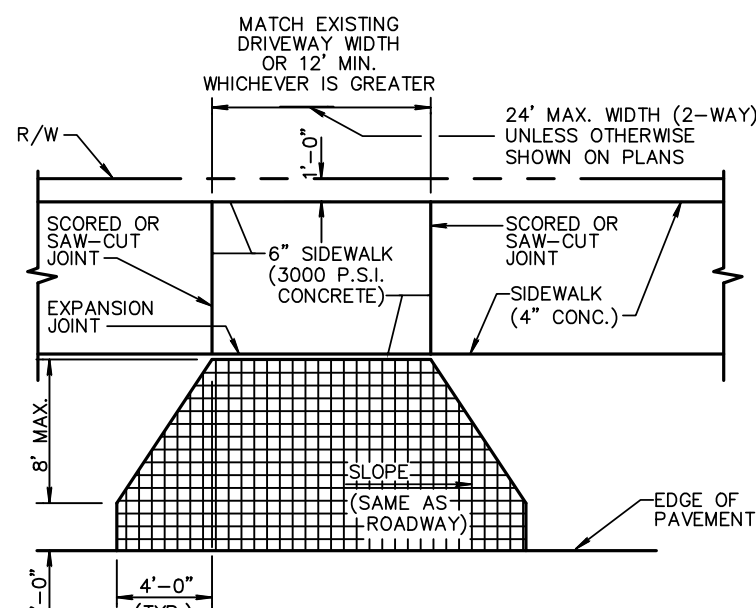
PAVEMENT REPAIR DETAIL GU 1.1



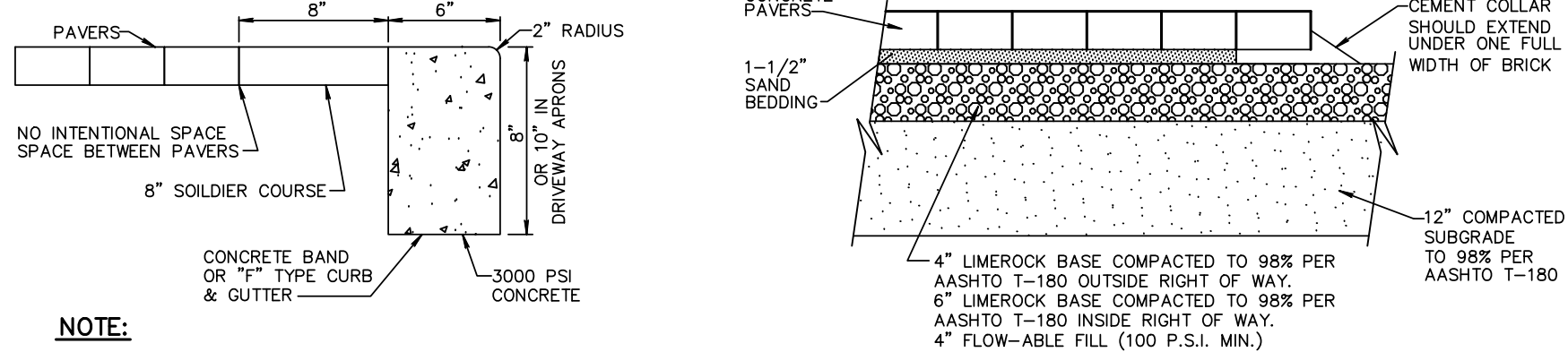
NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18\"/>

TYPICAL SERVICE CONNECTION PW 9.1a



NOTE: SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.

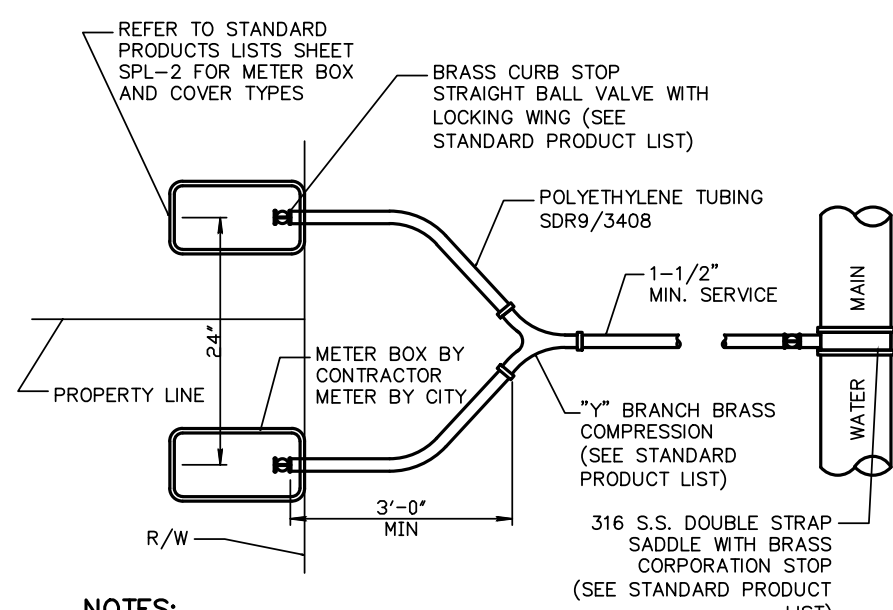


NOTE:

IF CITY APPROVES PAVERS TO BE USED IN LIEU OF CONC. SIDEWALK PAYER SHALL BE HOLLAND-STONE, 45\"/>

PAVER BRICK SECTION DETAIL RT 10.1a

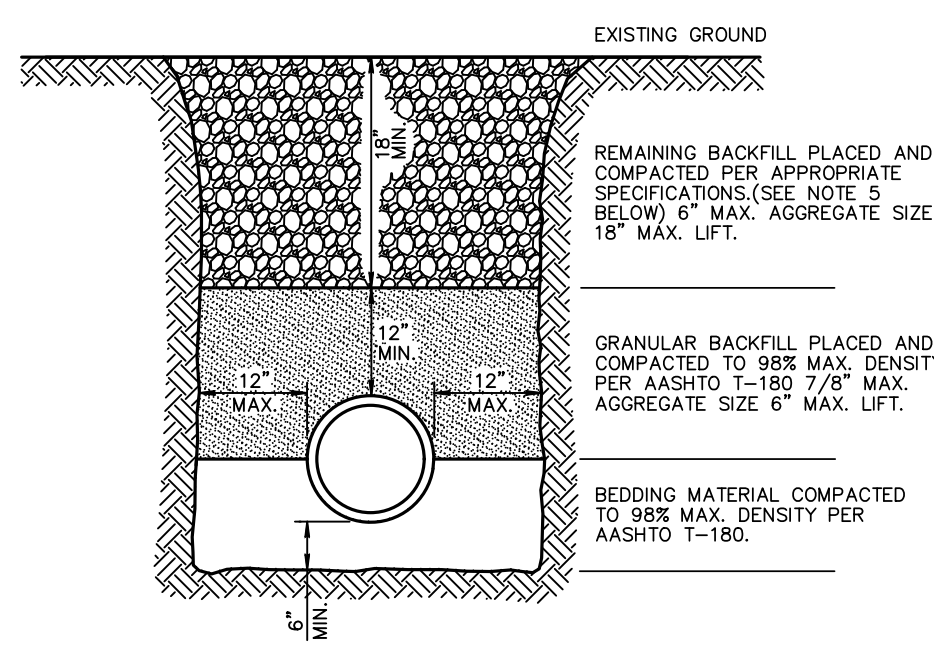
PAVER DRIVEWAY APRON TYPICAL DETAIL RT10.2 (SIDEWALK NOT APPLICABLE)



NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18\"/>

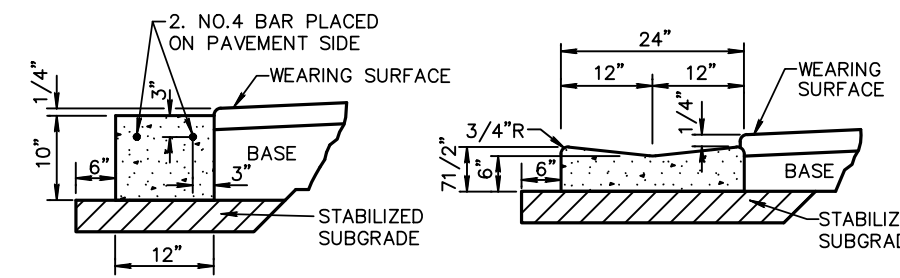
TYPICAL DOUBLE SERVICE CONNECTION PW 9.2



NOTES:

1. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGE ROCKS SHALL BE REMOVED; BEDDING MATERIAL AND BACKFILL CONSISTING OF WASHED AND GRADED LIMEROCK 3/8\"/>

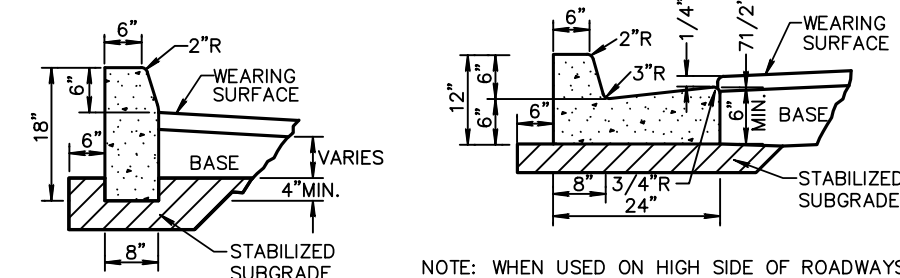
TYPICAL BACKFILL DETAIL GU 2.1



CONCRETE HEADER CURB NOT TO SCALE

VALLEY GUTTER NOT TO SCALE

NOTE: SAWCUTS REQUIRED AT 10' CENTERS.

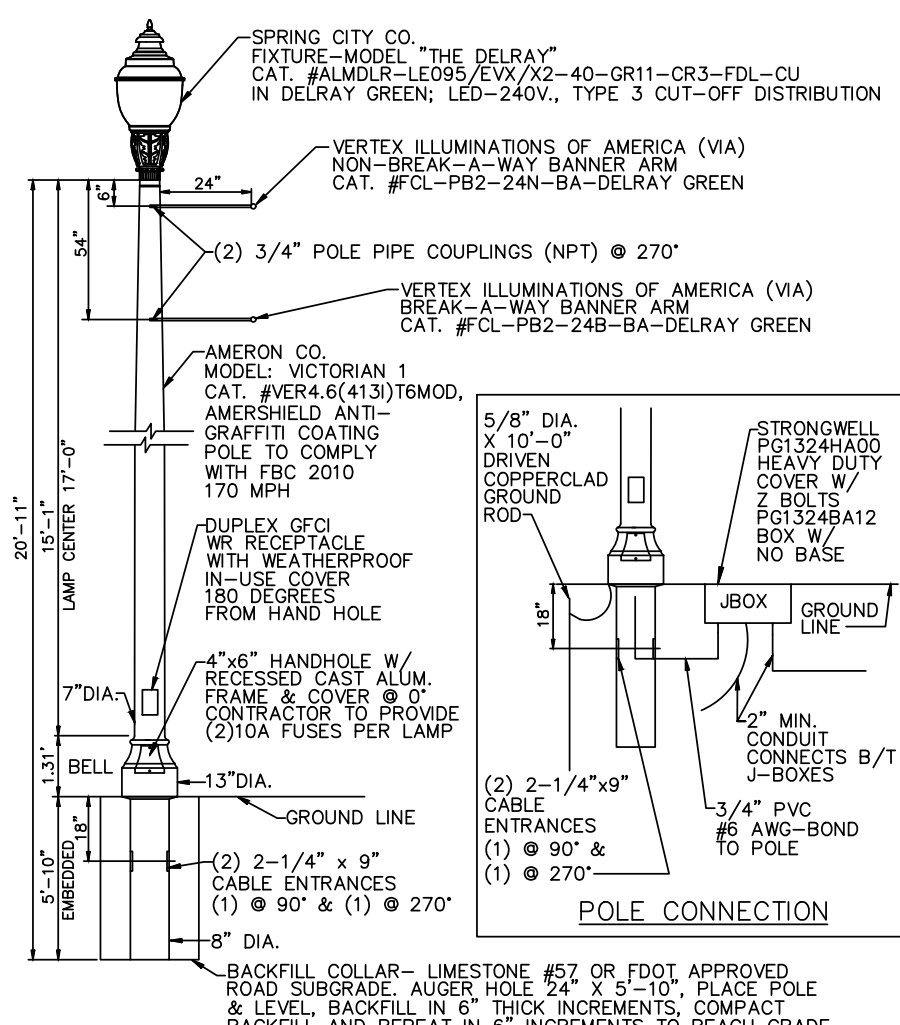


CONCRETE CURB NOT TO SCALE

CONCRETE CURB AND GUTTER NOT TO SCALE

1. ROADWAY SUBGRADE SHALL IN ALL CASES EXTEND BELOW CURBSING.
2. SAWCUTS AT 10' CENTERS SHALL BE MADE WITHIN 24 HOURS OF CONCRETE PLACEMENT.

