

# TOWN OF WAREHAM, MASSACHUSETTS



## SEWER BYPASS INSTALLATIONS AT COHASSET NARROWS AND HYNES FIELD PUMP STATIONS

JANUARY 2019

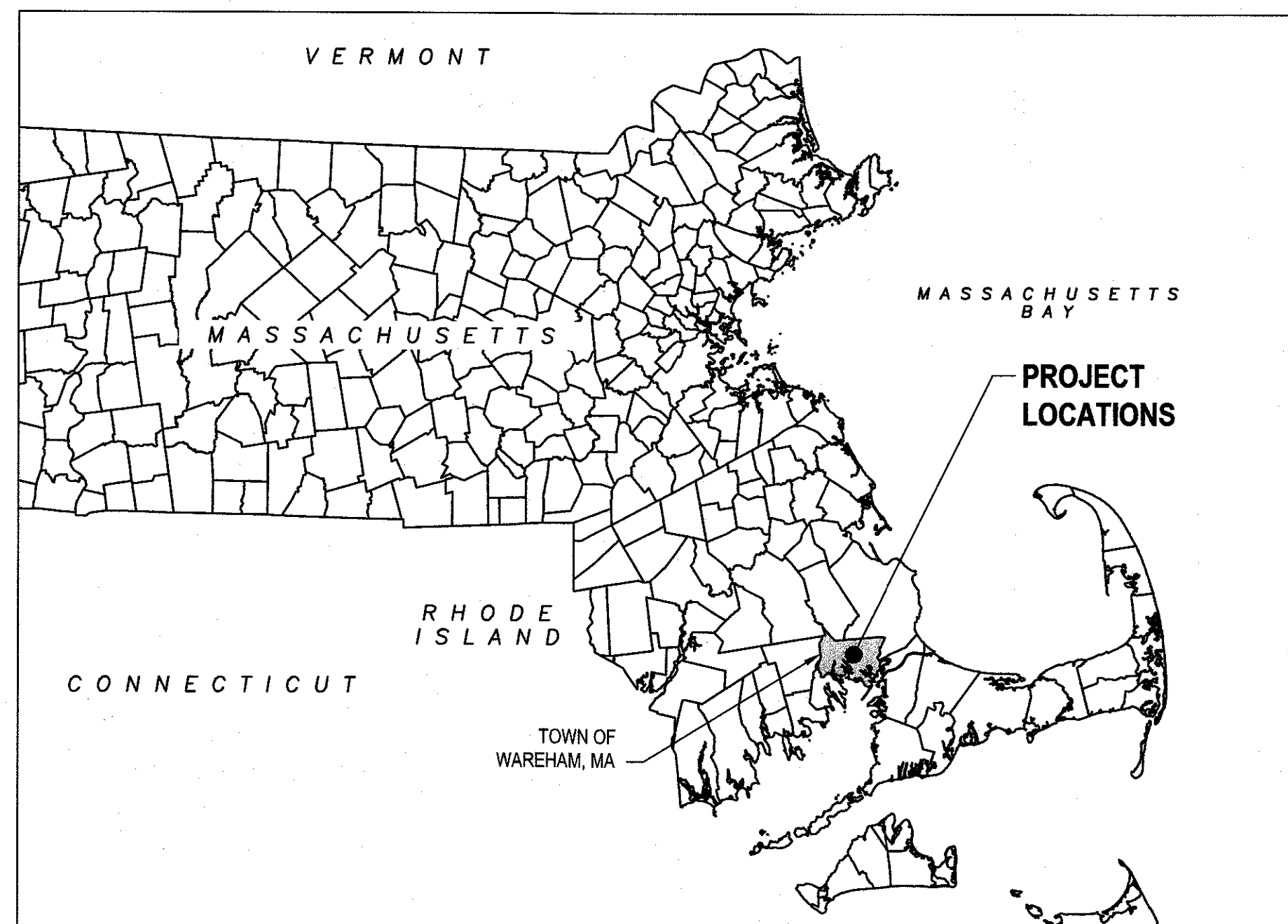
PROJECT NUMBER: 111-44294

CONTRACT NO. 2019-001

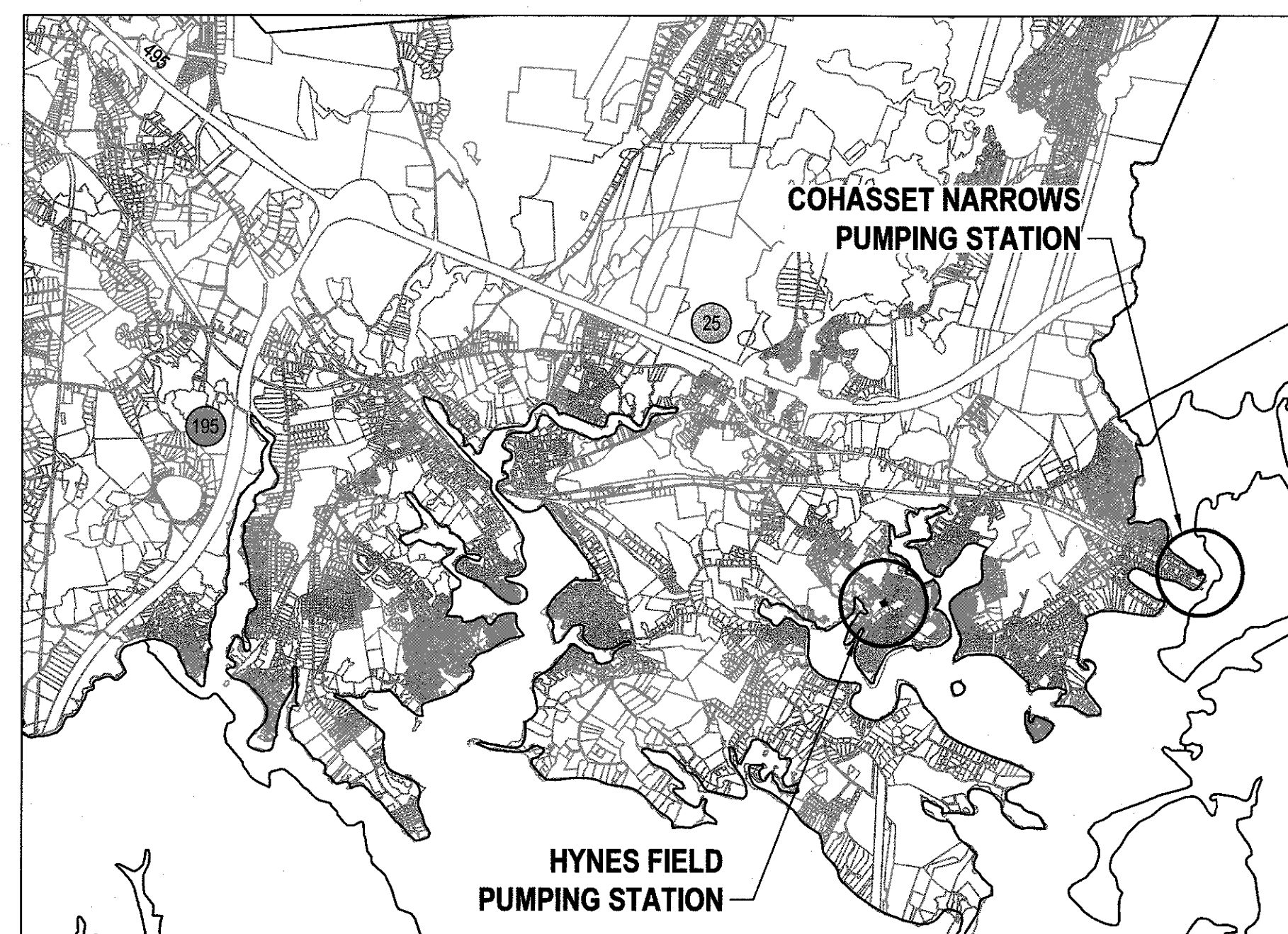
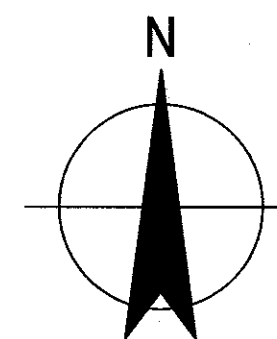
**TOWN PERSONNEL**

TOWN MANAGER  
DEREK SULLIVAN

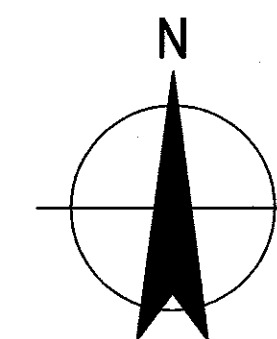
DIRECTOR OF WATER POLLUTION CONTROL  
GUY CAMPINHA



**VICINITY MAP**



**LOCATION MAP**



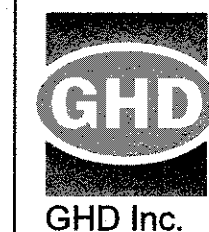
**DRAWING LIST**

SHEET NO. DRAWING TITLE

**GENERAL**

- G001 COVER SHEET, VICINITY MAP & LOCATION MAP AND DRAWING LIST
- G002 ABBREVIATIONS, LEGENDS, SYMBOLS AND NOTES
- G003 GENERAL NOTES, DEMOLITION NOTES, SPECIFICATIONS AND DETAILS
- CIVIL**
- C001 HYNES FIELD PUMPING STATION PLANS AND DETAILS
- C002 COHASSET NARROWS PUMPING STATION SITE PLAN AND DETAILS
- C003 MISCELLANEOUS DETAILS

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
D	100% DESIGN PLANS - REVISION 1		JDF	RHK	MRD	1/19
C	100% DESIGN PLANS		JDF	RHK	MRD	12/18
B	95% DESIGN SUBMITTAL		JDF	RHK	MRD	12/17
A	CONCEPTUAL DESIGN		JDF	RHK	MRD	6/17



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Drawn	JDF	Designer	JDF
Drafting Check	RHK	Design Check	RHK
Approved (Project Director)			
Date			
Scale	AS SHOWN		

Client	TOWN OF WAREHAM, MASSACHUSETTS		
Project	SEWER BYPASS INSTALLATIONS AT COHASSET NARROWS AND HYNES FIELD PUMP STATIONS		
Title	COVER SHEET, VICINITY MAPS AND DRAWING LIST		
Original Size	Ansi D		
Drawing No:	111-44294-G001		
Rev:	C		





**EROSION & SEDIMENTATION CONTROL NOTES**

- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTOR DAILY AND IMMEDIATELY AFTER PERIODS OF RAINFALL. REPAIR AND/OR MAINTENANCE OF SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE MADE AS SOON AS NEEDED. THE CONTRACTOR IS RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF ALL CONTROL MEASURES ON THIS SITE.
- LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. RESTABILIZATION WILL BE SCHEDULED IMMEDIATELY AFTER ANY DISTURBANCE.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ALL CONSTRUCTION ACTIVITIES.
- ANCHOR ALL TOPSOIL STOCK PILES WITH STRAW MULCH AND RING WITH SILT FENCE, OR HAYBALE BARRIER.
- SEDIMENT REMOVAL FROM CONTROL STRUCTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SEDIMENT SHALL BE DISPOSED OF IN A MANNER WHICH DOES NOT RESULT IN ADDITIONAL EROSION AND WHICH IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND REGULATORY REQUIREMENTS.
- THE EROSION AND SEDIMENTATION CONTROL MEASURES DESCRIBED HEREIN ARE INTENDED AS A GENERAL GUIDE FOR THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ANY AND ALL WORK NECESSARY TO PREVENT EROSION OF SOIL FROM THE CONSTRUCTION SITE. TO PREVENT EROSION, THE CONTRACTOR SHALL PROVIDE SILT FENCES OR OTHER CONTROL MEASURES AS THE NEED ARISES DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
- PAVED ROADWAYS SHALL BE KEPT CLEAN AT ALL TIMES.
- REFER TO SPECIFICATION SECTION 01564 FOR MORE DETAILS.
- WATER REMOVED DURING EXCAVATIONS AND OTHER EARTH MOVING ACTIVITIES MUST BE RELEASED TO SEDIMENT TRAPS OR DEWATERING STRUCTURES.

**GENERAL DEMOLITION NOTES**  
(THESE NOTES APPLY TO ALL DRAWINGS)

- FOR CLARITY PURPOSES THE DRAWINGS DO NOT SHOW THE ENTIRE EXTENT AND SCOPE OF DEMOLITION WORK TO BE PERFORMED. THE CONTRACTOR SHALL DEMOLISH AND REMOVE ALL ITEMS SHOWN ON THE DRAWINGS, AND AS REQUIRED IN THE SPECIFICATIONS, OR AS NECESSARY TO ACCOMPLISH THE WORK.
- REFER TO SECTION 02030 - DEMOLITION FOR ADDITIONAL DIRECTIONS.

**DEWATERING NOTES:**

- CONTRACTOR SHALL DEVELOP A DEWATERING PLAN AS REQUIRED IN SECTION 02141.
- PROVIDE SHEETING IF REQUIRED TO ACCOMPLISH THE WORK AND PROTECT EXISTING INFRASTRUCTURE
- CONSTRUCTION NOTES FOR SCHEMATIC DEWATERING DETAIL (TO BE USED IN CONJUNCTION WITH SPECIFICATION SECTION 02141).
1. FILTER BAGS SHOULD BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS AND SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS.
2. BAGS SHALL BE ACCESSIBLE BY MACHINERY AND BAGS ARE TO BE REPLACED WITH THEY BECOME 1/2 FULL. SPARE BAGS SHOULD BE KEPT AVAILABLE AT PROJECT SITE.
3. BAGS SHALL BE LOCATED IN A WELL VEGETATED (GRASSY) UPLAND AREA AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
4. PUMPS DISCHARGE HOSE TO BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS.

