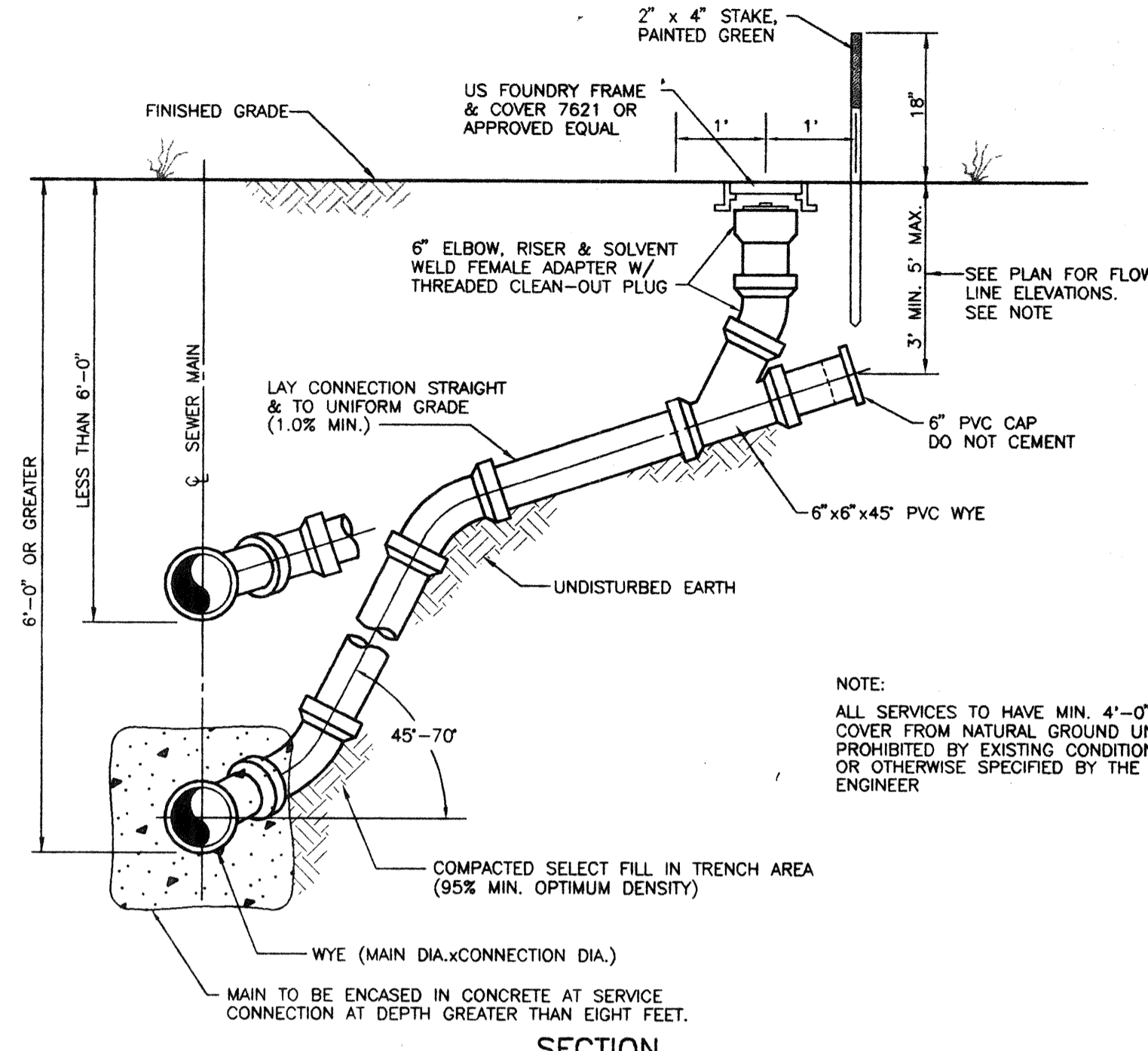