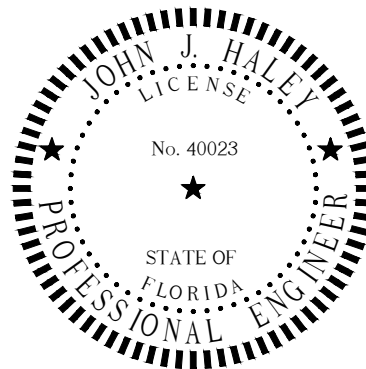
CURB AND GUTTER SECTIONS RT 6.1



NOTE:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
2. STREET LIGHT CIRCUITS SHALL BE WIRED AND METERED SEPARATELY FROM BUILDINGS

SINGLE HEAD POLE ASSEMBLY RT 11.1



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Designed <u>J.J.H.</u>					HALEY ENGINEERING, INC. CIVIL ENGINEERING SERVICES. 1680 SE 4th Street – Deerfield Beach, Fla. 33441 Phone: (954) 260-6194 Email: johnhaley@comcast.net F.B.P.E. Authorization No. 9463	6 TOWNHOMES 2621 FREDERICK BLVD. FREDERICK ISLES DELRAY BEACH, FLORIDA	PAVING AND DRAINAGE DETAILS	APPROVED: _____ DATE: _____	SCALE	PROJECT NUMBER	3 4	
Drawn <u>E.L.H.</u>												
Checked <u>J.J.H.</u>												
	NO.	DATE	REVISION	BY								

GENERAL NOTES

A. APPLICABLE CODES

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY, COUNTY AND STATE.
2. CONSTRUCTION SAFETY - ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.
3. THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH CHAPTER 90-96 OF THE LAWS OF FLORIDA (THE TRENCH SAFETY ACT) AND OSHA STANDARD 29 C.F.R. SECTION 1926.650 SUBPART P. THE CONTRACTOR SHALL SUBMIT WITH HIS CONTRACT A COMPLETED, SIGNED, AND NOTARIZED COPY OF THE TRENCH SAFETY ACT COMPLIANCE STATEMENT. THE CONTRACTOR SHALL ALSO SUBMIT A SEPARATE COST ITEM IDENTIFYING THE COST OF COMPLIANCE WITH THE APPLICABLE TRENCH SAFETY CODES.
4. NO CONSTRUCTION MAY COMMENCE UNTIL THE APPROPRIATE PERMITS HAVE BEEN OBTAINED FROM ALL LOCAL, STATE AND FEDERAL AGENCIES.

B. PRE CONSTRUCTION RESPONSIBILITIES

1. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRE CONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, ALL AFFECTED UTILITY OWNERS, THE OWNER, THE ENGINEER AND HIMSELF.
2. THE CONTRACTOR SHALL OBTAIN AN SUNSHINE STATE ONE CALL OF FLORIDA CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
3. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
5. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

C. INSPECTIONS

1. THE OWNER, ENGINEER, AND LOCAL PERMITTING AGENCIES MAY MAKE INSPECTIONS OF THE WORK AT ANY TIME. THE CONTRACTOR SHALL COOPERATE FULLY WITH ALL INSPECTIONS.

D. SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT (5) FIVE SETS OF SHOP DRAWINGS FOR APPROVAL TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION FOR ALL MATERIALS USED ON THE PROJECT. APPROVED SHOP DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE COUNTY OR CITY FOR THEIR APPROVAL. NO CONSTRUCTION SHALL COMMENCE UNTIL THE APPROVED SHOP DRAWINGS HAVE BEEN OBTAINED BY THE CONTRACTOR FROM THE ENGINEER, CITY, AND/OR COUNTY.
2. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOG LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.

E. TEMPORARY FACILITIES

1. TEMPORARY UTILITIES - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.
2. TRAFFIC REGULATION - MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MUTCD AND THE FOOT STANDARD SPECIFICATIONS.
3. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC. NO HOLES SHALL BE LEFT OPEN OVERNIGHT.

F. PROJECT SITE

1. DURING CONSTRUCTION THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A CLEAN AND NEAT MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEEP BROOM CLEAN.
2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, EMPLOYEES OR THOSE OF HIS SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED ALL NECESSARY HIGHWAY OR DRIVEWAY, WALK, AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
3. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.

G. PROJECT RECORD DOCUMENTS

1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF WORK ITEMS COMPLETED, INFORMATION RELATIVE TO MANHOLES, VALVES, SERVICES, FITTINGS, LENGTH OF PIPE, INVERT ELEVATIONS, FINISHED GRADE ELEVATIONS AND THE LIKE, SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR. TOP ELEVATIONS @ 100' O.C.
2. PRIOR TO THE PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES, ALL DRAINAGE, WATER, AND SEWER IMPROVEMENTS, PAVING OPERATIONS, SHALL NOT COMMENCE UNTIL THE ENGINEER HAS REVIEWED THE "AS-BUILTS" AND THE ENGINEER HAS APPROVED PAVING TO COMMENCE.
3. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PLACING LIMEROCK BASE MATERIAL.
4. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK SHALL BE PROVIDED TO THE ENGINEER PRIOR TO PLACING ASPHALT.
5. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER AND ANY APPLICABLE REVIEWING AGENCY THAT THE INFORMATION PROVIDES A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
6. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD FIVE COMPLETE SETS OF "AS-BUILT" CONSTRUCTION DRAWINGS (PRINTS) AND ONE MYLAR ORIGINAL. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED BY THE CONTRACTOR.
7. ALL "AS-BUILT" INFORMATION ON ELEVATIONS OF PAVING, DRAINAGE, WATER, AND SEWER SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.

8. IT IS THE INTENT THAT THE FLORIDA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" DATED 1991 TOGETHER WITH "SUPPLEMENTAL SPECIFICATIONS TO THE 1991 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" DATED 1991 BE USED WHERE APPLICABLE FOR THE VARIOUS WORK, AND THAT WHERE SUCH WORDING THEREIN REFERS TO THE STATE OF FLORIDA AND ITS DEPARTMENT OF TRANSPORTATION AND PERSONNEL, SUCH WORDING IS INTENDED TO BE REPLACED WITH THE WORDING WHICH WOULD PROVIDE PROPER TERMINOLOGY, THEREBY MAKING SUCH "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AS THE "STANDARD SPECIFICATIONS" FOR THIS PROJECT. IF WITHIN A PARTICULAR SECTION, ANOTHER SECTION, ARTICLE OR PARAGRAPH IS REFERRED TO, IT SHALL BE PART OF THE STANDARD SPECIFICATIONS ALSO. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL AND STATE LAWS, REGULATIONS AND BUILDING CODES WHICH HAVE JURISDICTION IN THE AREA.

H. EARTHWORK AND COMPACTION

a. GENERAL

1. NONE OF THE EXISTING MATERIAL IS TO BE INCORPORATED IN THE LIMEROCK BASE.
2. ALL SUBGRADE UNDER PAVED AREAS SHALL HAVE A MINIMUM LBR VALUE OF 40 AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
3. ALL FILL MATERIAL IN AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
4. A 2" BLANKET OF TOP SOIL SHALL BE PLACED OVER ALL AREAS TO BE SOODED.
5. SOD SHALL BE ST. AUGUSTINE, BITTER BLUE OR FLORATAM AND SHALL BE PLACED ON THE GRADED TOP SOIL AND WATERED TO INSURE SATISFACTORY CONDITION UPON FINAL ACCEPTANCE OF THE PROJECT.
6. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS OR LAKES, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED.

b. ON-SITE:

1. ALL ORGANIC AND OTHER UNSUITABLE MATERIAL WITHIN THREE FEET OF AREAS TO BE PAVED SHALL BE REMOVED.
2. SUITABLE BACKFILL SHALL BE MINIMUM LBR 40 MATERIAL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 FOR THREE (3) FEET BEYOND THE PERIMETER OF THE PAVING.