**GENERAL CONSTRUCTION SEQUENCING NOTES:**

THE CONTRACTOR SHALL NOTE THE FOLLOWING RESPONSIBILITIES FOR THE SEQUENCE OF WORK:

**CONTRACTOR RESPONSIBILITIES:**

- CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATIONS AT EACH EFFLUENT FORCE MAIN AT EACH STATION TO VERIFY PIPE MATERIAL, OUTER PIPE DIAMETER, AND ANY OTHER NECESSARY INFORMATION PRIOR TO ORDERING ANY MATERIALS.
- FLOW INFORMATION AT EACH PUMP STATION SHALL BE REVIEWED PRIOR TO ANY EXCAVATION TO CONFIRM THAT FLOWS ARE WITHIN CAPABILITIES OF THE SEPTAGE HAULING SERVICE. TOWN WILL PROVIDE HOURLY FLOW RATES FOR EACH STATION FOR UP TO FOUR MONTHS PRIOR TO THE EXCAVATION IF REQUESTED. FLOWS UP TO 300 GPM SHOULD BE ANTICIPATED AT EITHER STATION.
- CONTRACTOR SHALL SUBMIT A DETAILED BYPASS PLAN FOR APPROVAL PRIOR TO CONSTRUCTION. PLAN TO INCLUDE:
  - SEWAGE HAULER AND CONTRACTOR CONTACT INFORMATION (CELL PHONE OF 24-HOUR CONTACT)
  - ESTIMATE THE NUMBER OF TRUCKS NEEDED FOR THE BYPASS EVENT (UTILIZING PUMP FLOW RATES AND CAPACITIES OF SEPTAGE HAULER)
  - WRITTEN DESCRIPTION OF CONSTRUCTION SEQUENCE INCLUDING:
    - HOURS OF OPERATION DURING SHUTDOWN (CONFINE WORK HOURS TO BETWEEN 11 PM AND 7 AM - MAXIMUM OF 8 HOURS PER PUMP STATION)
    - METHODS OF CONSTRUCTION (DESCRIBE ANY PREASSEMBLY OF PIPES, FITTINGS, AND BYPASS)
    - CONFIRMATION OF EXISTING PIPE MATERIAL, SIZE AND FLOWS
- PROVIDE OWNER WITH 2 WEEKS NOTICE OF STATION BYPASS (BY OWNER). TOWN OF WAREHAM SHALL PAY FOR UP TO 8 HOURS OF SEPTAGE HAULING AT EACH LOCATION. ANY REQUIRED SEWER PUMPING AFTER THAT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE WITH THE TOWN OF WAREHAM'S CONTRACTED SEWER HAULING SERVICE (EITHER SOARES OF TAUNTON MA OR BAY STATE SEWAGE DISPOSAL OF LAKEVILLE, MA) FOR ALL SEWAGE HAULING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANYTHING NOT SPECIALLY OUTLINED AS AN OWNER RESPONSIBILITY

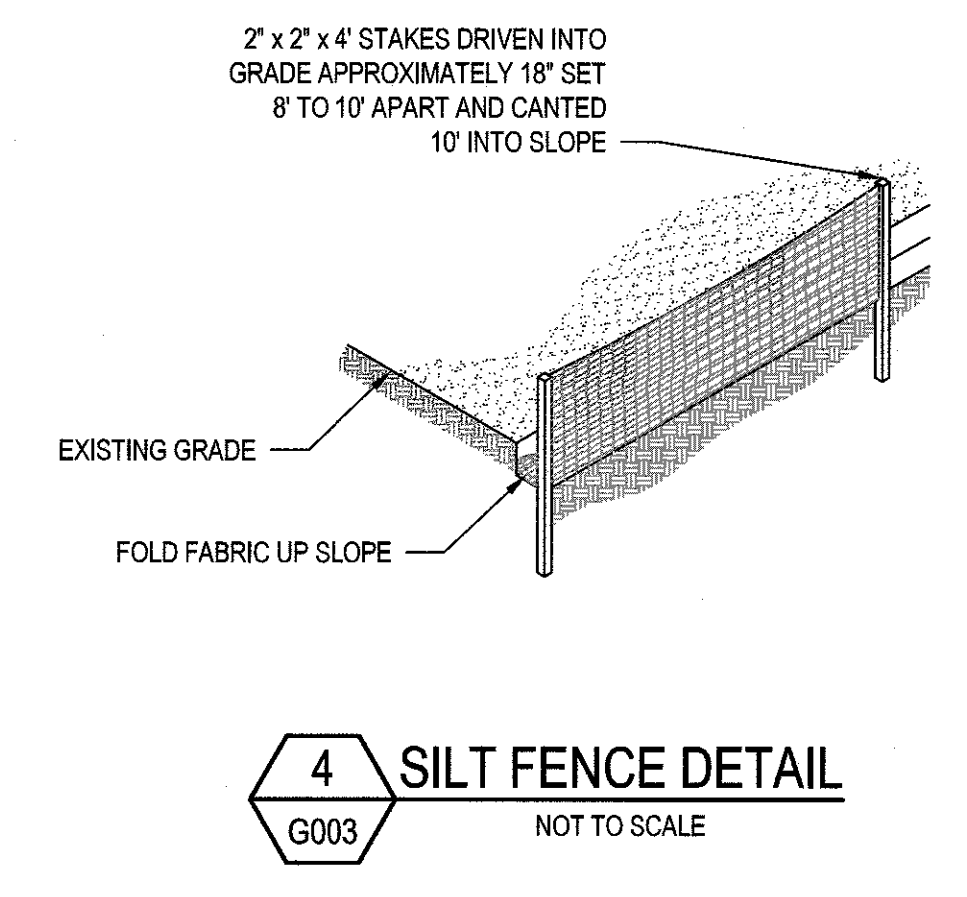
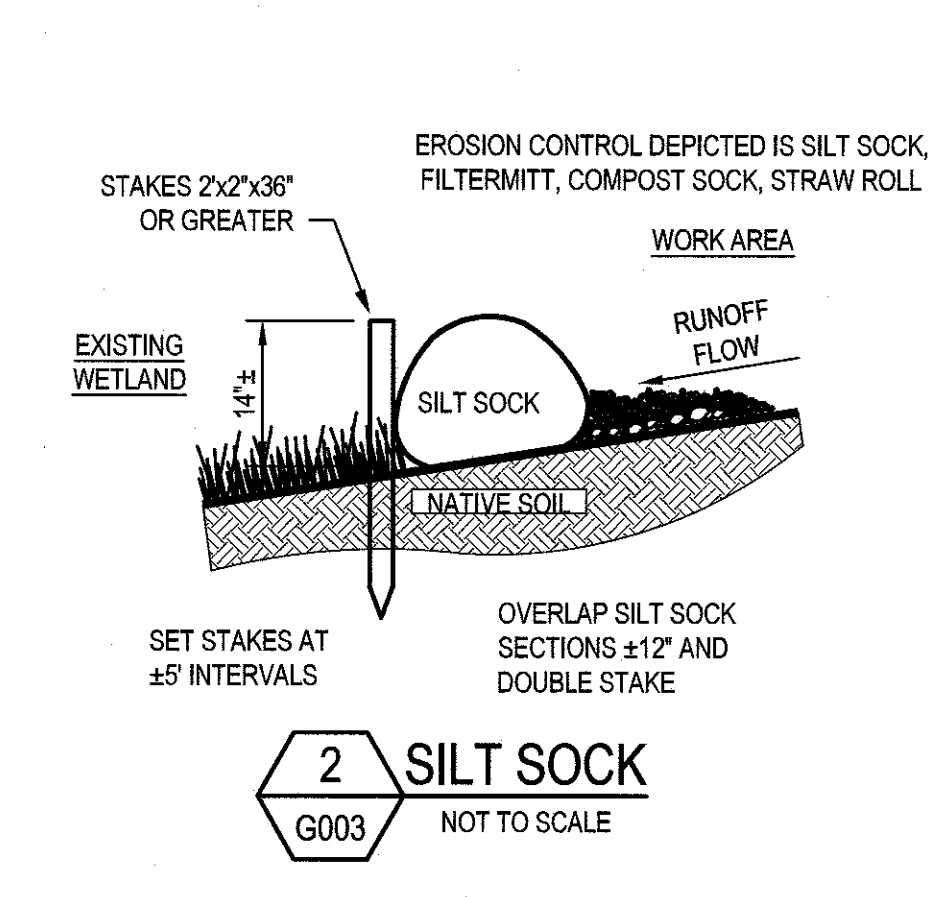
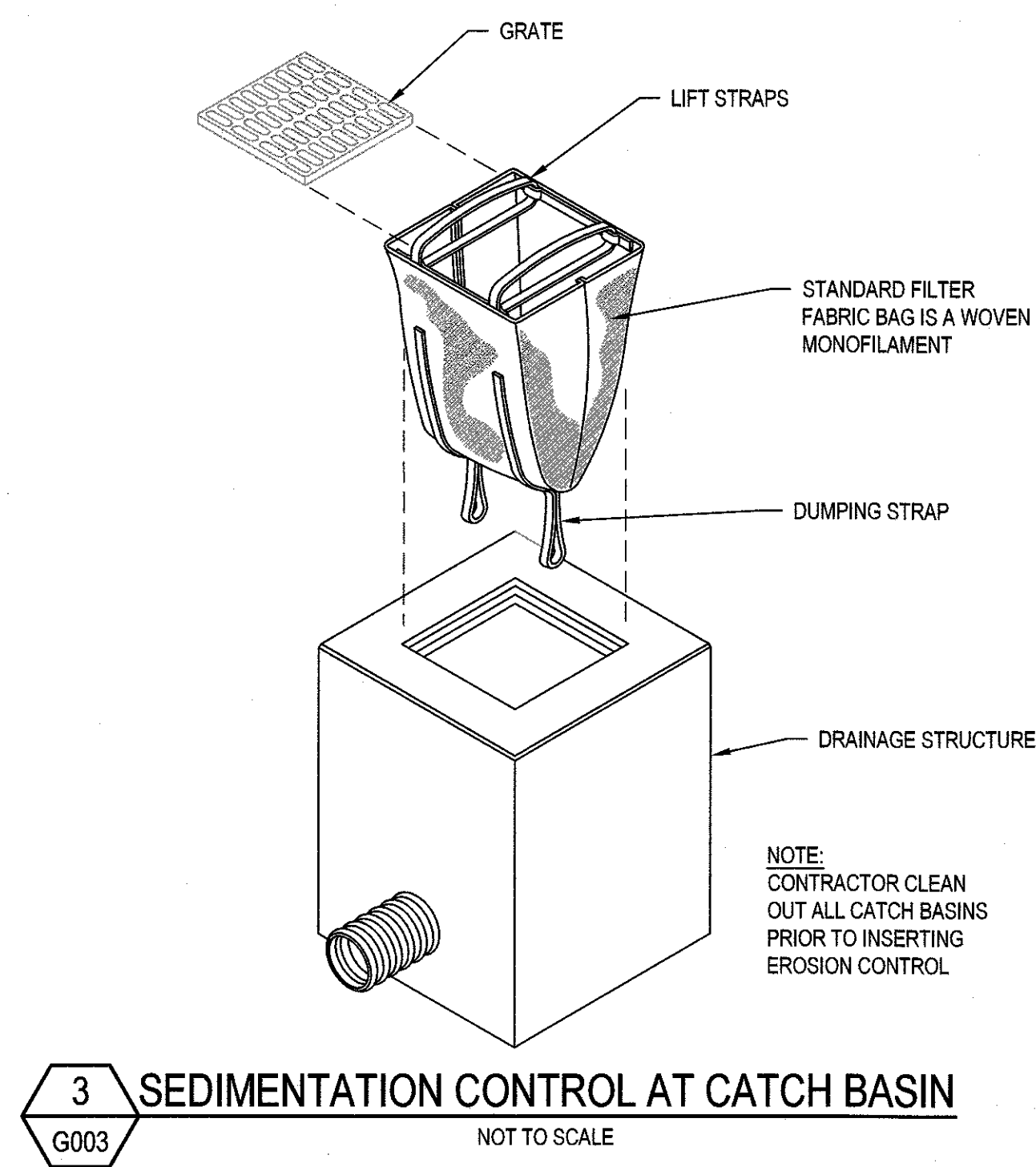
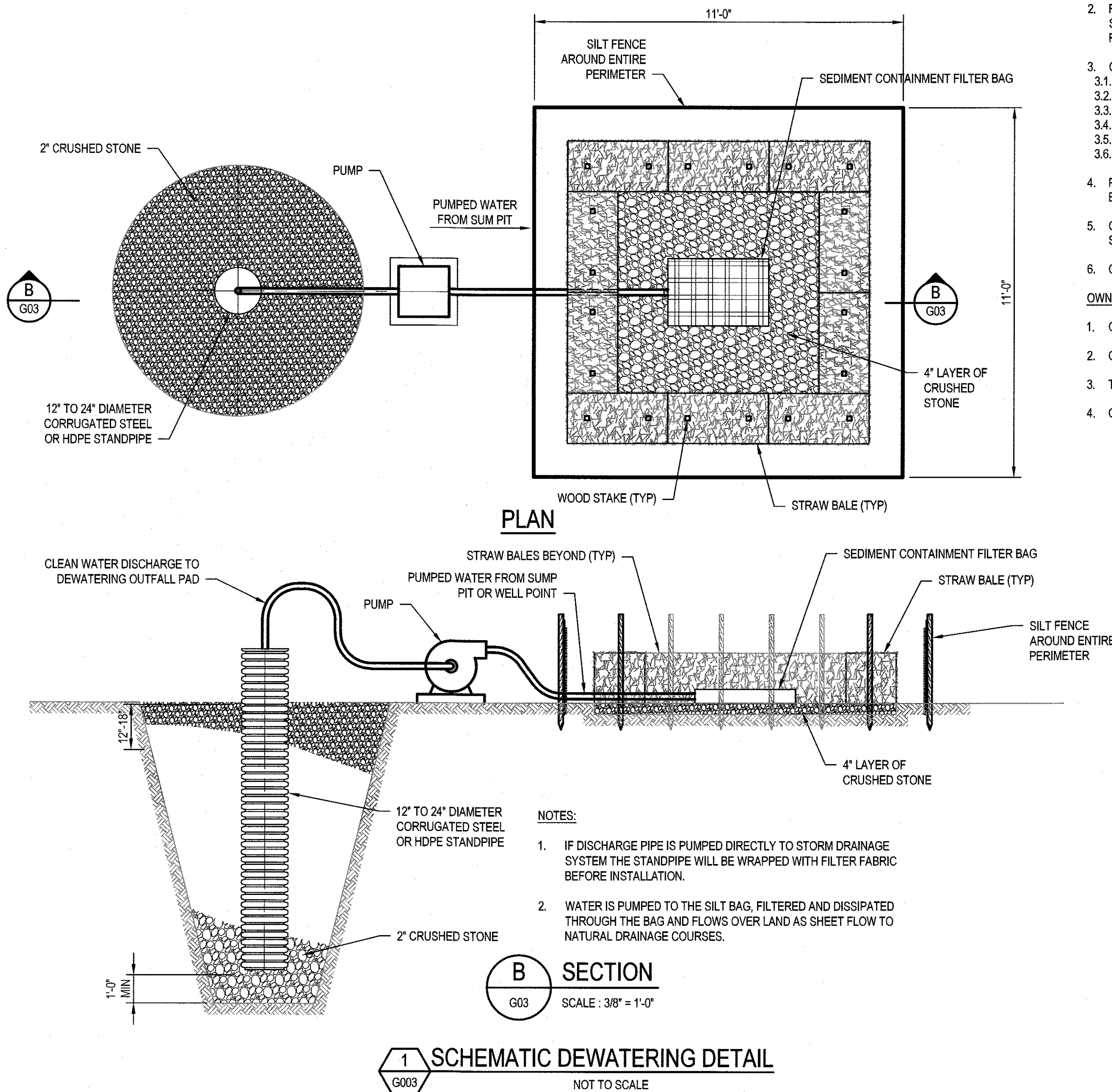
**OWNER RESPONSIBILITIES:**