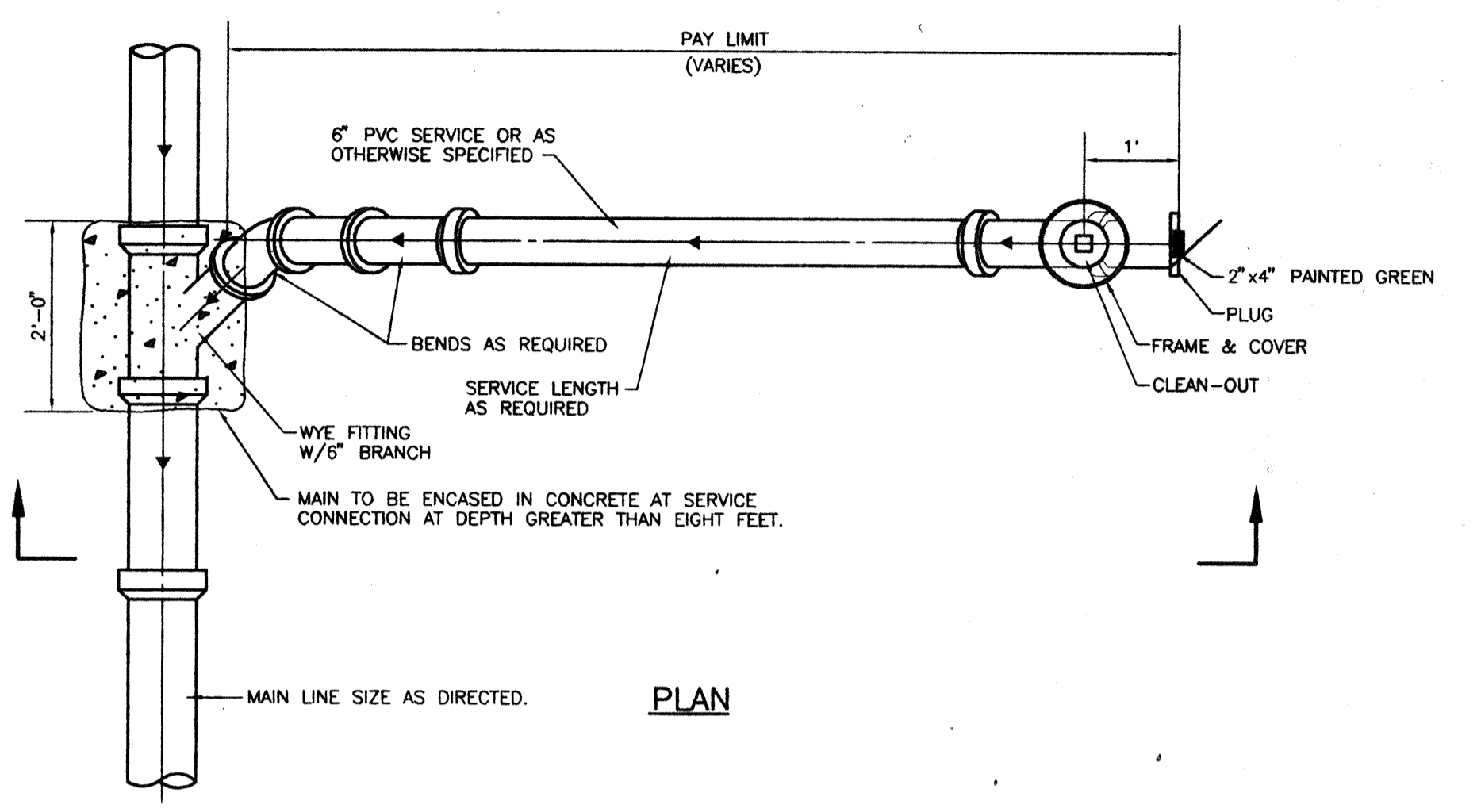