Z. PAVER BLOCK

a. GENERAL:

1. WHEN APPLICABLE, ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF LIMEROCK BASE AND PRIOR TO PLACEMENT OF THE PAVEMENT.
2. ALL EXISTING CONCRETE, LANDSCAPING, IRRIGATION, CABLE CUT OR DAMAGED BY CONSTRUCTION SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
3. PAVING STONES SHALL BE DELIVERED AND UNLOADED AT JOB SITE IN SUCH A MANNER THAT NO DAMAGE OCCURS DURING SHIPPING, HANDLING AND STORAGE.
4. PAVEMENT RADI SHALL BE CONSTRUCTED AS NOTED ON THE PLANS

5. UPON COMPLETION OF DRAINAGE IMPROVEMENTS AND LIMEROCK BASE CONSTRUCTION (AND BEFORE PLACING PAVERS), THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD AND THE CITY OF DELRAY BEACH "AS-BUILT" PLANS FOR THESE IMPROVEMENTS, SHOWING THE LOCATIONS AND THE PERTINENT GRADES OF ALL DRAINAGE INSTALLATIONS AND THE FINISHED ROCK GRADES OF THE ROAD CROWN AND EDGE OF PAVEMENT AT 25 FEET INTERVALS. THESE "AS-BUILTS" SHALL BE APPROVED BY THE CITY PRIOR TO THE PLACEMENT OF FINAL PAVERS.

b. MATERIALS:

1. BASE COURSE SHALL BE CRUSHED LIMEROCK MIAMI OOLITE WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM (60% FOR LOCAL STREETS AND PARKING AREAS) AND A MINIMUM LIMEROCK BEARING RATIO 100.
2. ALL SOLID CONCRETE PAVING UNITS MUST COMPLY WITH ASTM DESIGNATION C936-82 WITH A MINIMUM COMPRESSIVE STRENGTH OF 8,000 P.S.I.
3. PAVER THICKNESS SHALL BE BETWEEN 2-3/8" TO 3-1/8".
4. REINFORCED CONCRETE SLABS SHALL BE CONSTRUCTED OF CLASS I CONCRETE WITH A MINIMUM STRENGTH OF 4,000 PSI AND SHALL BE REINFORCED WITH #3 REBAR @ 10" O.C.E.W. ALL OTHER CONCRETE SHALL HAVE A MINIMUM STRENGTH 4.

c. INSTALLATION:

1. LIMEROCK BASE MATERIAL SHALL BE 6 INCHES THICK AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180-C.
2. LIMEROCK BASE MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. BASES GREATER THAN 6" SHALL BE PLACED IN TWO OR MORE EQUAL LIFTS.
3. THE PAVER BEDDING COURSE SHALL BE A WELL GRADED, CLEAN, WASHED SAND WITH 100% PASSING A 3/8" SIEVE SIZE AND A MAXIMUM OF 3% PASSING A No.200 SIEVE SIZE. THE USE OF MASON SAND IS NOT PERMITTED.
4. ALL EDGES OF THE INSTALLED PAVING STONES SHALL BE RESTRAINED, THE TYPE OF EDGE RESTRAINT SHALL BE APPROVED AT LOCATIONS AND TO DETAILS NOTED ON PLANS.