- OWNER SHALL PROVIDE AVAILABLE PUMP STATION DATA TO CONTRACTOR
- OWNER SHALL DRAIN FORCEMAIN AFTER BEING GIVEN 2 WEEKS NOTICE BY CONTRACTOR
- TOWN SHALL CONTRACT WITH SEPTAGE HAULER FOR UP TO 16 HOURS FOR DURATION OF PROJECT (8 HOURS PER SITE)
- OWNER SHALL RECHARGE FORCEMAIN AFTER WRITTEN NOTIFICATION FROM CONTRACTOR THAT WORK IS COMPLETE

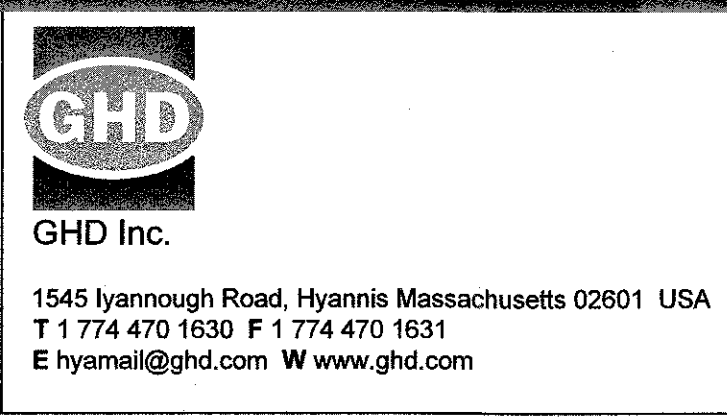
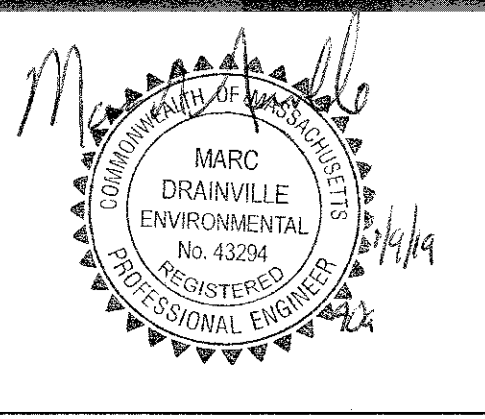
**GENERAL NOTES:**

(THESE NOTES APPLY TO ALL DRAWINGS UNLESS OTHERWISE SPECIFIED)

- VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). HORIZONTAL CONTROL BASED ON THE NAD 1983 STATE PLANE MASSACHUSETTS MAINLAND PROJECTION.
- ALL UTILITIES SHOWN ON PLAN ARE APPROXIMATE ONLY. UTILITIES ARE BASED ON DIG SAFE MARKINGS AND AVAILABLE PLANS ON RECORD.
- BACKGROUND INFORMATION (FOR C001) TAKEN FROM PLAN ENTITLED EXISTING CONDITIONS PLAN AT HYNES FIELD PUMPING STATION, WAREHAM, MA PREPARED FOR GHD INC. BY J.C. ENGINEERING, INC. 2854 CRANBERRY HIGHWAY, EAST WAREHAM, MA 02538 AND DATED MARCH 28, 2017.
- BACKGROUND INFORMATION (FOR C002) TAKEN FROM PLAN ENTITLED EXISTING CONDITIONS PLAN AT COHASSET NARROWS PUMPING STATION, WAREHAM, MA PREPARED FOR GHD INC. BY J.C. ENGINEERING, INC. 2854 CRANBERRY HIGHWAY, EAST WAREHAM, MA 02538 AND DATED MARCH 28, 2017.
- CONTRACTOR TO PERFORM TEST PITS TO LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION AT LOCATIONS, AT MINIMUM, MARKED WITH "T" TWO WEEKS PRIOR TO COMMENCING EXCAVATION.
- ALL FITTINGS AND JOINTS ARE TO BE RESTRAINED.
- THESE PLANS ARE BASED ON RECORD DRAWINGS. CONDITIONS IN THE FIELD MAY VARY FROM THOSE SHOWN HEREIN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING FIELD CONDITIONS THAT MAY AFFECT HIS WORK. TO CONVERT FROM NGVD 1929 TO NAVD 1988 SUBTRACT 0.83.
- THE FOLLOWING REFERENCES TO EXISTING PLANS WERE USED FOR DEPICTING EXISTING CONDITIONS ON THIS PROJECT (CONTRACTOR SHOULD NOTE THAT DATUMS MAY VARY):
  - NEW SEWAGE WORKS NARROWS AND HYNES FIELD PUMPING STATIONS CONTRACT NO.2 AS PREPARED BY FAY, SPOFFORD AND THORNDIKE AND DATED MARCH 19, 1970.
  - CRANBERRY HIGHWAY PUMP STATION AND APPURTENANT WORK CONTRACT NO. 88-2 AS PREPARED BY METCALF AND EDDY AND DATED SEPTEMBER 1983.
- EXISTING FACILITIES AND PIPING SHOWN LIGHT. NEW FACILITIES AND PIPING SHOWN HEAVY.
- THE CONTRACTOR SHALL CALL-BEFORE-YOU-DIG AT 1-888-DIG-SAFE FOR LOCATING AND STAKEOUT OF ANY UTILITY PRIOR TO EXCAVATION. THE CONTRACTOR SHALL ALSO PERFORM EXPLORATORY EXCAVATIONS TO LOCATE EXISTING UTILITIES. APPROXIMATE LOCATIONS OF UTILITIES ARE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY EXISTING UTILITIES DAMAGED DUE TO HIS / HER OPERATIONS.
- ALL EXISTING ELEVATIONS SHOWN ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.
- REFER TO SPECIFICATION SECTION 01010 FOR REQUIREMENTS FOR MAINTAINING PUMP STATION OPERATIONS AND FOR OBTAINING NECESSARY LOCAL AND STATE PERMITS.
- CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL EXISTING PIPING ELEVATIONS, LOCATIONS, SIZE AND TYPE OF MATERIAL WITH NEW PIPING PRIOR TO CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE ALL NEW AND EXISTING EQUIPMENT, BUILDING, ROOM, AND CHANNEL OR TANK DIMENSIONS AND ELEVATIONS PRIOR TO ORDERING NEW EQUIPMENT. REPORT DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL SUPPLY ALL BENDS REQUIRED TO MAINTAIN SMOOTH FLOW LINES, CHANGES IN ELEVATION AND TO MEET ALL TRANSITIONS.
- CONTRACTOR SHALL REPLACE ALL EXISTING PAVEMENT WITHIN THE LIMIT OF WORK AND ELSEWHERE AS SHOWN ON THE DRAWINGS.
- WHERE NEW UNDERGROUND PIPING IS CONNECTED TO EXISTING UNDERGROUND PIPING, CONTRACTOR IS REQUIRED TO PERFORM EXPLORATORY EXCAVATIONS IN THESE AREAS, AS REQUIRED, TO CONFIRM EXISTING PIPING LOCATIONS AND ELEVATIONS. REFER TO SPECIFICATION SECTION 01010.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORT OF ALL EXCAVATIONS, AS REQUIRED, INCLUDING SHEETING AND BRACING. CONTRACTOR SHALL ALSO STRUCTURALLY SUPPORT AND / OR PROTECT WATER MAIN, GAS MAIN, STORM SEWER, SANITARY SEWER OR ANY OTHER UTILITY AND APPURTENANCES WHERE NECESSARY WHEN EXCAVATING ADJACENT TO OR CROSSING SAID UTILITY.
- CONTRACTOR SHALL SUBMIT BYPASS PLAN TO THE ENGINEER AND OWNER FOR APPROVAL PRIOR TO CONSTRUCTION COMMENCING.
- CONTRACTOR IS RESPONSIBLE FOR DETERMINING DEPTH OF GROUNDWATER AND FOR ALL COSTS ASSOCIATED WITH THE DEWATERING NECESSARY TO INSTALL PIPING AND APPURTENANCES.



D	100% DESIGN PLANS - REVISION 1	JDF	RHK	MRD	1/19
C	100% DESIGN PLANS	JDF	RHK	MRD	12/18
B	95% DESIGN SUBMITTAL	JDF	RHK	MRD	12/17
A	CONCEPTUAL DESIGN	JDF	RHK	MRD	6/17
No	Revision	Drawn	Job Manager	Project Director	Date



Drawn	JDF	Designer	JDF
Drafting Check	RHK	Design Check	RHK
Approved (Project Director)			
Date			
Scale	AS SHOWN		

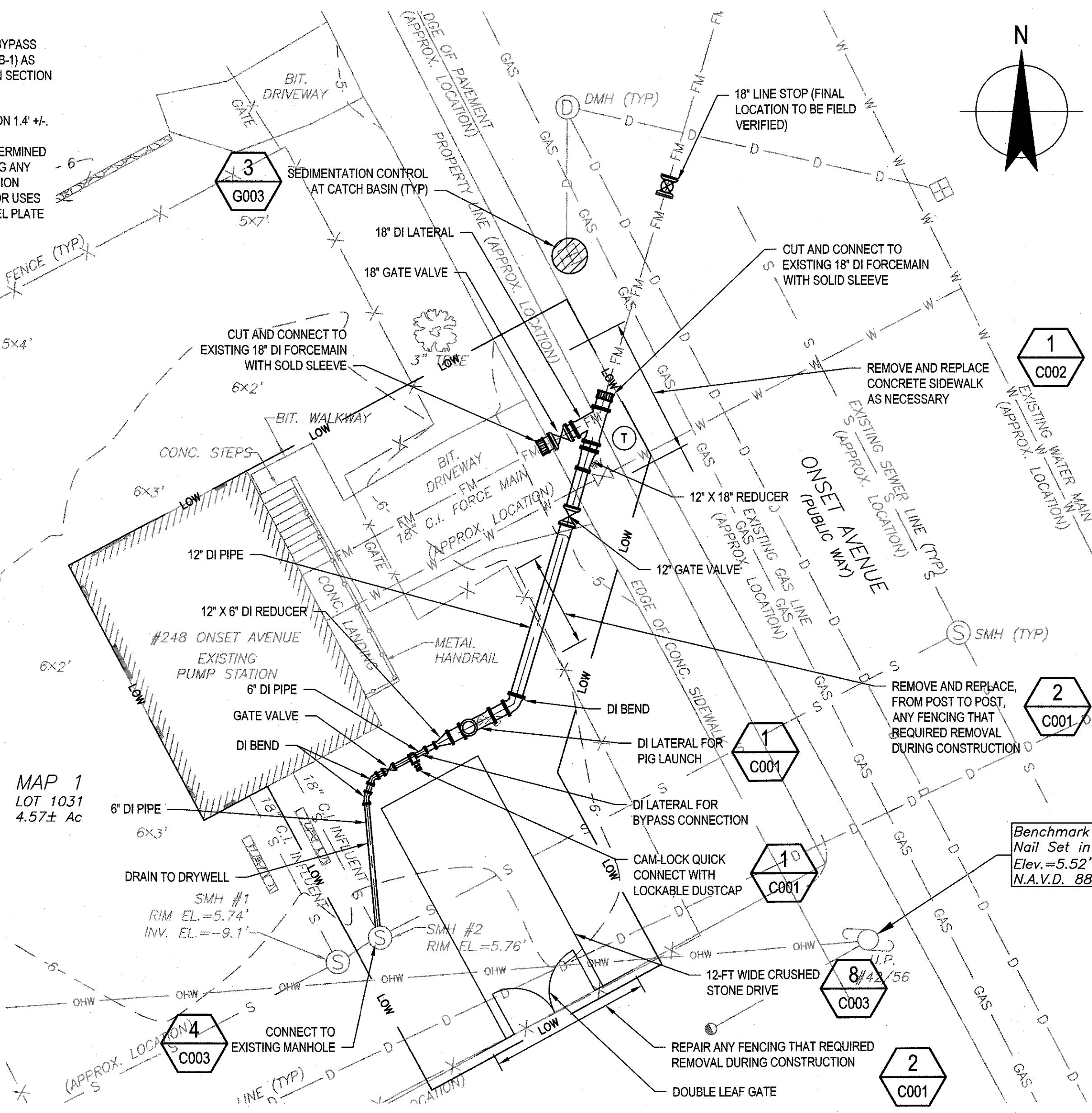
Client	<b>TOWN OF WAREHAM, MASSACHUSETTS</b>		
Project	<b>SEWER BYPASS INSTALLATIONS AT COHASSET NARROWS AND HYNES FIELD PUMP STATIONS</b>		
Title	<b>GENERAL NOTES AND DETAILS</b>		
Original Size	ANSI D	Drawing No:	<b>111-44294-G003</b>
			Rev: C



- NOTES:**
1. ALL WORK ASSOCIATED WITH THE HYNES FIELD BYPASS INSTALLATION SHALL BE PART OF THE BASE BID (B-1) AS DESCRIBED IN THE BID ITEM DESCRIPTION WITHIN SECTION 01026.
  2. MEAN HIGH WATER AT APPROXIMATELY ELEVATION 1.4' +/-.
  3. CONTRACTOR TO PERFORM TEST PIT IN THE DETERMINED LOCATION OF THE LINE STOP PRIOR TO ORDERING ANY MATERIALS FOR THE BYPASS. TEST PIT EXCAVATION SHALL REMAIN OPEN PROVIDED THE CONTRACTOR USES SUITABLE MEASURES FOR SAFETY SUCH AS STEEL PLATE OR OTHER APPROVED METHOD.