- GENERAL NOTE:**
PRIOR TO ORDERING MATERIAL, PROVIDE SHOP DRAWINGS AND HYDRAULIC CALCULATIONS FROM ARCHITECT TO ENGINEER TO OBTAIN VERIFICATION ON EQUIPMENT SIZES BASED ON FINAL SERVICE FLOW AND PRESSURE REQUIREMENTS.
- NO ALTERNATE EQUIPMENT, MATERIAL OR ARRANGEMENT SHALL BE USED UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER.
- NOTE:**
ALL CONCRETE TO BE 3000 P.S.I. @ 28 DAYS.
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH TOWN OF LONGBOAT KEY CODE REQUIREMENTS.
BACKFLOW ASSEMBLY TO BE RESTRAINED BELOW GRADE BY MEGALUGS OR EQUAL AS APPROVED BY THE ENGINEER.
ALL PIPE & FITTING ABOVE GROUND TO BE RIGID, NO PVC ABOVE GROUND.
ALL COPPER SHALL BE "L" OR "K"
- ① 2" PVC (DR 18) OR DIP (CLASS 51).
 - ② 2" DIP PLUG W/ RESTRAINT
 - ③ 2" x 90° BEND
 - ④ 2" GATE VALVE OR BALL VALVE
 - ⑤ 2" HARD COPPER (MIN. LENGTH 5 DIAM.)
 - ⑥ 2" WATER METER (PROVIDED BY UTILITY VERIFY SPACE REQUIREMENTS PRIOR TO ASSEMBLY INSTALLATION)
 - ⑦ 2" HARD COPPER (MIN. LENGTH 2 DIAM.)
 - ⑧ SLEEVE AROUND PIPE TO PROTECT IT FROM CONCRETE
 - ⑨ 2" GATE VALVE OR BALL VALVE, PART OF ④
 - ⑩ APPROVED DOUBLE CHECK BACKFLOW PREVENTER (FEBCO 805Y)
 - ⑪ 3' WIDE x 4' THICK REINFORCED CONCRETE SLAB, 3000 P.S.I. @ 28 DAYS
 - ⑫ 12" MIN. - 18" MAX. CLEARANCE (D.C.)