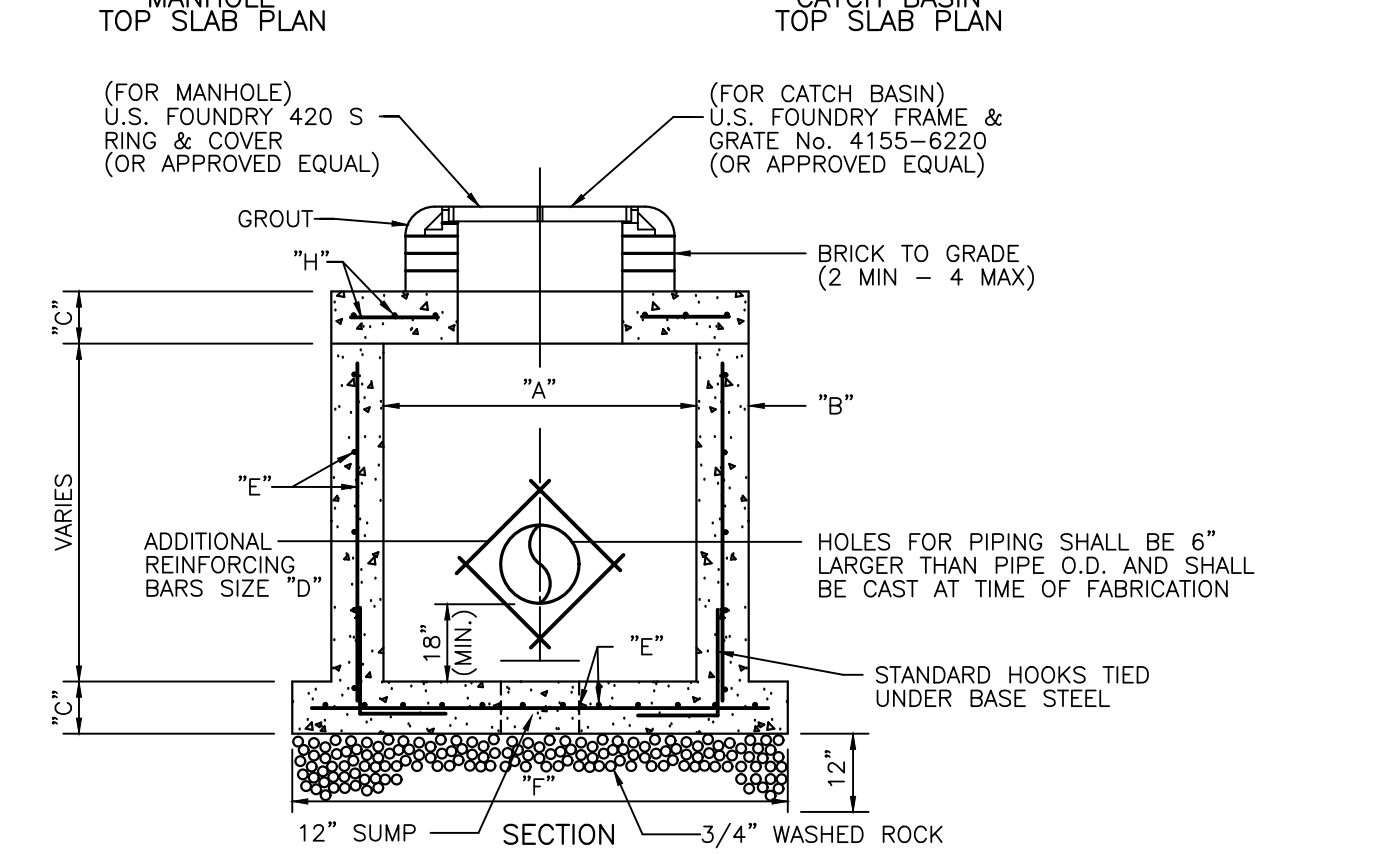
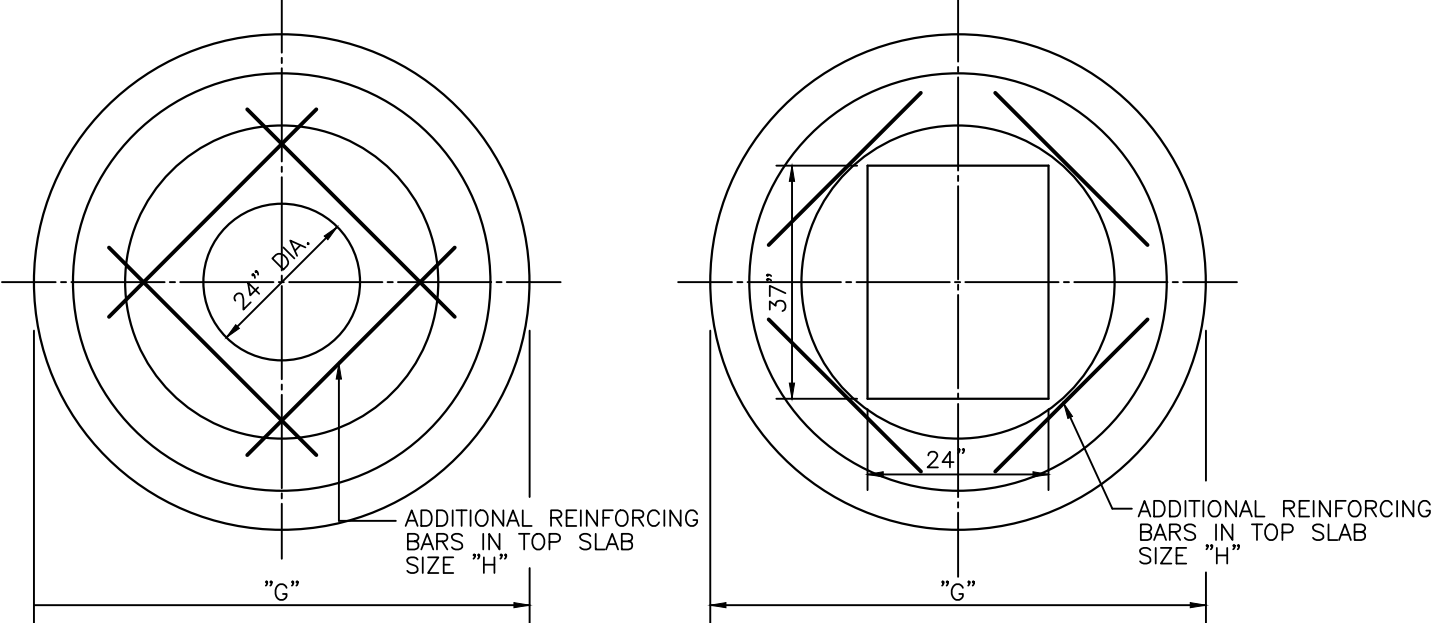
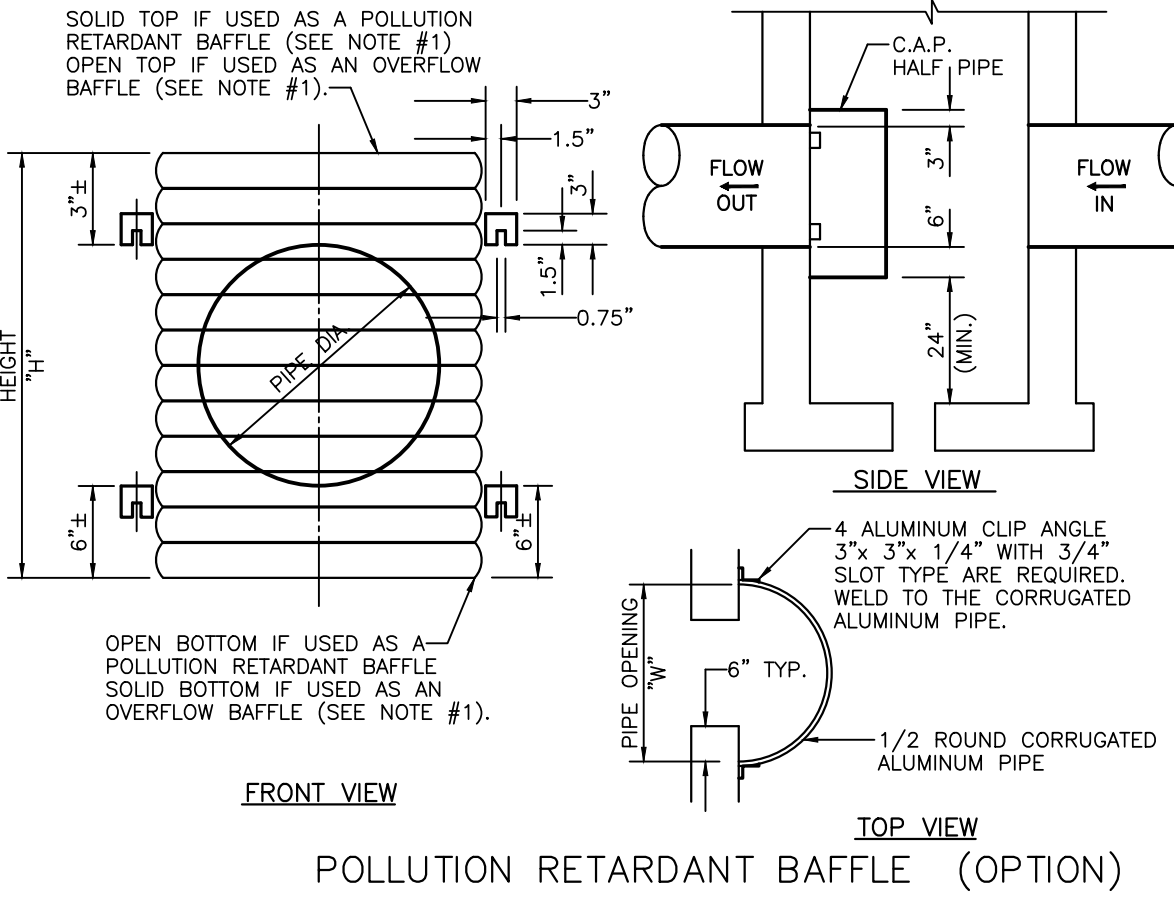
d. TESTING:

ALL SUBGRADE, AND LIMEROCK TESTS REQUIRED SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER AND/OR THE CITY OF DELRAY BEACH.

1. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE PAVER SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.
2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY, CERTIFIED BY THE STATE OF FLORIDA, AND TAKEN AS DIRECTED BY THE ENGINEER AND THE CITY OF DELRAY BEACH.
3. ALL TESTING COSTS SHALL BE PAID FOR BY THE OWNER EXCEPT THOSE TESTS FAILING TO MEET THE SPECIFIED REQUIREMENTS, WHICH ARE TO BE PAID BY THE CONTRACTOR.