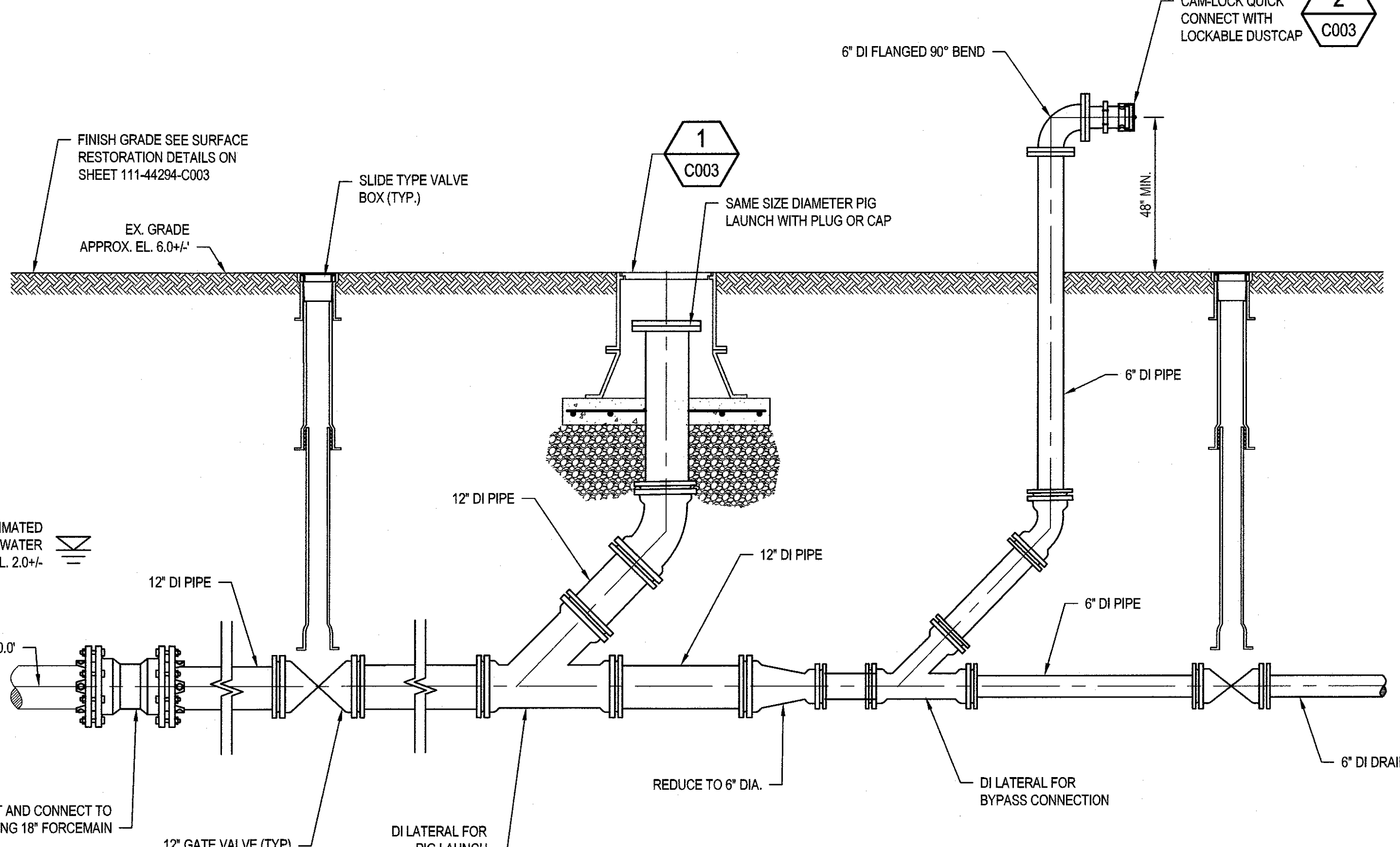
- OWNER OF RECORD: TOWN OF WAREHAM, 54 MARION ROAD, WAREHAM, MA 02571
- FEMA FLOOD ZONE (PROPERTY): AE (EL. 14)
- AS SHOWN ON F.I.R.M. MAP NUMBER: #25023C0581K, REVISED FEBRUARY 5, 2014
- ASSESSOR'S MAP & LOTS: MAP 1 LOT 1031
- DEED REFERENCE: BOOK 9, PAGE 296
- PLAN REFERENCE: PLAN BOOK 2330, PAGE 374

MAP 1  
LOT 1031  
4.57± Ac



**HYNES FIELD PUMPING STATION PLAN**

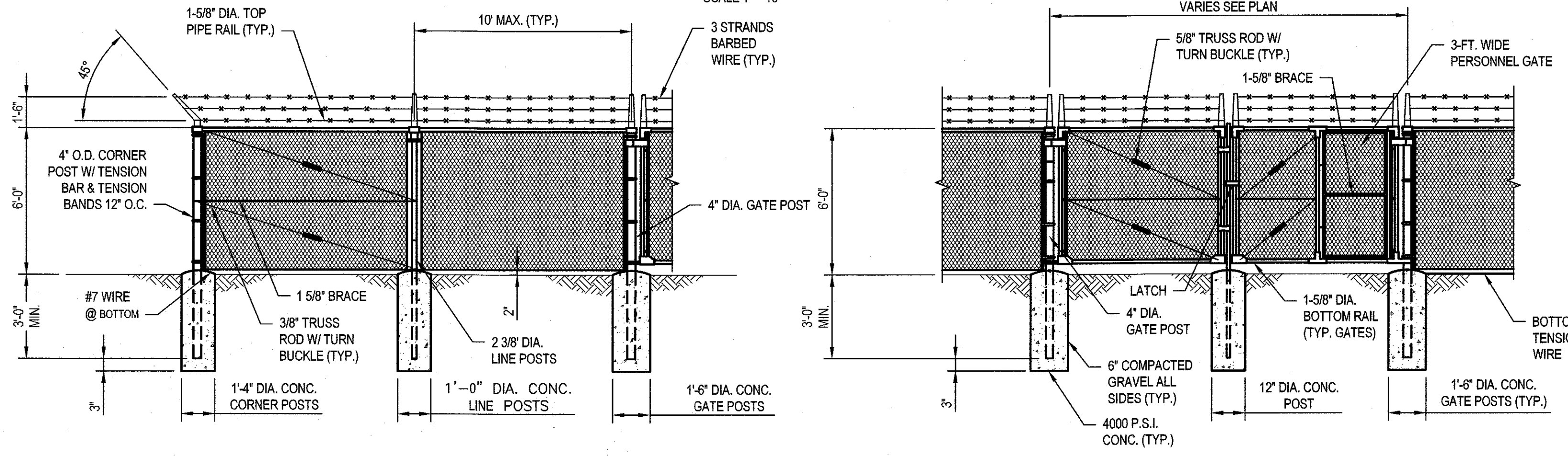
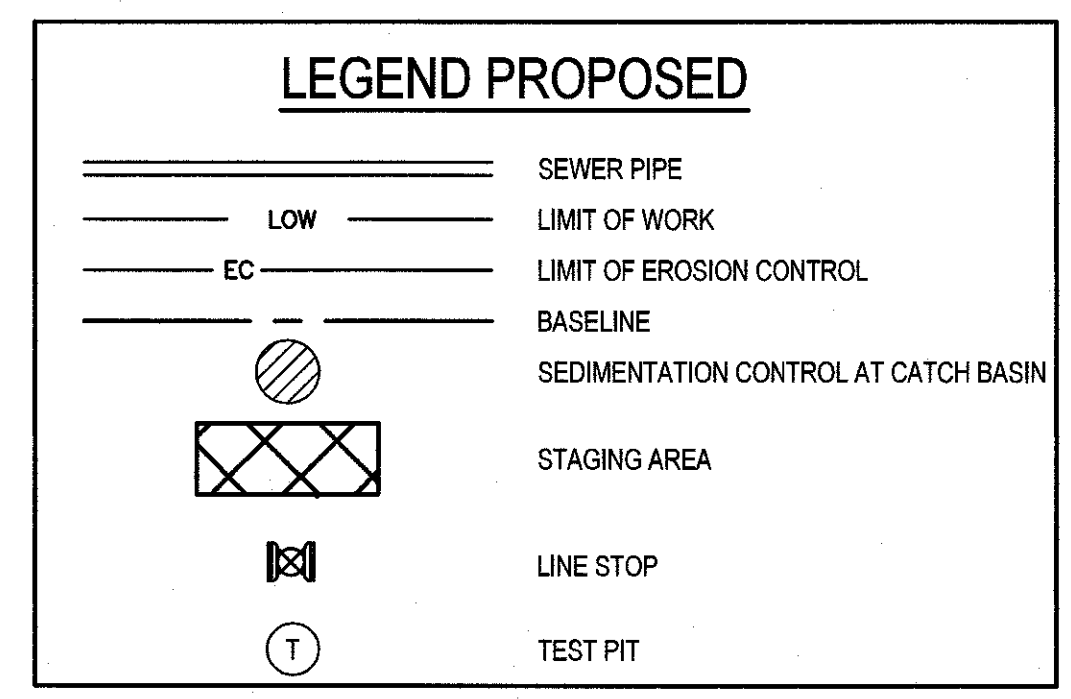
SCALE 1" = 10'



**1 EMERGENCY BYPASS CONNECTION / PIG LAUNCH SCHEMATIC DETAIL - ABOVE GRADE CONNECTION**

NOT TO SCALE

- NOTES:**
1. FOR NON-SENSORED FENCES, DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPE OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
  2. SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY AND GATE KEEPERS EXCEPT AS NOTED.
  3. ALL GATE FRAMES SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM F900 1.90\"/>
- EXAMPLES:** FE5, FE6, ETC. INCHES SO (SINGLE) DO (DOUBLE) RA (STANDARD) HO (OFFSET) FEET (CLEAR OPENING BETWEEN GATE)



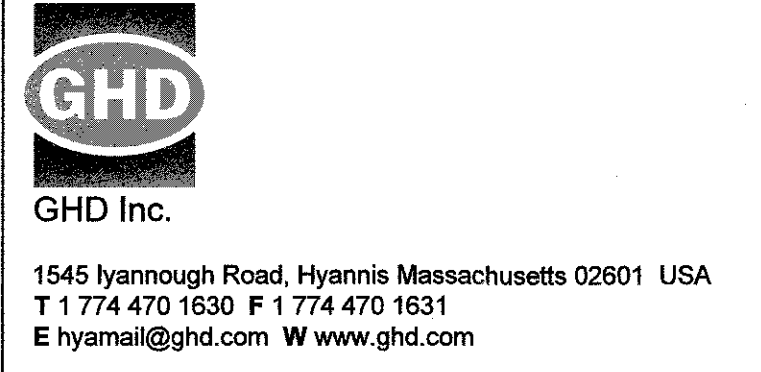
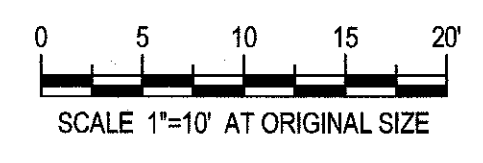
TYPICAL CORNER

DOUBLE LEAF GATE DETAIL

**2 CHAIN LINK FENCE DETAILS**

NOT TO SCALE

D	100% DESIGN PLANS - REVISION 1	JDF	RHK	MRD	1/19
C	100% DESIGN PLANS	JDF	RHK	MRD	12/18
B	95% DESIGN SUBMITTAL	JDF	RHK	MRD	12/17
A	CONCEPTUAL DESIGN	JDF	RHK	MRD	6/17
No	Revision	Drawn	Job Manager	Project Director	Date