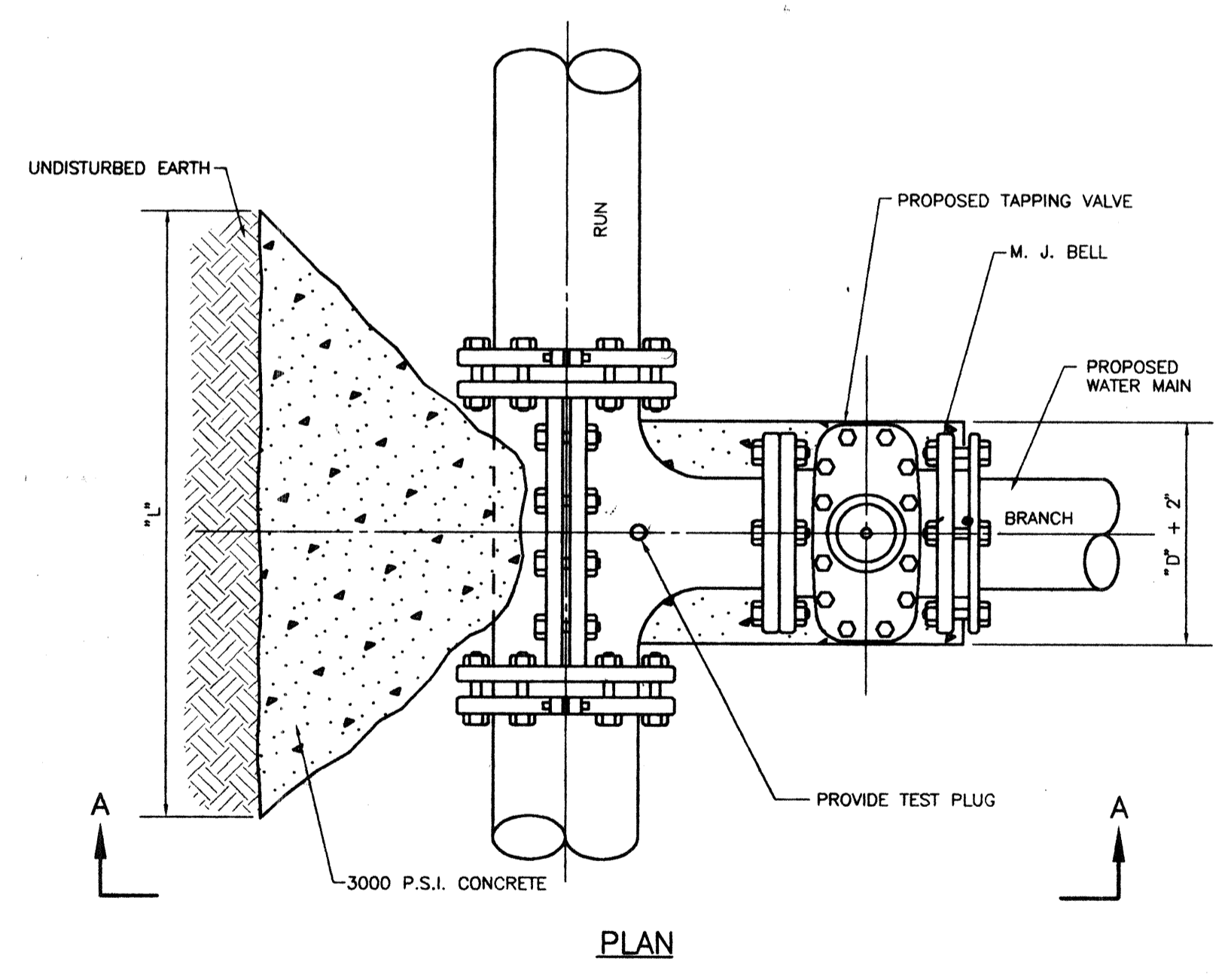
2" DOMESTIC DOUBLE CHECK BACKFLOW PREVENTER
S-W022 N.T.S.