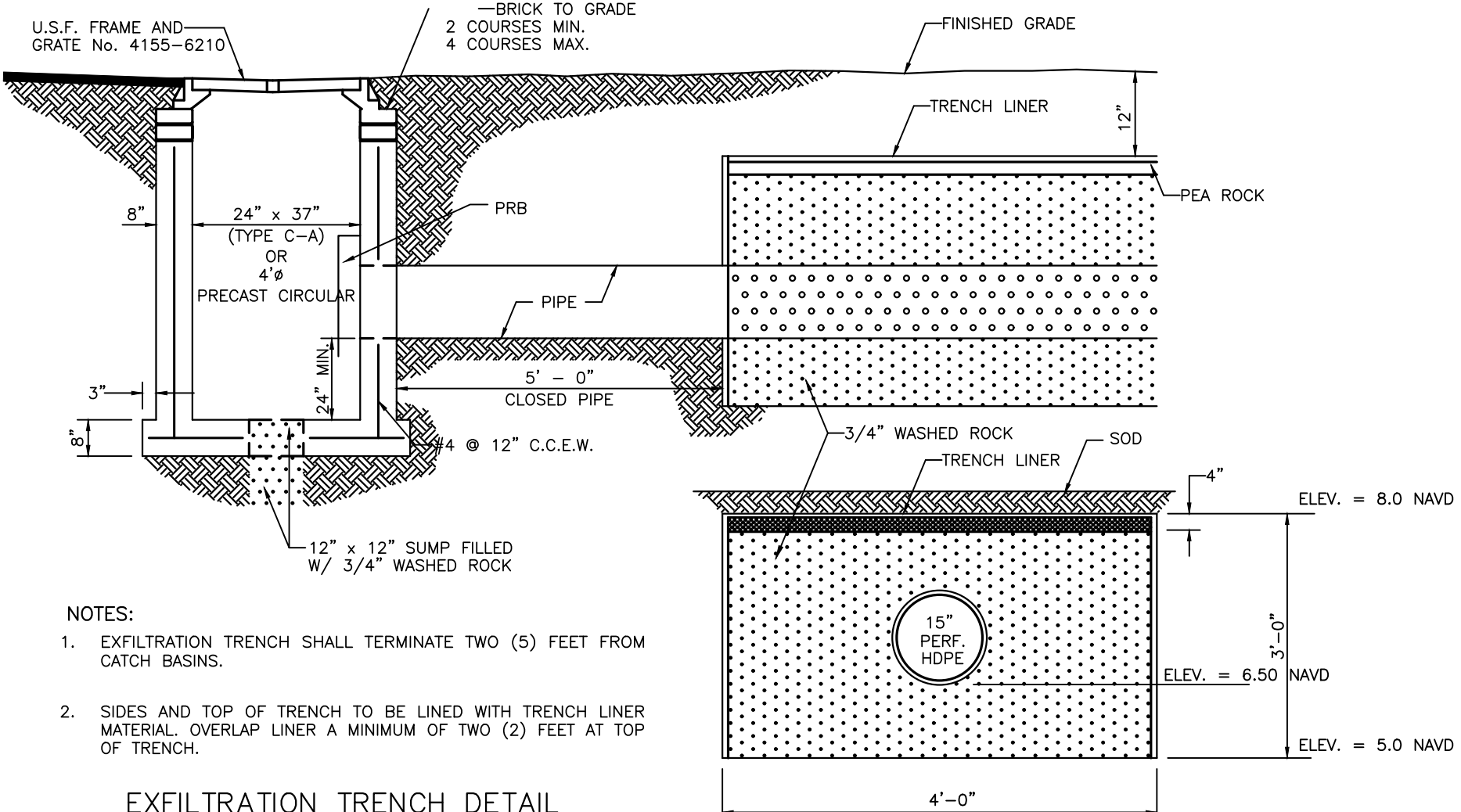
NOTES:

1. SIDEWALK SHALL BE CONCRETE, CONFORM TO CITY CONSTRUCTION STANDARDS AND RUN CONTINUOUSLY THROUGH DECORATIVE DRIVEWAYS. A DETERMINATION ON IF A NEW SIDEWALK IS REQUIRED WILL BE MADE AT THE TIME OF PERMIT REVIEW.
2. ALL PAVER BLOCK MATERIALS SHALL HAVE ADEQUATE COMPRESSIVE STRENGTH, WATER ABSORPTION RATE, SKID RESISTANCE AND BE FREE OF CRACKS, SHIPS, NA Voids. CONCRETE PAVERS SHALL CONFORM TO ASTM C-936. CLAY PAVERS SHALL BE HARD BURNED AND SHALL CONFORM TO ASTM C-902. THE MINIMUM PAVER THICKNESS SHALL BE 5 1/2 INCHES. DEVIATIONS FROM THESE STANDARDS MAY BE APPROVED BY THE CITY ENGINEER IF SUFFICIENT EVIDENCE IS PROVIDED TO DEMONSTRATE THAT PUBLIC SAFETY AND THE INTEGRITY OF THE RIGHT-OF-WAY WOULD NOT BE COMPROMISED.
3. BEDDING SAND SHALL BE GRANULAR AND FINELY GRADED, TO THE SATISFACTION OF THE CITY INSPECTOR. LIMEROCK BASE SHALL BE BROUGHT UP TO GRADE BEFORE BEDDING SAND IS INSTALLED. BEDDING SAND SHALL NOT BE USED TO COMPENSATE FOR AN UNLEVEL LIMEROCK BASE. PAVER GRADES SHALL BE SLOPED 2% FOR DRAINAGE.
4. PAVER JOINTS SHALL BE 1/2" WIDE, WITH A 1/4" TOLERANCE. ALL JOINTS SHALL BE SWEEP WITH DRY SAND UP TO THE PAVER SURFACE AND COMPACTED WITH A VIBRATORY PLATE COMPACTOR. IF NEEDED, THIS PROCESS SHALL BE REPEATED TO ATTAIN DESIRED COMPACTION. PAVERS SHALL BE PROTECTED FROM CHIPPING AND OTHER DAMAGE DURING THE COMPACTION PROCESS.
5. ALL MATERIALS, WORKMANSHIP AND RESTORATION OF FEATURES IN THE RIGHT-OF-WAY SHALL BE TO THE SATISFACTION OF THE CITY INSPECTOR. MATERIAL CERTIFICATIONS, SAMPLES, SHOP DRAWINGS AND DENSITY TESTS MAY BE REQUIRED BY THE CITY INSPECTOR FOR VERIFICATION.



TYPE	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
C-4/M-4	4'-0" Ø	8"	8"	#4 @ 12" C.C.E.W.	#4 @ 12" C.C.E.W.	6'-4" Ø	5'-4" Ø	#4 @ 6" C.C.E.W.
C-5/M-5	5'-0" Ø	8"	8"	#5 @ 12" C.C.E.W.	#5 @ 12" C.C.E.W.	7'-4" Ø	6'-4" Ø	#5 @ 8" C.C.E.W.
C-6/M-6	6'-0" Ø	8"	8"	#5 @ 6" C.C.E.W.	#5 @ 6" C.C.E.W.	8'-4" Ø	7'-4" Ø	#5 @ 6" C.C.E.W.