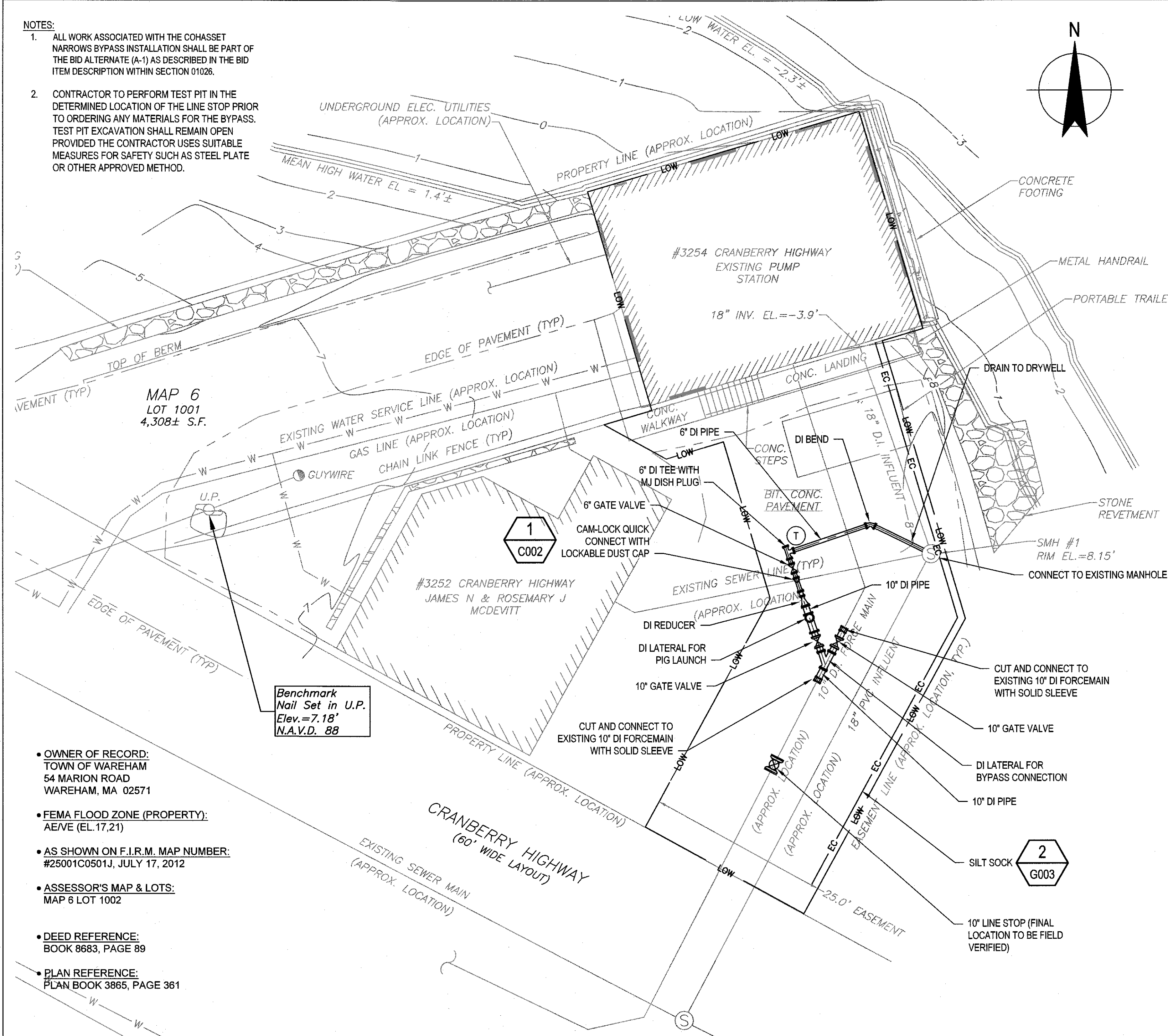


Drawn	JDF	Designer	RHK
Drafting Check	RHK	Design Check	RHK
Approved (Project Director)			
Date			
Scale	AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed for Construction	

Client	TOWN OF WAREHAM, MASSACHUSETTS		
Project	SEWER BYPASS INSTALLATIONS AT COHASSET NARROWS AND HYNES FIELD PUMP STATIONS		
Title	HYNES FIELD SITE PLAN AND DETAILS		
Original Size	ANSI D	Drawing No:	111-44294-C001
Rev:	C		

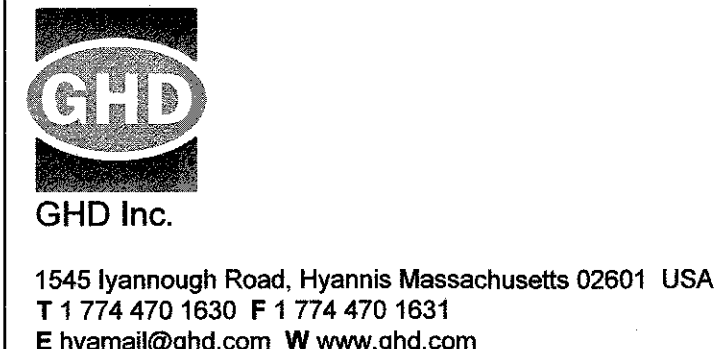
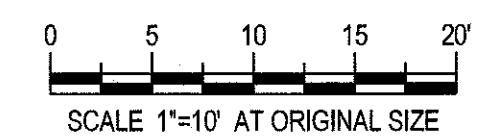
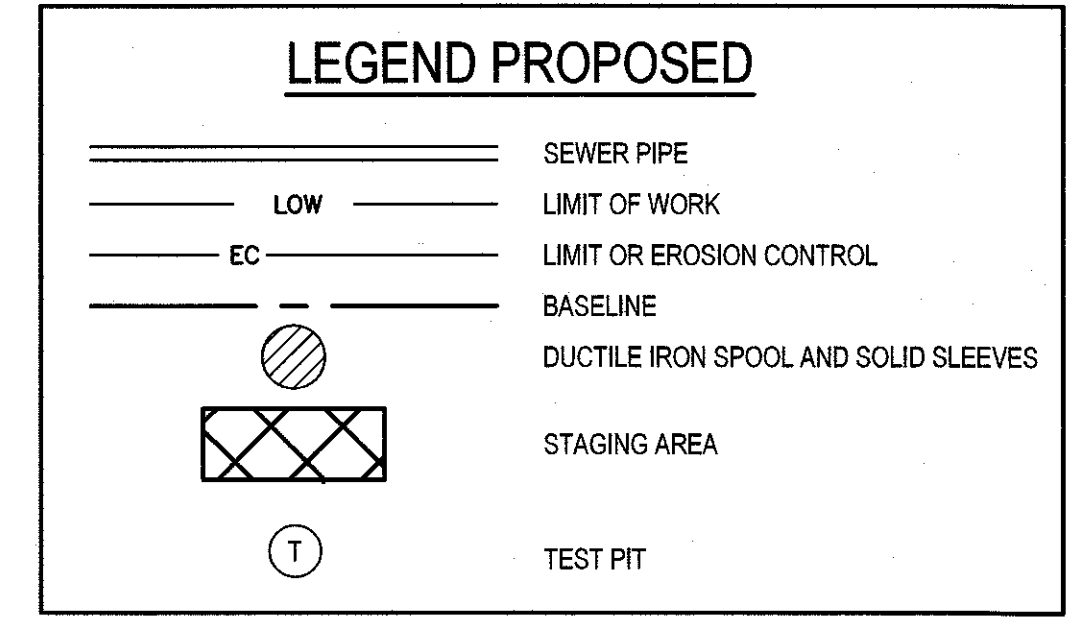


- NOTES:**
- ALL WORK ASSOCIATED WITH THE COHASSET NARROWS BYPASS INSTALLATION SHALL BE PART OF THE BID ALTERNATE (A-1) AS DESCRIBED IN THE BID ITEM DESCRIPTION WITHIN SECTION 01026.
  - CONTRACTOR TO PERFORM TEST PIT IN THE DETERMINED LOCATION OF THE LINE STOP PRIOR TO ORDERING ANY MATERIALS FOR THE BYPASS. TEST PIT EXCAVATION SHALL REMAIN OPEN PROVIDED THE CONTRACTOR USES SUITABLE MEASURES FOR SAFETY SUCH AS STEEL PLATE OR OTHER APPROVED METHOD.



**COHASSET NARROWS PUMPING STATION PLAN**  
SCALE 1" = 10'

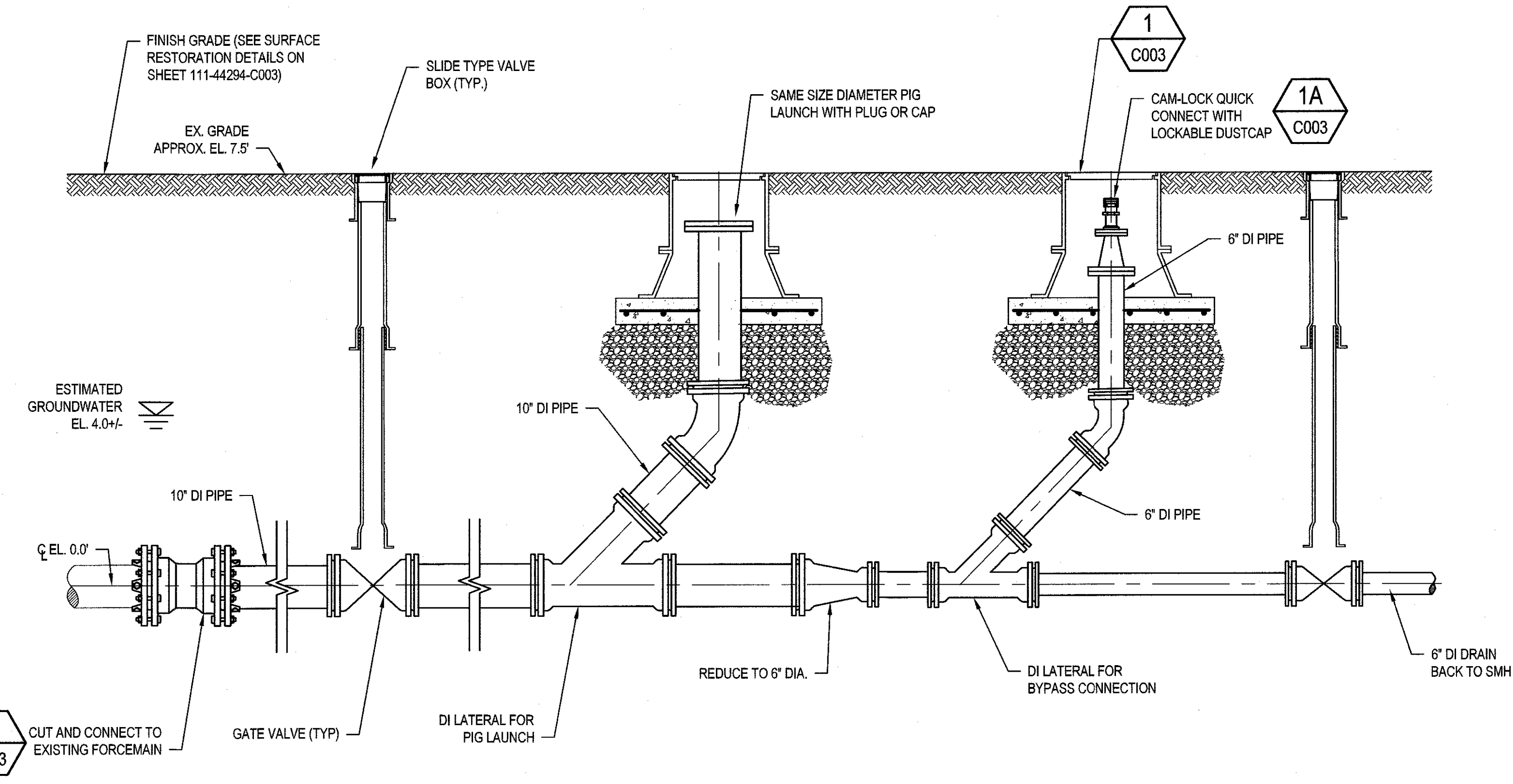
- OWNER OF RECORD:  
TOWN OF WAREHAM  
54 MARION ROAD  
WAREHAM, MA 02571
- FEMA FLOOD ZONE (PROPERTY):  
AE/VE (EL. 17.21)
- AS SHOWN ON F.I.R.M. MAP NUMBER:  
#25001C0501J, JULY 17, 2012
- ASSESSOR'S MAP & LOTS:  
MAP 8 LOT 1002
- DEED REFERENCE:  
BOOK 8683, PAGE 89
- PLAN REFERENCE:  
PLAN BOOK 3865, PAGE 361