NOTE:
ALL SERVICES TO HAVE MIN. 4'-0" COVER FROM NATURAL GROUND UNLESS PROHIBITED BY EXISTING CONDITIONS OR OTHERWISE SPECIFIED BY THE ENGINEER

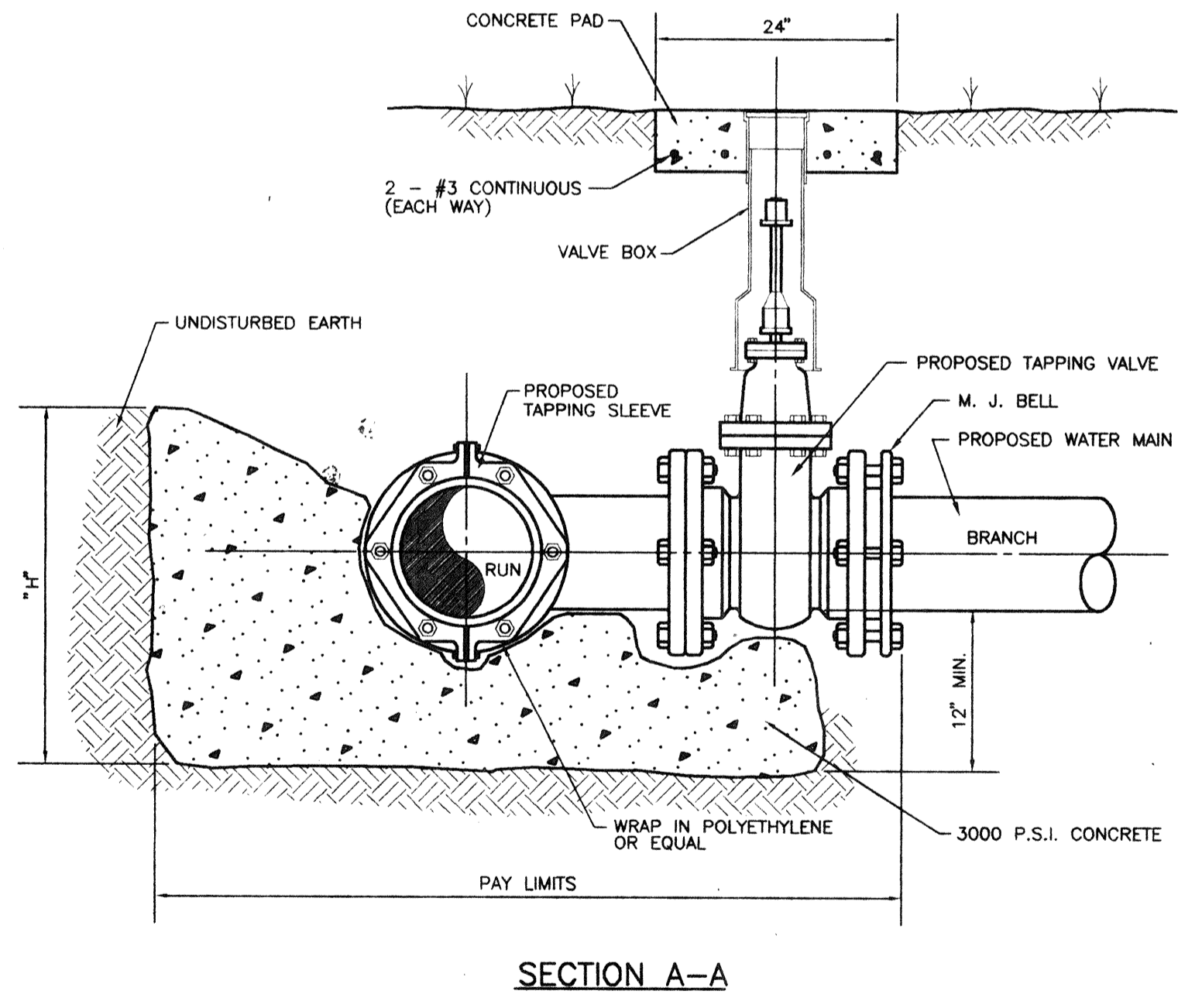


TYPICAL SINGLE SERVICE CONNECTION ASSEMBLY
N.T.S.



- NOTES:**
- TAPPING SLEEVE SHALL BE ALL STAINLESS STEEL.
 - NO CUT SHALL BE MADE BEFORE:
 - (A) A TEST OF 150 P.S.I. FOR 2 HOURS IS MADE AND,
 - (B) THE CONCRETE BLOCK HAS CURED FOR 48 HOURS.
 - TAPPING VALVE RESILIENT SEAT - AWWA APPROVED

TAPPING SLEEVE & VALVE BLOCKING DETAIL
S-W013 N.T.S.



RUN	BRANCH											
	4"		6"		8"		10"		1 1/4"		1 1/2"	
	L	H	L	H	L	H	L	H	L	H	L	H
4"	15	20										
6"	15	20	23	30								
8"	15	20	23	30	31	39						
10"	15	20	23	30	31	39	40	48				
1 1/4"	15	20	23	30	31	39	40	48	48	57		
1 1/2"	15	20	23	30	31	39	40	48	48	57	62	78
18"	15	20	23	30	31	39	40	48	48	57	62	78
20"	15	20	23	30	31	39	40	48	48	57	62	78
24"	15	20	23	30	31	39	40	48	48	57	62	78
30"	15	20	23	30	31	39	40	48	48	57	62	78

NOTE: "L" & "H" DIMENSIONS ARE IN INCHES

WASTEWATER COLLECTION GENERAL NOTES:

- THE FOLLOWING NOTES ARE INTENDED AS A SUPPLEMENT TO THE PROJECT SPECIFICATIONS AND ARE NOT INTENDED TO SUPERSEDE THE SPECIFICATIONS.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM REQUIREMENTS OF LONGBOAT KEY PUBLIC WORKS DEPARTMENT, LATEST REVISION, AND EXCEED THE REQUIREMENTS OF THOSE SPECIFICATIONS WHERE INDICATED ON THESE CONSTRUCTION DRAWINGS OR IN THE PROJECT SPECIFICATIONS.
 - ELEVATIONS SHOWN ON THE PLANS FOR FLOWLINES OF PROPOSED WASTEWATER MAINS SHALL BE ADHERED TO. IN MOST CASES THE DESIGN GRADES ARE CRITICAL AND ADJUSTMENTS CAUSED BY MIS-ALIGNMENT OR IMPROPER GRADES ARE IMPRACTICAL. COST TO RELAY MAIN, IF NECESSARY, SHALL BE BORNE BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL INVESTIGATE AND VERIFY OR HAVE VERIFIED THE LOCATION OF EXISTING UTILITIES AND ANY OTHER SUBSURFACE FACILITIES BEFORE STARTING WORK. HE SHALL BE LIABLE FOR ANY EXPENSE RESULTING FROM DAMAGE TO SAME. ANY CONFLICTS WITH EXISTING UTILITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AS SOON AS POSSIBLE.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE TOWN, AND THE ENGINEER 24 HOURS PRIOR TO ANY WORK AT SITE & 48 HOURS PRIOR TO ANY TESTING.
 - THE CONTRACTOR SHALL COORDINATE HOLDING OF POLES WITH UTILITY COMPANIES IN ADVANCE SO UNNECESSARY DELAYS OF PROJECT SHALL NOT BE INCURRED. THE COST FOR THE HOLDING OF THE POWER POLES SHALL BE INCLUDED IN THE WASTEWATER MAIN UNIT COST ITEMS CONTAINED IN THE PROPOSAL.
 - PIPE AND FITTINGS FOR P.V.C. GRAVITY PIPE SHALL MEET THE REQUIREMENTS OF A.S.T.M. SPECIFICATION D-3034 SDR26.
 - FORCE MAINS SHALL BE THRUST BLOCKED IN ACCORDANCE WITH THE WATER MAIN DETAILS UNLESS OTHERWISE SPECIFIED. FORCE MAINS 4" THROUGH 12" SHALL BE AWWA C-900 DR18 (150 PSI), GREEN IN COLOR & HAVE THE O.D. OF DUCTILE IRON. FORCE MAINS OVER 12" SHALL BE AWWA C-905.
 - ALL EXISTING SALVAGEABLE PIPE FITTINGS, ETC. SHALL REMAIN THE PROPERTY OF THE OWNER AND BE STORED ON SITE AT THE DIRECTION OF THE ENGINEER.
 - COLOR CODED PLASTIC COATED METAL TAPE 2" WIDE SHALL BE PLACED 18 INCHES BELOW FINISHED GROUND ABOVE GRAVITY SEWER LINES & FORCE MAIN. THE COST FOR COLOR TAPE SHALL BE INCLUDED IN THE GRAVITY SEWER & FORCE MAIN UNIT PRICES.

SANITARY SEWER SERVICE NOTES:

- METALLIC IDENTIFICATION TAPE SHALL EXTEND FROM WYE CONNECTION TO THE END OF THE SERVICE EIGHTEEN INCHES (18") BELOW FINISHED GRADE AND TERMINATE TWELVE INCHES (12") ABOVE GROUND AT THE LOCATION STAKE. IN ADDITION THE CONTRACTOR SHALL BURY A TWO FOOT (2') LONG #5 REBAR AT THE END OF THE SERVICE PARALLEL TO THE SURFACE FOR ELECTRONIC LOCATION PURPOSES. COST OF TAPE AND REBAR TO BE INCLUDED IN THE COST FOR SERVICE PIPE INSTALLATION.
- WHERE A HOUSE OR OTHER CONNECTION TERMINATES, THE CONTRACTOR SHALL PROVIDE AND INSTALL 2" x 4" STAKE WITH A MINIMUM OF EIGHTEEN INCHES (18") ABOVE GROUND AND TWO (2) FEET BELOW GROUND. THE TOP TWELVE INCHES (12") ARE TO BE PAINTED GREEN.