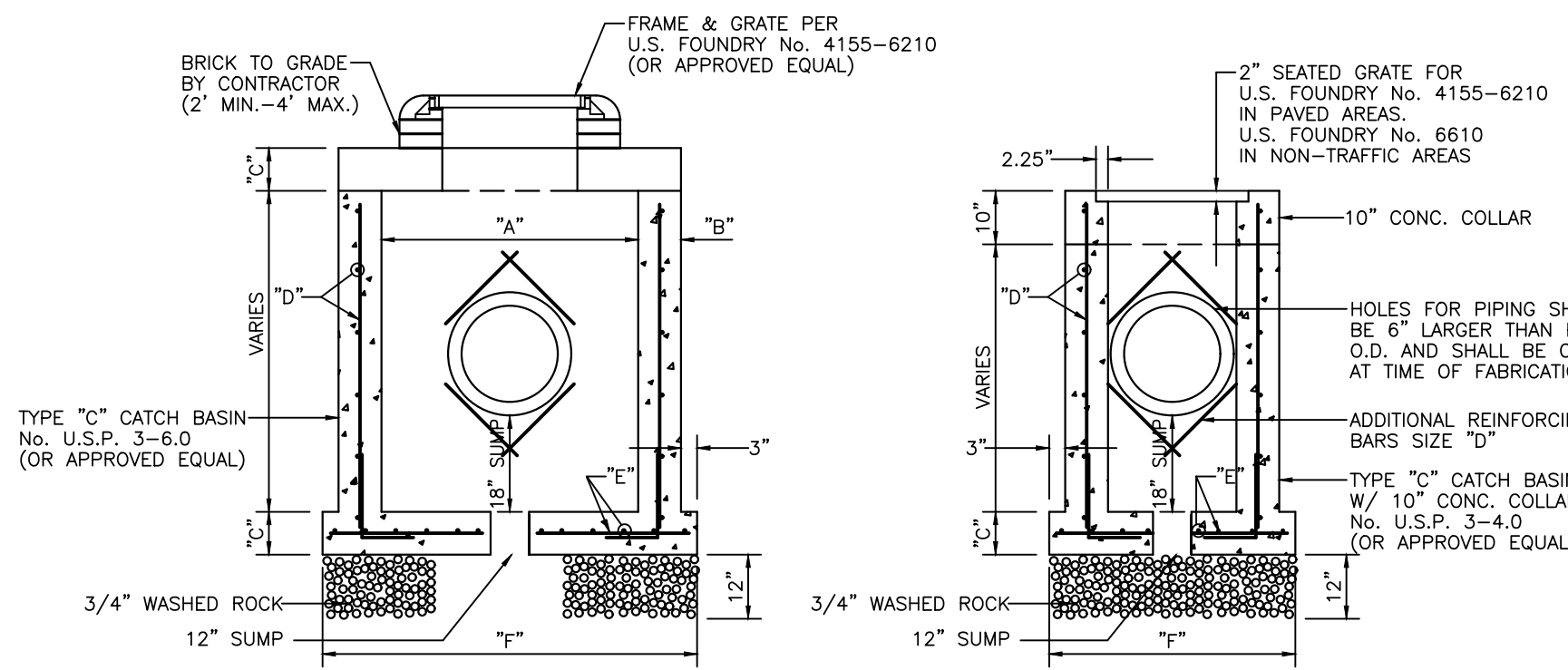
PRECAST CATCH BASIN AND MANHOLE



PIPE DIA. (INCHES)	W (INCHES)	T (GAUGE)	H (INCHES)
18"	30"	16	27"
24"	36"	16	33"
30"	42"	14	39"
36"	48"	14	45"
42"	54"	14	51"
48"	60"	14	57"
54"	66"	14	63"

NOTES:

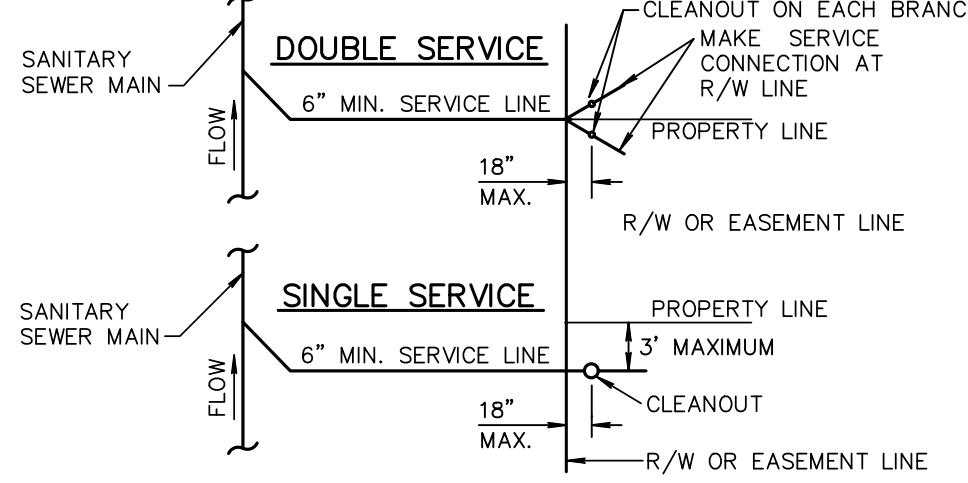
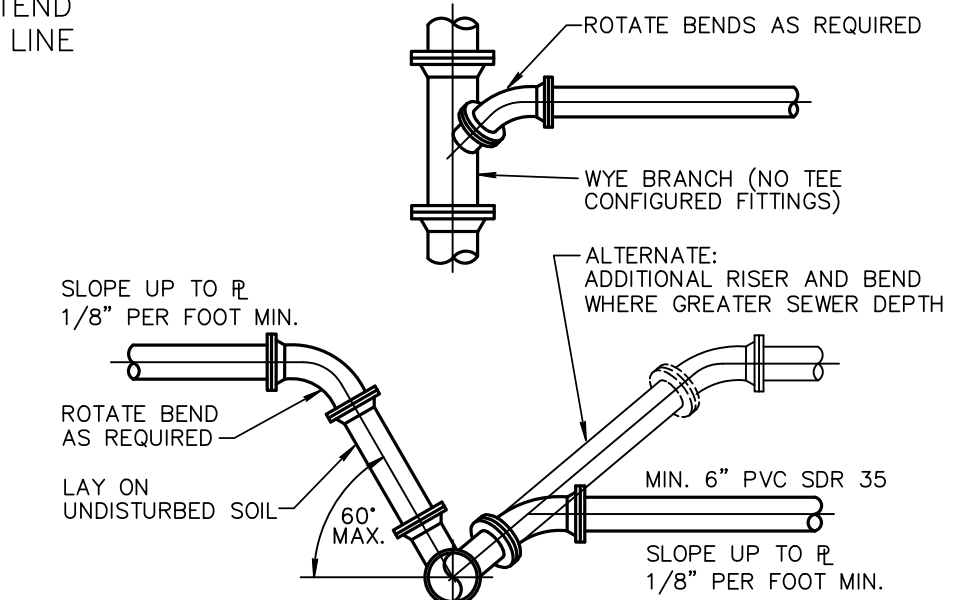
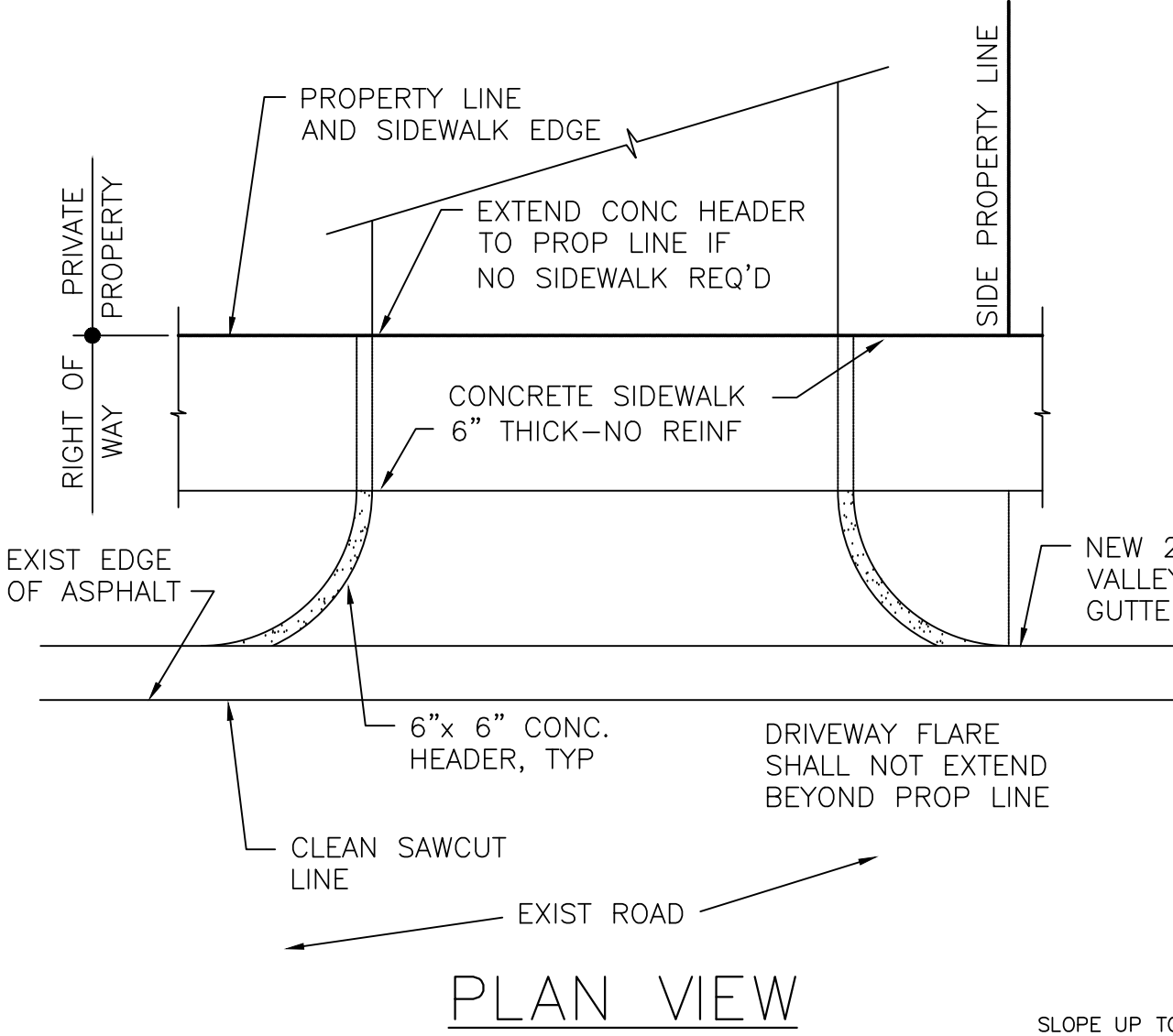
1. ALUMINUM SHEET OF SAME THICKNESS (GAGE) AS PIPE SHALL BE WELDED TO CLOSE OPENING.
2. BAFFLE SHALL BE AS MANUFACTURED BY SOUTHERN CULVERT OR ENGINEER'S APPROVED EQUAL.
3. NEOPRENE GASKET (3/8" x 2") SHALL BE INSTALLED AT ALL BAFFLES.
4. POLLUTION RETARDANT BAFFLE TO BE ATTACHED TO STRUCTURE W/ 3/8" x 2" STAINLESS STEEL BOLTS.
5. MINIMUM ELEVATION ON POLLUTION RETARDANT BAFFLE TO BE 2' BELOW CONTROL ELEVATION.



TYPE	"A"	"B"	"C"	"D"	"E"	"F"
INLET	24" x 37"	8"	8"	#4 @ 12" C.C.E.W.	#4 @ 12" C.C.E.W.	46" x 59"
INLET*	42" x 48"	6"	8"	#4 @ 12" C.C.E.W.	#4 @ 9" C.C.E.W.	60" x 66"

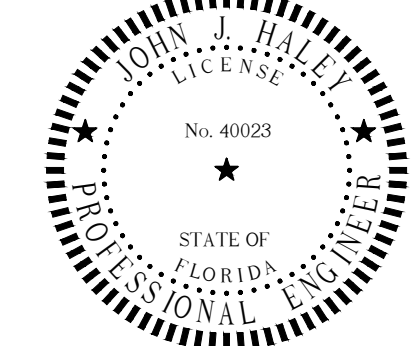
PRECAST INLET TYPE "C" (OPTION)

*USE U.S. FOUNDRY GRATE No. 6626 FOR F.D.O.T. INLET (OR APPROVED EQUAL)



- NOTE:
1. SERVICE LATERALS SHALL TERMINATE INSIDE PLAT AT A DEPTH OF 3 FEET, AND MARKED WITH A 2" X 4" TREATED STAKE.
 2. CLEANOUT INSTALLATION SHALL BE PROPERTY OWNERS RESPONSIBILITY AND SHALL BE INSTALLED BY LICENSED PLUMBER.
 3. SEE DETAIL PW 2.1 FOR SEPARATION REQUIREMENTS.

SEWER SERVICE CONNECTIONS DETAIL WW 4.1



This item has been digitally signed and sealed by John J. Haley, P.E. on 08-20-2020 using a SHA authentication code.

Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.

Designed	J.J.H.				
Drawn	E.L.H.				
Checked	J.J.H.				
NO.	DATE	REVISION	BY		

HALEY ENGINEERING, INC.
CIVIL ENGINEERING SERVICES.
1680 SE 4th Street - Deerfield Beach, Fla. 33441
Phone: (954) 260-6194
Email: johnjhaley@comcast.net
F.B.P.E. Authorization No. 9463

6 TOWNHOMES
2621 FREDERICK BLVD.
FREDERICK ISLES
DELRAY BEACH, FLORIDA

NOTES, SPECIFICATIONS
AND DETAILS

APPROVED: _____
DATE: _____
JOHN J. HALEY, P.E.
REGISTERED ENGINEER NO. 40023
STATE OF FLORIDA

SCALE	PROJECT NUMBER	4
N.T.S.	20-2695	4