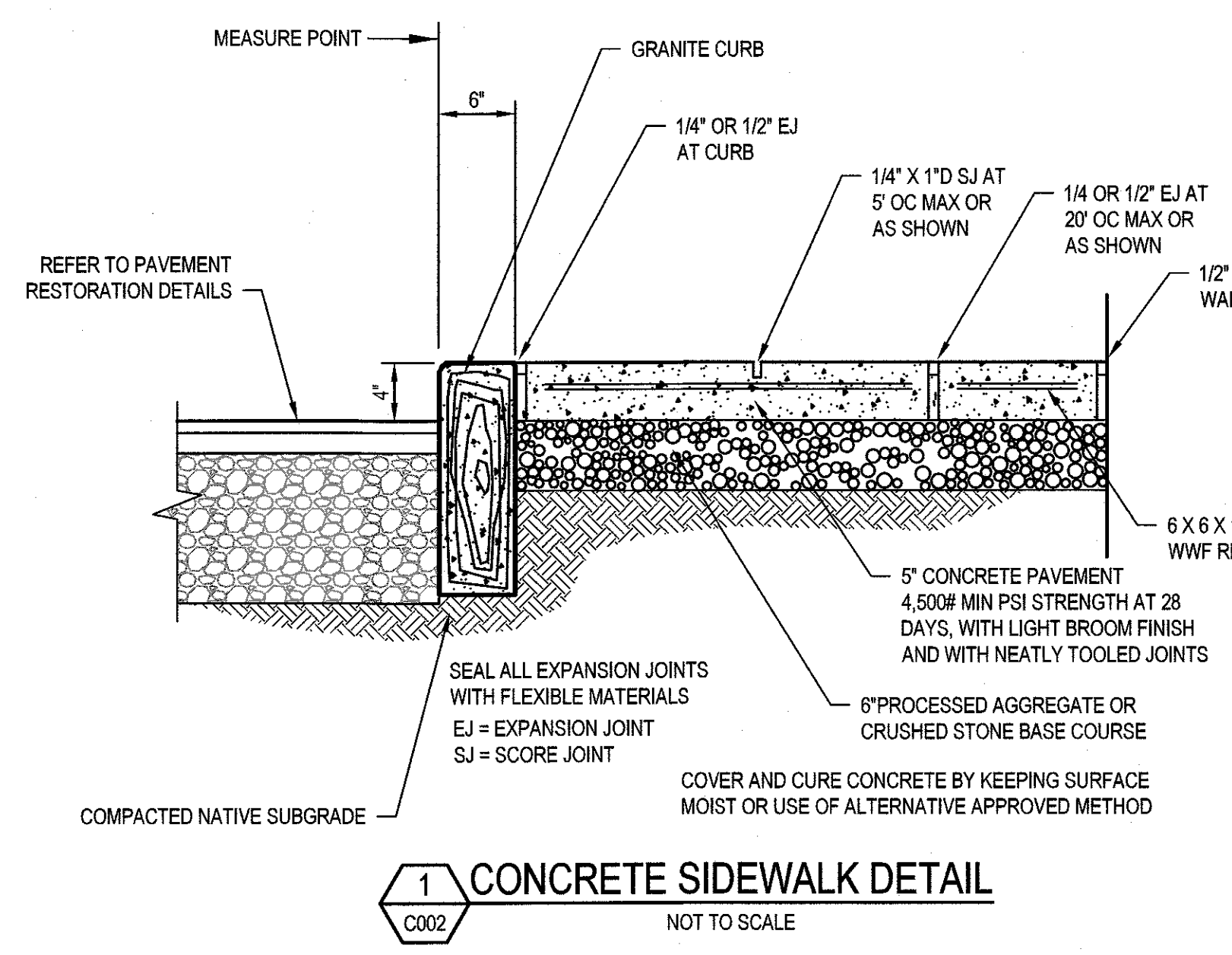
Drawn	JDF	Designer	JDF
Drafting Check	RHK	Design Check	RHK
Approved (Project Director)	Date		
Scale	AS SHOWN		

Client Project Title: **TOWN OF WAREHAM, MASSACHUSETTS SEWER BYPASS INSTALLATIONS AT COHASSET NARROWS AND HYNES FIELD PUMP STATIONS COHASSET NARROWS SITE PLAN AND DETAILS**

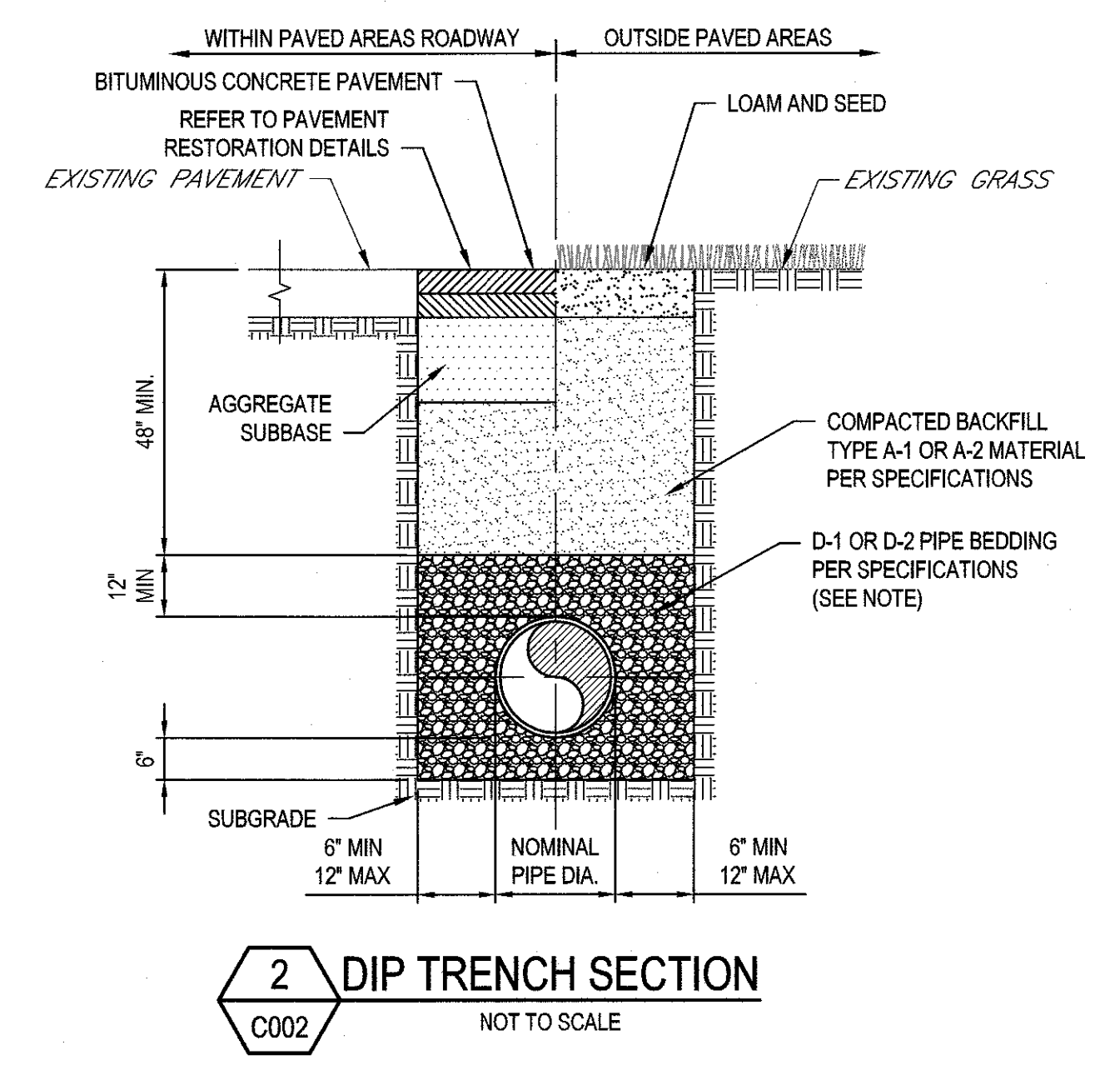
Original Size: **Ansi D** Drawing No: **111-44294-C002** Rev: **C**