CLEAN-OUT NOTES:

- CLEANOUTS ARE REQUIRED ON ALL SERVICES AND AS SHOWN ON THE SITE PLAN.
- CLEAN-OUTS SHALL BE ADJUSTED TO CONFORM WITH FINISHED SURFACES. ALL ADJUSTMENTS SHALL BE INCLUDED IN THE PRICE BID. NO ADDITIONAL COMPENSATION SHALL BE MADE BY THE OWNER.

SEWER TESTING:

- TESTING SHALL BE IN CONFORMANCE WITH THE TOWN OF LONGBOAT KEY PUBLIC WORKS STANDARDS.
- THE CONTRACTOR SHALL INCLUDE IN HIS COST THE COST INVOLVED WITH TESTING THE NEWLY LAID SEWER AND WATER PIPES, AS REQUIRED BY THE TOWN OF LONGBOAT KEY PUBLIC WORKS DEPARTMENT.

TRENCH NOTES:

- WHERE WATER AND SEWER MAINS CROSS WITH LESS THAN EIGHTEEN INCHES (18") VERTICAL CLEARANCE, THE SEWER SHALL BE A MINIMUM OF TWENTY FEET (20') OF DUCTILE IRON PIPE, CENTERED ON THE POINT OF CROSSING OR ENCASED IN CONCRETE MINIMUM SIX INCHES (6") THICK, FOR A MINIMUM OF TWENTY FEET (20'), CENTERED ON THE POINT OF CROSSING, WHEN A WATER MAIN PARALLELS A WASTEWATER MAIN, HORIZONTALLY A SEPARATION OF AT LEAST TEN FEET (10') SHOULD BE MAINTAINED. BOTH WATER AND SEWER LINES SHALL BE DUCTILE IRON PIPE OR ENCASED IN CONCRETE MINIMUM SIX INCHES (6") THICK WHEN SEPARATED BY LESS THAN 10' FEET (10') HORIZONTALLY. THE HORIZONTAL SEPARATION FROM A REUSE MAIN IS FIVE FEET (5').
- TRENCH SHALL BE BRACED OR SHORED IN ACCORDANCE WITH THE "FLORIDA TRENCH & SAFETY ACT"
- WIDTH OF TRENCH BOTTOM SHALL BE OUTSIDE DIAMETER OF PIPE PLUS TWELVE INCHES (12") EACH SIDE MAXIMUM.
- CONTRACTOR SHALL PLACE METALLIC BURIAL IDENTIFICATION TAPE DIRECTLY ABOVE SEWER LINES IN CONFORMANCE WITH COUNTY CODE.
- ALL WELL POINT HOLES SHALL BE FILLED WITH COARSE SAND OR OTHER SATISFACTORY GRANULAR MATERIAL AT TIME WELL POINTS ARE PULLED.
- DISCHARGE FROM DE-WATERING OPERATION SHALL BE DISPOSED OF IN SUCH A MANNER THAT IT SHALL NOT INTERFERE WITH THE NORMAL DRAINAGE OF THE AREA IN WHICH THE WORK IS BEING PERFORMED. CREATE A PUBLIC NUISANCE OR FORM PONDING. THE OPERATIONS SHALL NOT CAUSE INJURY TO ANY PORTION OF THE WORK COMPLETED, OR IN PROGRESS, OR TO THE SURFACE OF STREETS, OR TO PRIVATE PROPERTY.
- THE PROPOSED DEWATERING METHOD(S) AND SCHEDULE SHALL BE COORDINATED WITH THE UTILITY AND/OR THE ENGINEER OF RECORD AND OTHER NECESSARY REGULATORY AGENCIES PRIOR TO CONSTRUCTION. ADDITIONALLY, WHERE PRIVATE PROPERTY SHALL BE INVOLVED, ADVANCE PERMISSION SHALL BE OBTAINED BY THE CONTRACTOR AND/OR DEVELOPER.