**1 EMERGENCY BYPASS CONNECTION / PIG LAUNCH DETAIL - FLUSH WITH GRADE**  
NOT TO SCALE

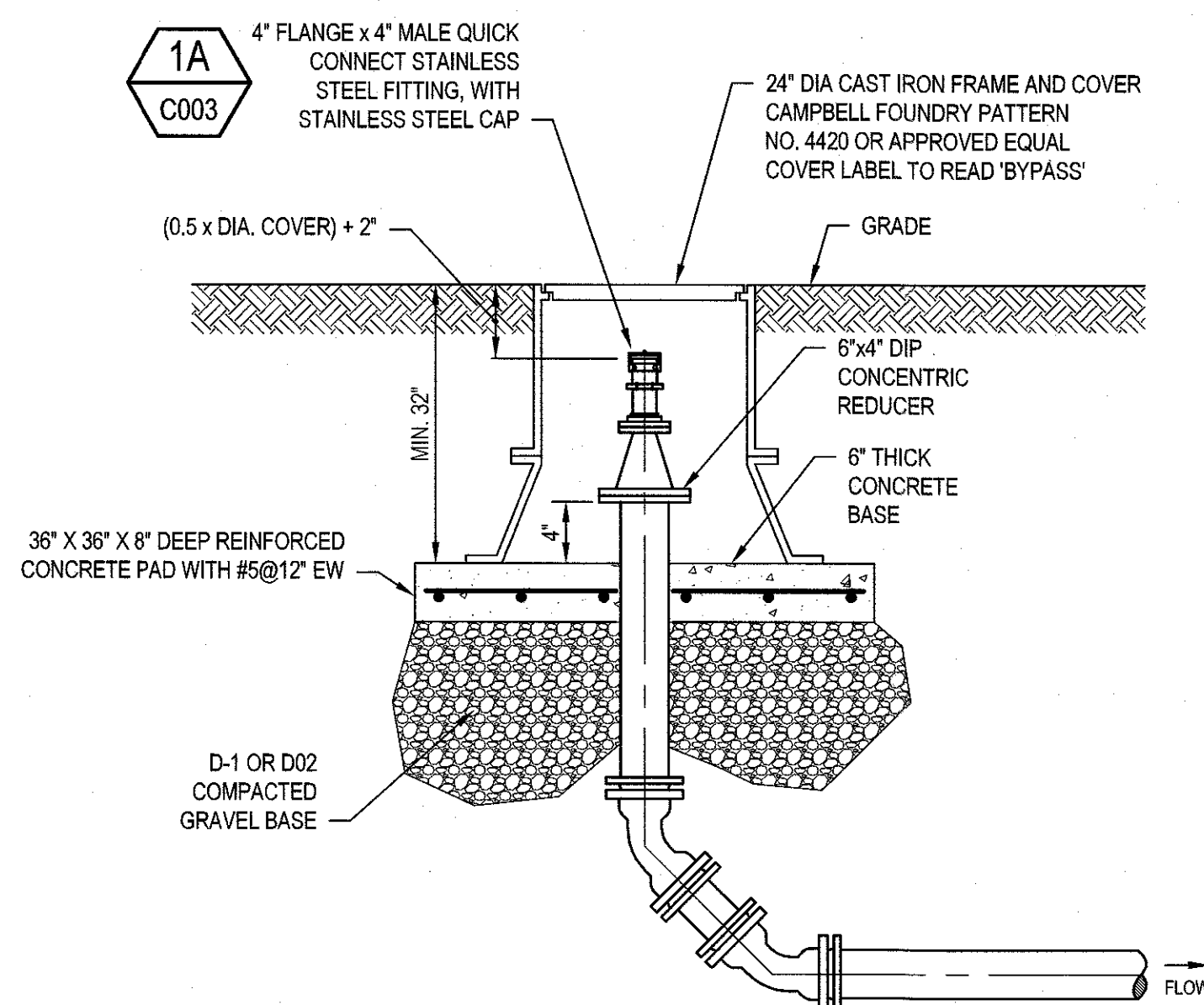


**1 CONCRETE SIDEWALK DETAIL**  
NOT TO SCALE

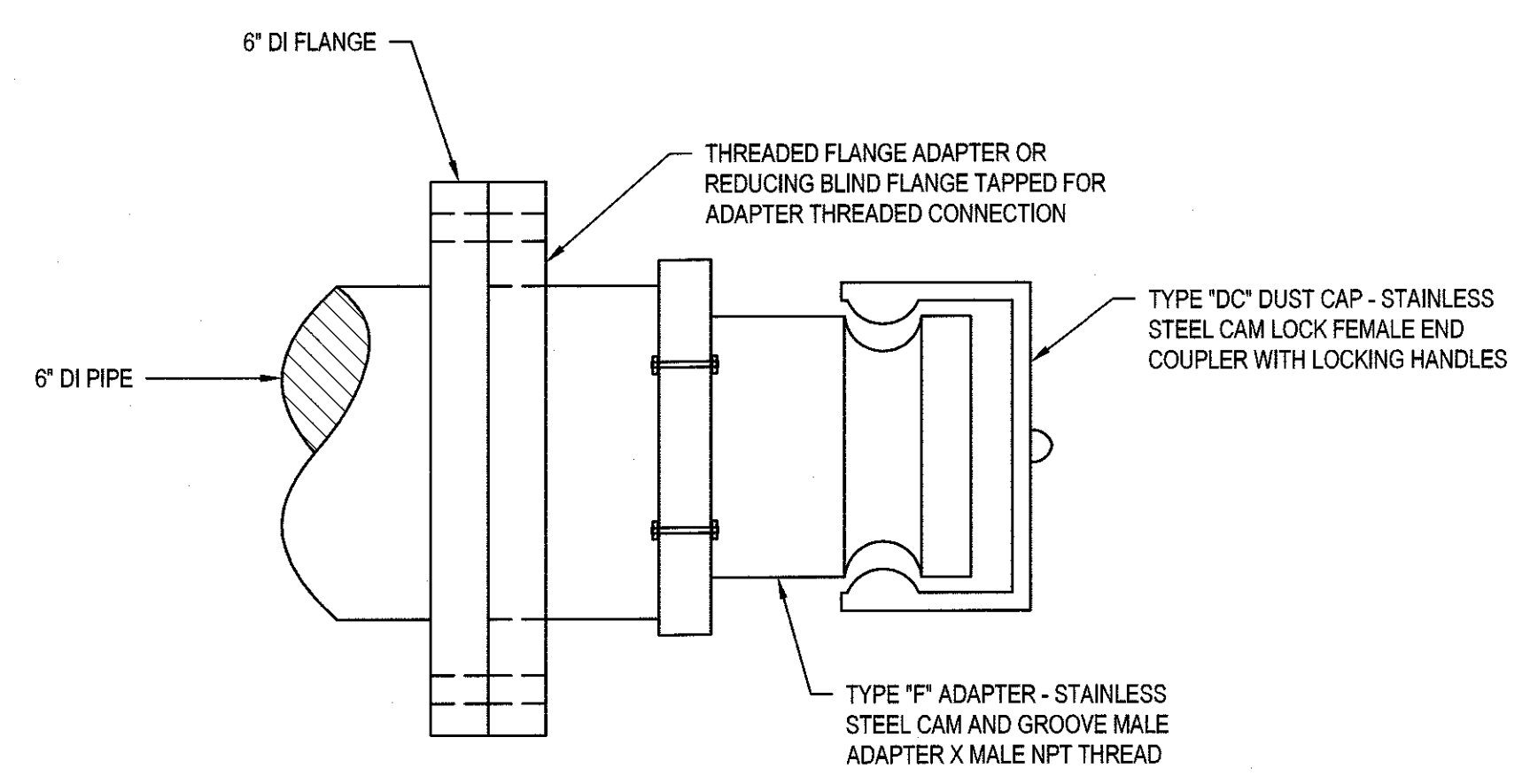


**2 DIP TRENCH SECTION**  
NOT TO SCALE

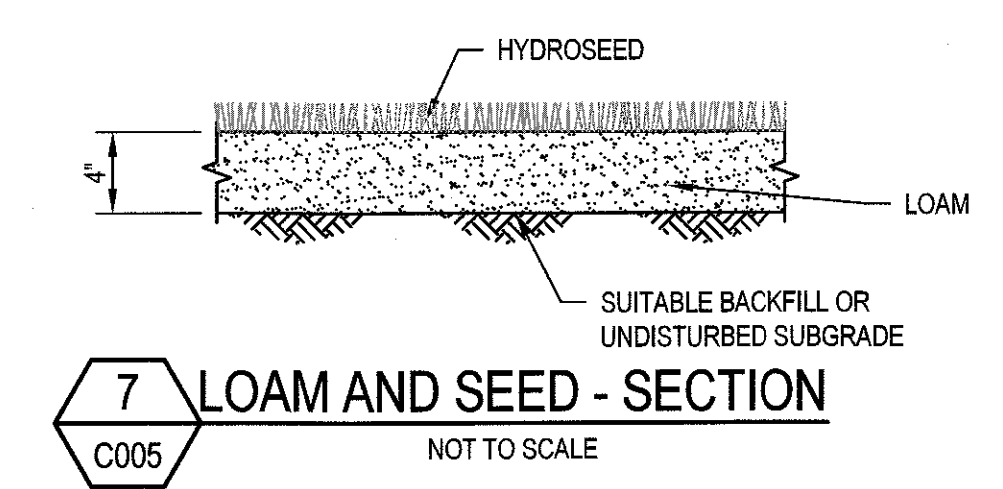
NOTE: FOR LOCATIONS WHERE GROUNDWATER LEVEL IS ABOVE TRENCH BOTTOM, PIPE BEDDING SHALL BE TYPE D-1 WITH 3/4\"/>



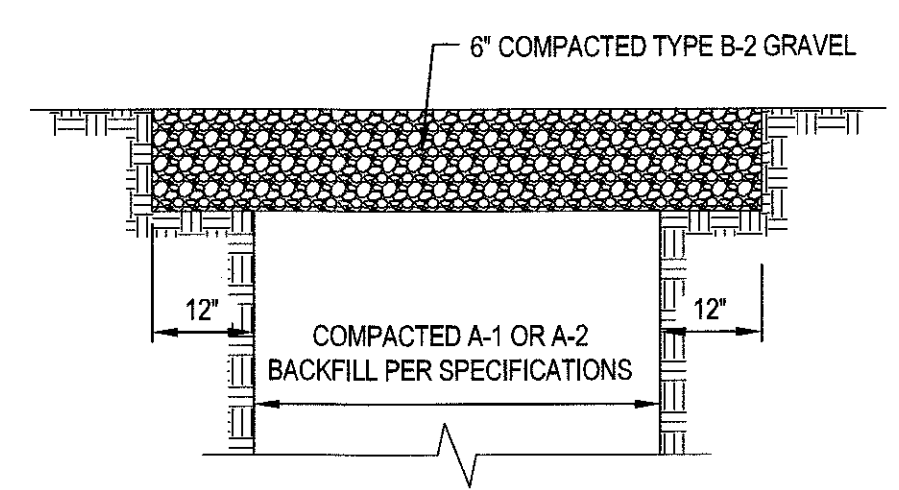
**1 CLEANOUT DETAIL (CO)**  
C003 NOT TO SCALE



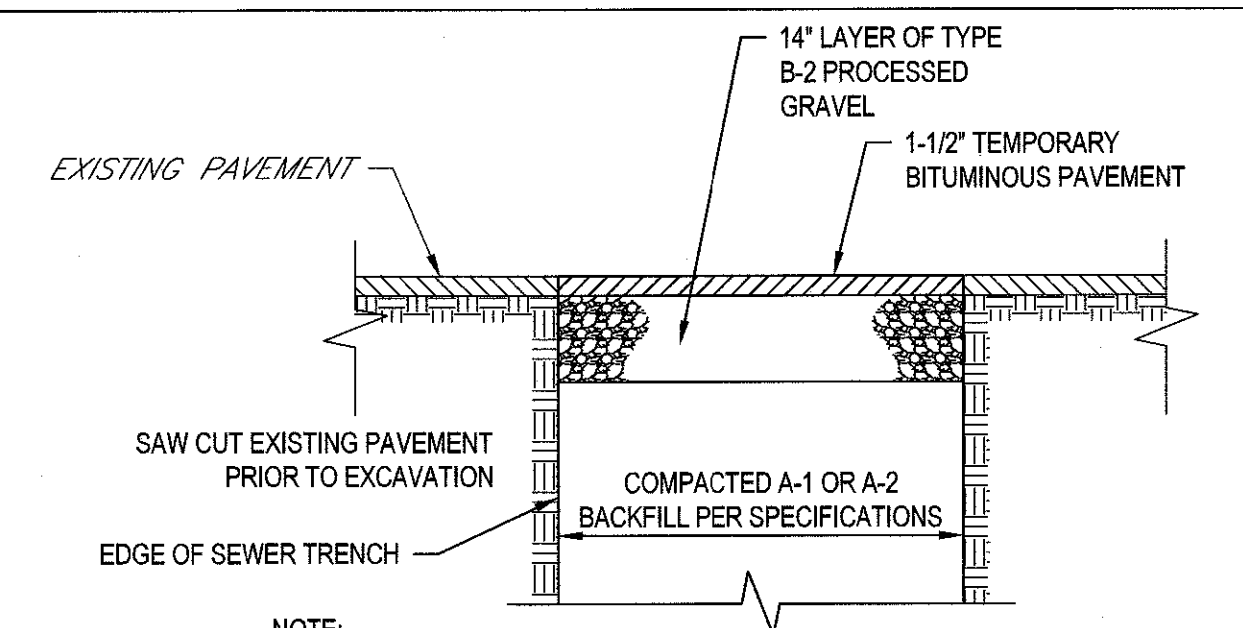
**2 FLANGE TAPPED FOR QUICK DISCONNECT DETAIL**  
C003 NOT TO SCALE



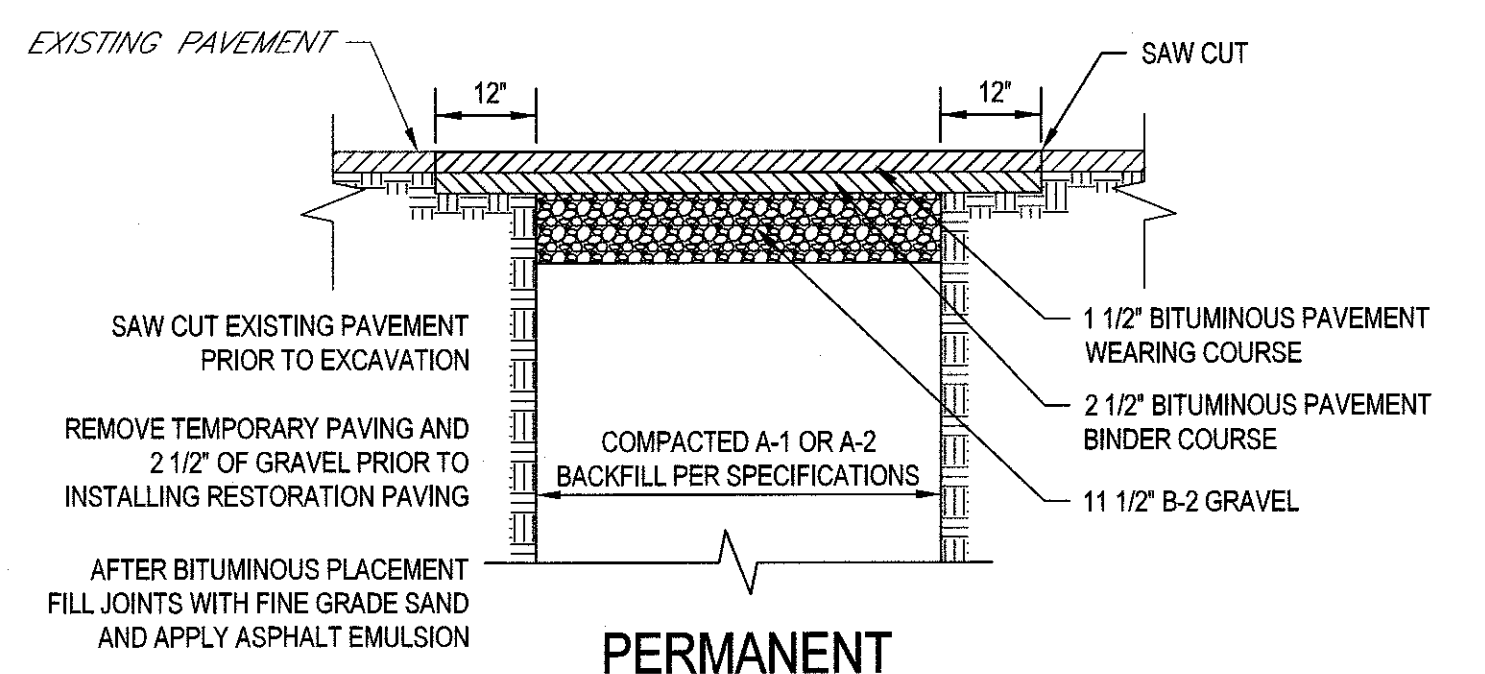
**7 LOAM AND SEED - SECTION**  
C005 NOT TO SCALE



**8 CRUSHED STONE DRIVE DETAIL**  
C003 NOT TO SCALE



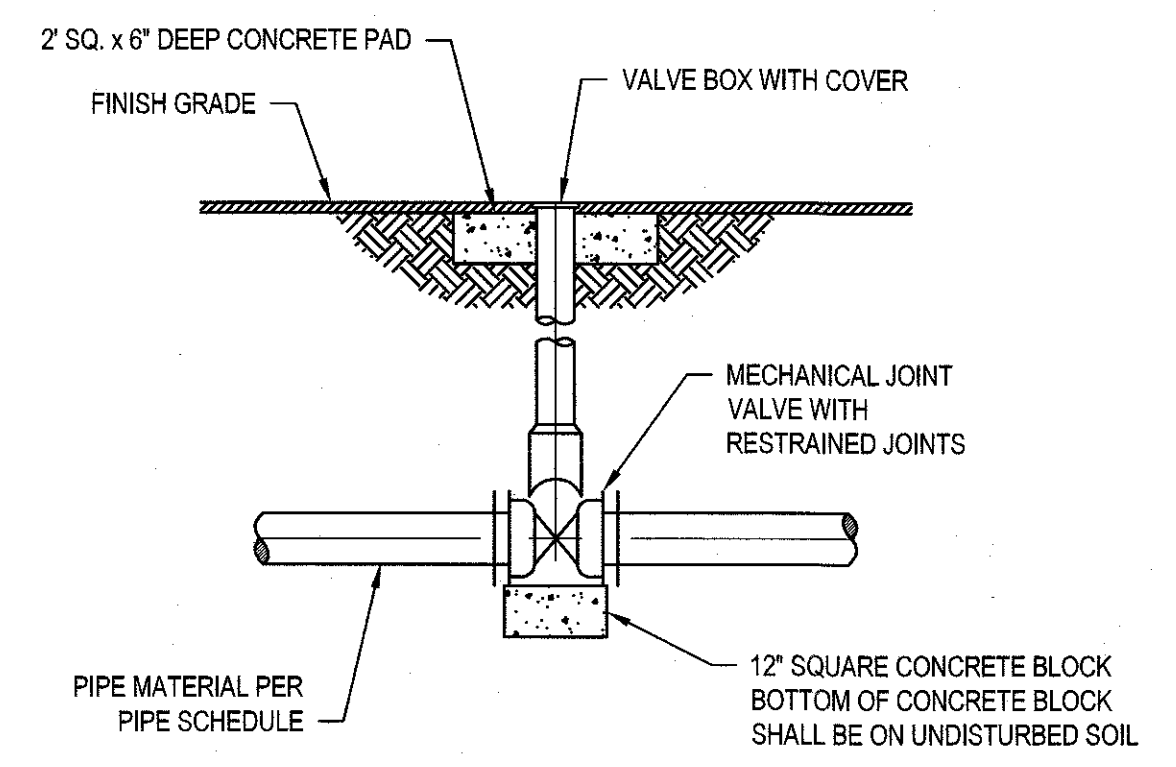
**10 TEMPORARY RESTORATION PAVING DETAIL**  
C005 NOT TO SCALE



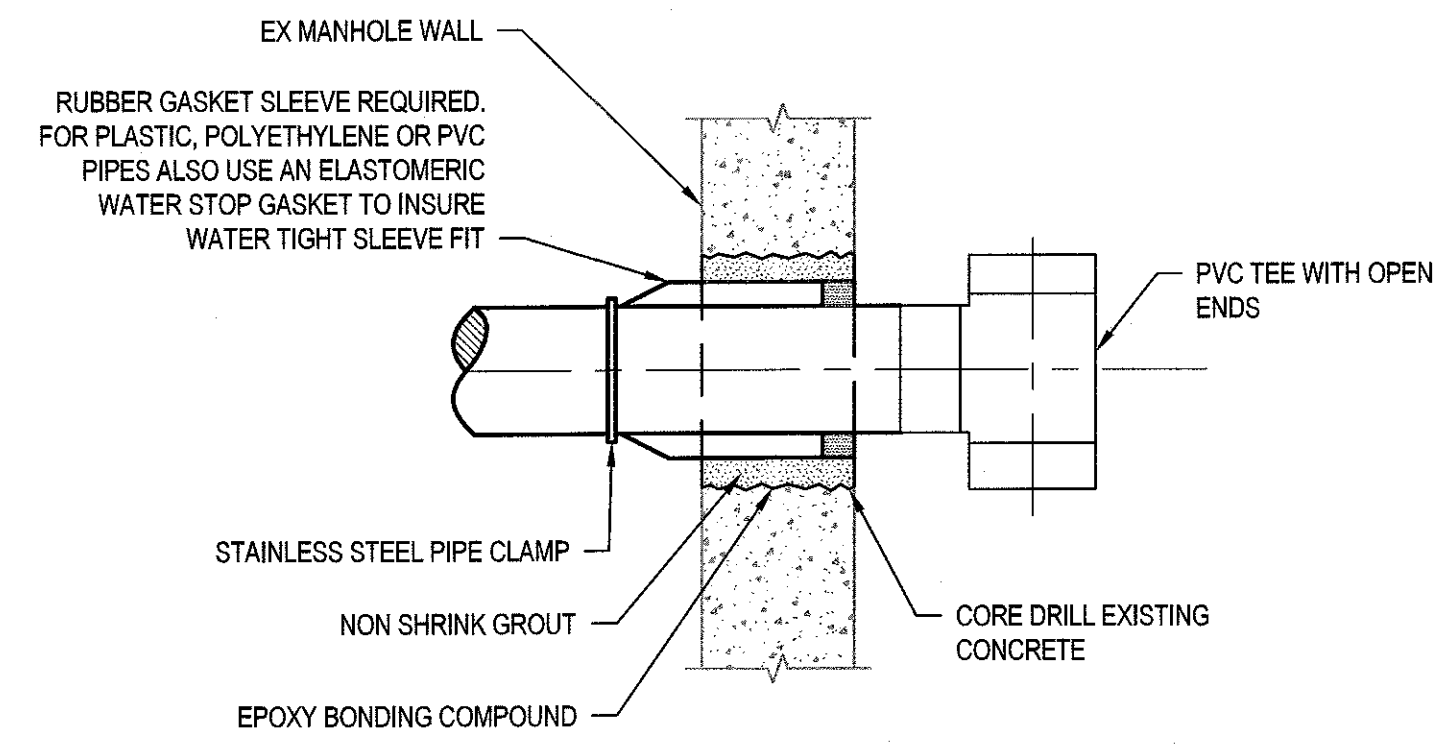
**11 PERMANENT RESTORATION PAVING DETAIL**  
C005 NOT TO SCALE

**GRAVEL SURFACE AND PAVING NOTES:**

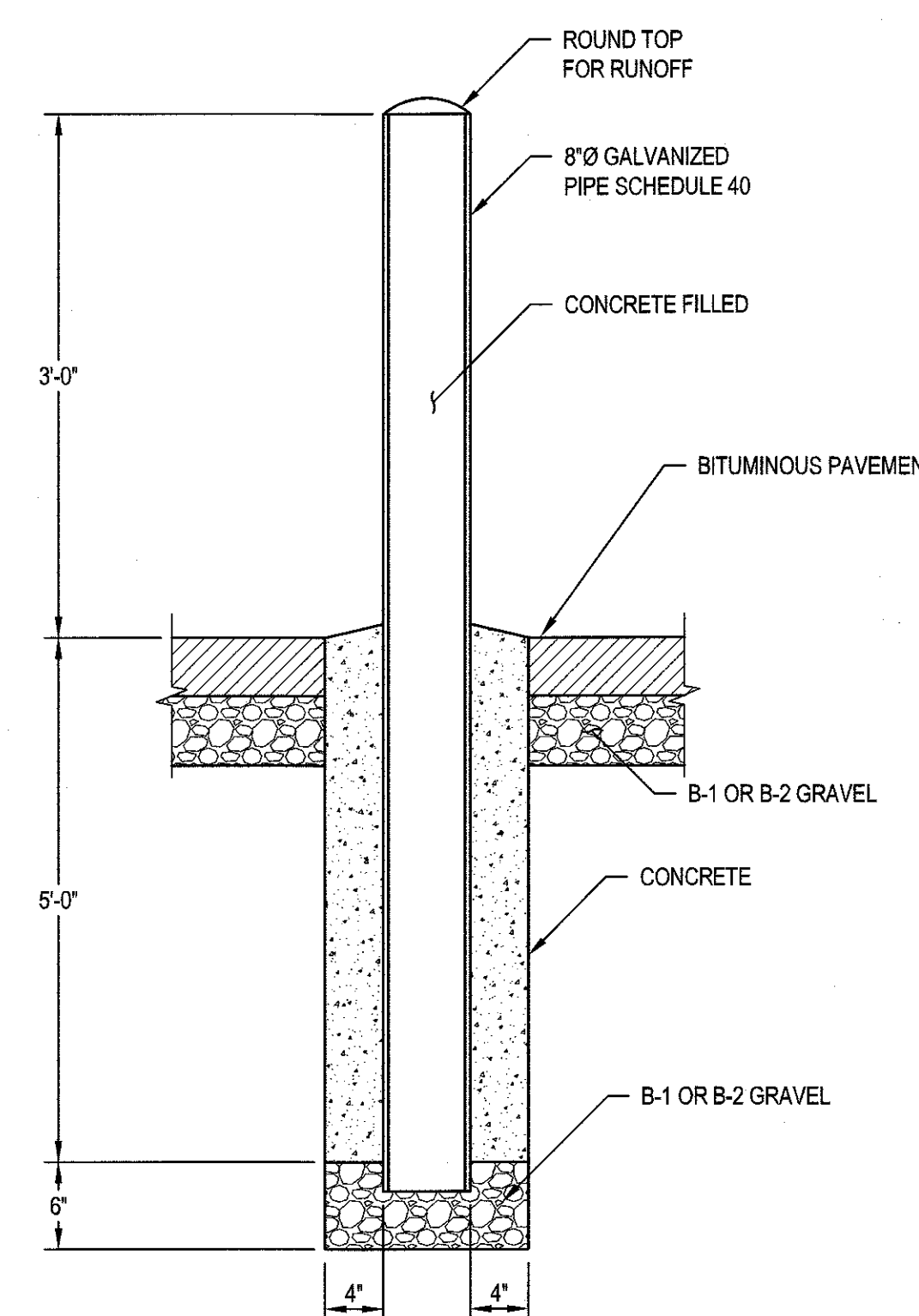
- CONTRACTOR SHALL BE RESPONSIBLE FOR RAISING OR LOWERING ALL NEW AND EXISTING FRAMES, COVERS, VALVE BOXES, CURB BOXES, ETC. TO PAVEMENT GRADE PER SPECIFICATION SECTION 02510.
- GRAVEL TO MATCH SIZE AND COLOR OF EXISTING ROADWAY.
- AFTER GRAVEL SURFACE HAS BEEN IN PLACE FOR AT LEAST 90 DAYS, PERFORM A FINAL GRADING AND PROVIDE GRAVEL FILL AS NECESSARY TO PROVIDE AN EVEN SURFACE.



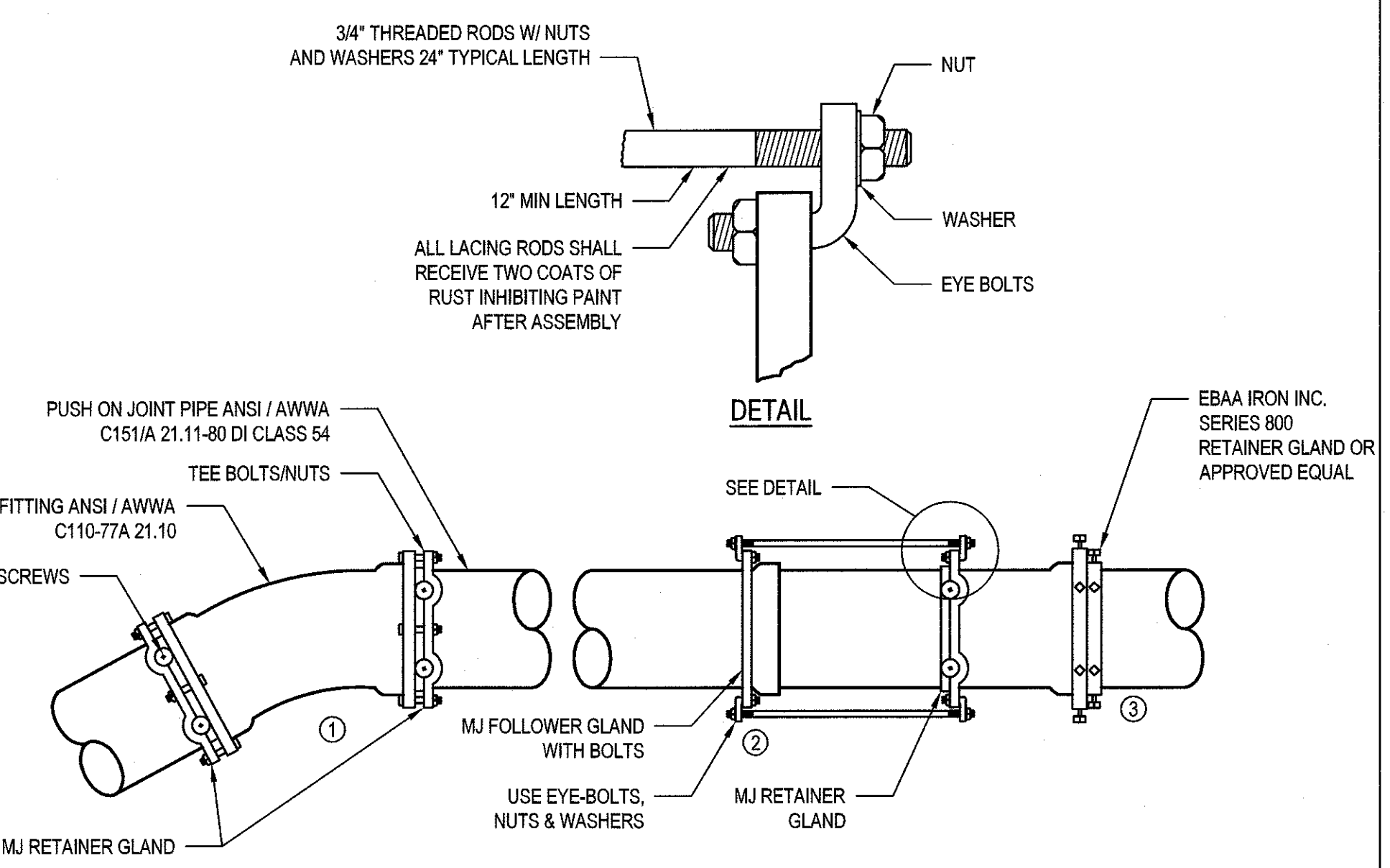
**3 TYPICAL DETAIL FOR ALL BURIED VALVES**  
C003 NOT TO SCALE



**4 TYPICAL WALL SLEEVE AT EXISTING MANHOLE**  
C003 NOT TO SCALE



**9 BOLLARD DETAIL**  
C003 NOT TO SCALE



**12 TYPICAL RESTRAINED JOINTS**  
C003 NOT TO SCALE

NOTE: PROVIDE EXTENDED OPERATOR STEM WITH 2\"/>

**NOTES:**

- ALL VALVES AND TEES SHALL BE RESTRAINED JOINT.
- CONTRACTOR SHALL CONFIRM EXISTING PIPE O.D. PRIOR TO THE CUTTING OF ANY EXISTING PIPE.

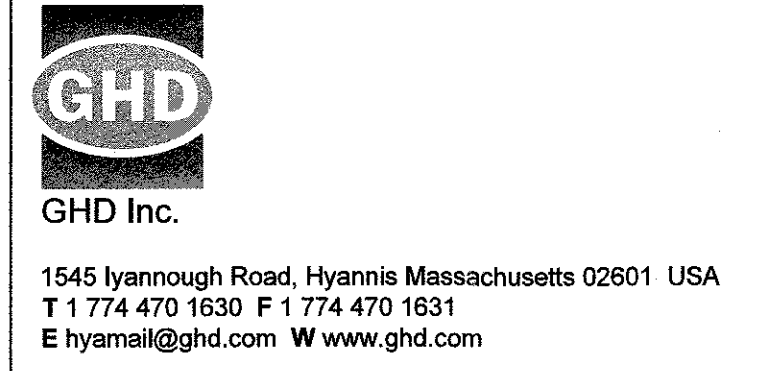
**NOTES:**

- ALL VALVES AND TEES SHALL BE RESTRAINED JOINT.
- CONTRACTOR SHALL CONFIRM EXISTING PIPE O.D. PRIOR TO THE CUTTING OF ANY EXISTING PIPE.

**NOTE:**

- BOLLARD SHALL BE COVERED WITH 'SAFETY YELLOW BUMPER POST SLEEVE' BY INTERSTATE PRODUCTS, INC OR EQUAL SLEEVE SHALL BE SOLID HDPE CONSTRUCTION WITH UV INHIBITORS.

D	100% DESIGN PLANS - REVISION 1		RHK	MRD	1/19	
C	100% DESIGN PLANS	JDF	RHK	MRD	12/18	
B	95% DESIGN SUBMITTAL	JDF	RHK	MRD	12/17	
A	CONCEPTUAL DESIGN	JDF	RHK	MRD	6/17	
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



Drawn	JDF	Designer	JDF
Drafting Check	RHK	Design Check	RHK
Approved (Project Director)			
Date			
Scale	AS SHOWN	This Drawing shall not be used for Construction unless Signed and Sealed For Construction	

Client	<b>TOWN OF WAREHAM, MASSACHUSETTS</b>		
Project	<b>SEWER BYPASS INSTALLATIONS AT COHASSET NARROWS AND HYNES FIELD PUMP STATIONS</b>		
Title	<b>MISCELLANEOUS DETAILS</b>		
Original Size	ANSI D	Drawing No:	<b>111-44294-C003</b>
Rev:	<b>C</b>		