AS-BUILTS:

- THE CONTRACTOR SHALL LOCATE MANHOLES, SEWER SERVICES, FORCE MAIN FITTINGS (EXCLUDING BENDS LESS THAN 45 DEGREES), ETC AND MAIN LINE EVERY 200 FEET (MEASURED ALONG CENTERLINE) OR ALTERNATE LOT LINES WHICHEVER IS CLOSER, BY USING STATION & OFFSET BASED ON INTERSECTION P.I.S & CENTER LINE OF RIGHT-OF-WAY, FOR PRIVATE ROADS DIMENSIONS SHALL BE FROM CENTER LINE OF PAVEMENT OR ANOTHER READILY VISIBLE BASELINE. THESE MEASUREMENTS SHALL BE SHOWN ON THE AS-BUILT DRAWING BY THE CONTRACTOR.
- THE CONTRACTOR SHALL FURNISH "AS-BUILT" STATIONING OF SEWER WYES USING EACH DOWN STREAM MANHOLE AS STA. 0+00.
- TOP OF PIPE ELEVATIONS FOR ALL SEWER MAINS ARE REQUIRED EVERY FIFTY (50') AND/OR ON EACH FITTING OR CHANGE IN GRADE.

WATER DISTRIBUTION GENERAL NOTES:

- ALL PVC WATER MAINS SHALL BE BLUE IN COLOR. COLOR CODED PLASTIC COATED METAL TAPE 2" WIDE WITH THE WORD "WATER MAIN" SHALL BE PLACED 18 INCHES BELOW FINISHED GROUND AND ABOVE D.I.P. AND P.V.C. WATER MAIN. THE COST FOR COLOR TAPE SHALL BE INCLUDED IN THE WATER MAIN UNIT PRICES.
- UNLESS OTHERWISE NOTED PROPOSED WATER MAINS TO GO UNDER EXISTING CULVERTS, STRUCTURES AND OTHER APPURTENANCES, EXCEPT SEWER MAINS WHICH SHALL BE CROSSED OVER.
- VERTICAL CLEARANCE BETWEEN WATER AND STORM/WASTEWATER LINES SHALL BE 18 INCHES MINIMUM.
- 2 INCHES OR SMALLER DIAMETER SERVICES SHALL INCLUDE THE SERVICE SADDLE CORPORATION STOP, SCHEDULE 40 P.V.C., CURB STOP.
- ALL IRON PIPE AND FITTINGS SHALL BE COMPLETELY WRAPPED IN 8 MIL. BLACK PLASTIC FOR CORROSION PROTECTION.
- WATER SERVICE INSTALLATION SHALL BE CONSTRUCTED WITH A MINIMUM OF 3 FEET OF COVER BELOW PROPOSED GRADE OR TO THE ELEVATIONS AND DEPTHS AS INDICATED ON THE PLANS WITHIN 0.25 FT. COST TO RELAY MAIN, IF NECESSARY, SHALL BE BORNE BY THE CONTRACTOR.

REV	NO.	REVISION	DATE	BY	EMP. NO.

WILSON, MILLER, BARTON & PEEK, INC.
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CLIENT: **WEDEBROCK DEVELOPMENTS L.C.**
TITLE: **UTILITY DETAILS**
PROJECT: **THE GRANDE**

DATE: 6-96 DESIGN W.O.#:
HORIZONTAL SCALE: 1"=20'-0" PROJECT NO.:
VERTICAL SCALE: N.T.S. SHEET NO.:
DESIGNER: [Signature] PROJECT NO.: 1804-5
CHECKED BY: [Signature] SHEET NO.: 7 OF 9
SCALE: 3/8" = 1'-0" 1804-5 7 OF 9

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