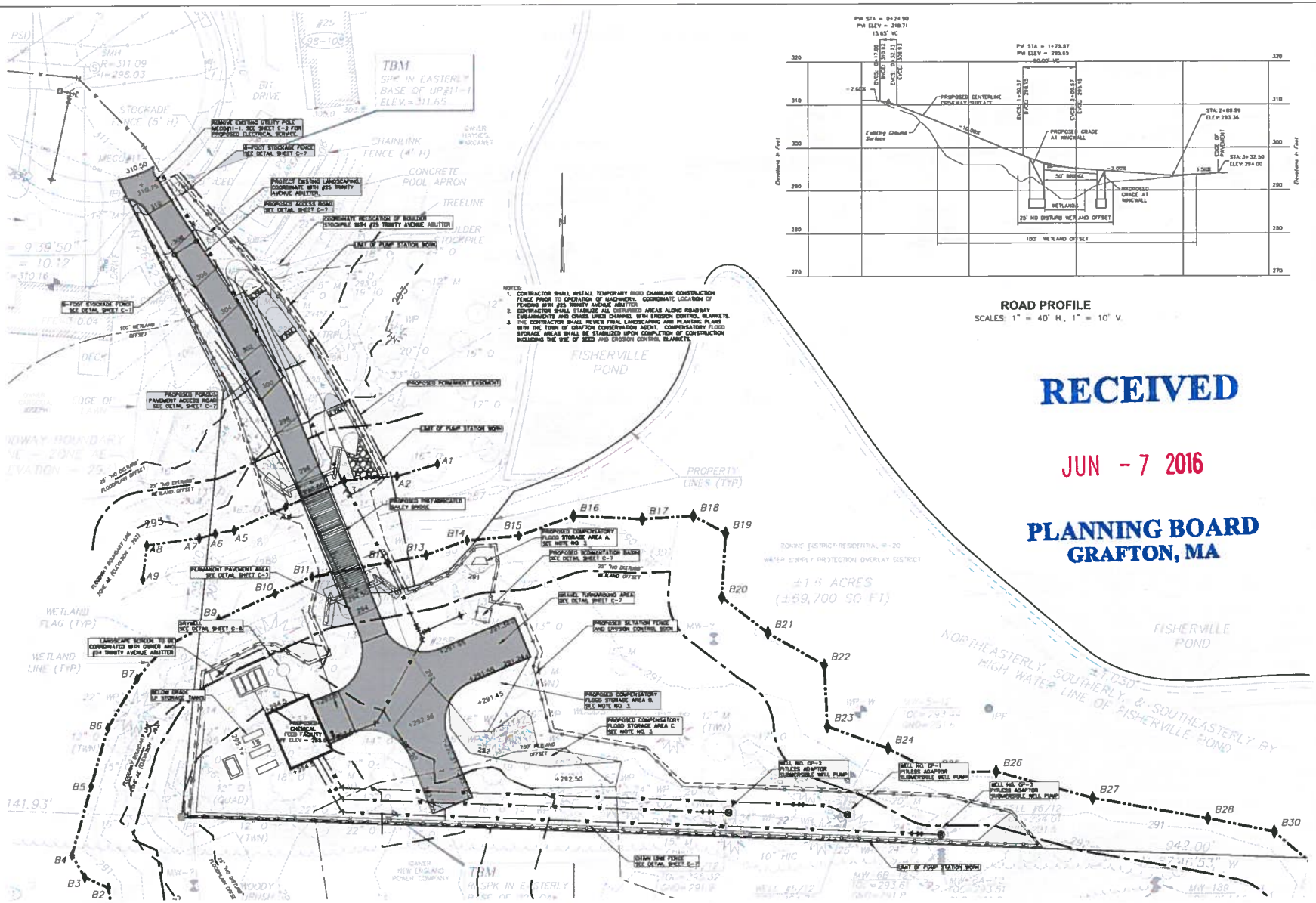


GRADING PLAN
SCALE 1" = 20'

ROAD PROFILE
SCALES: 1" = 40' H, 1" = 10' V.

RECEIVED
JUN - 7 2016
PLANNING BOARD
GRAFTON, MA

TRINITY AVENUE PUMP STATION

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILLBURY STREET
GRAFTON, MA 01519

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 96 LOT 121

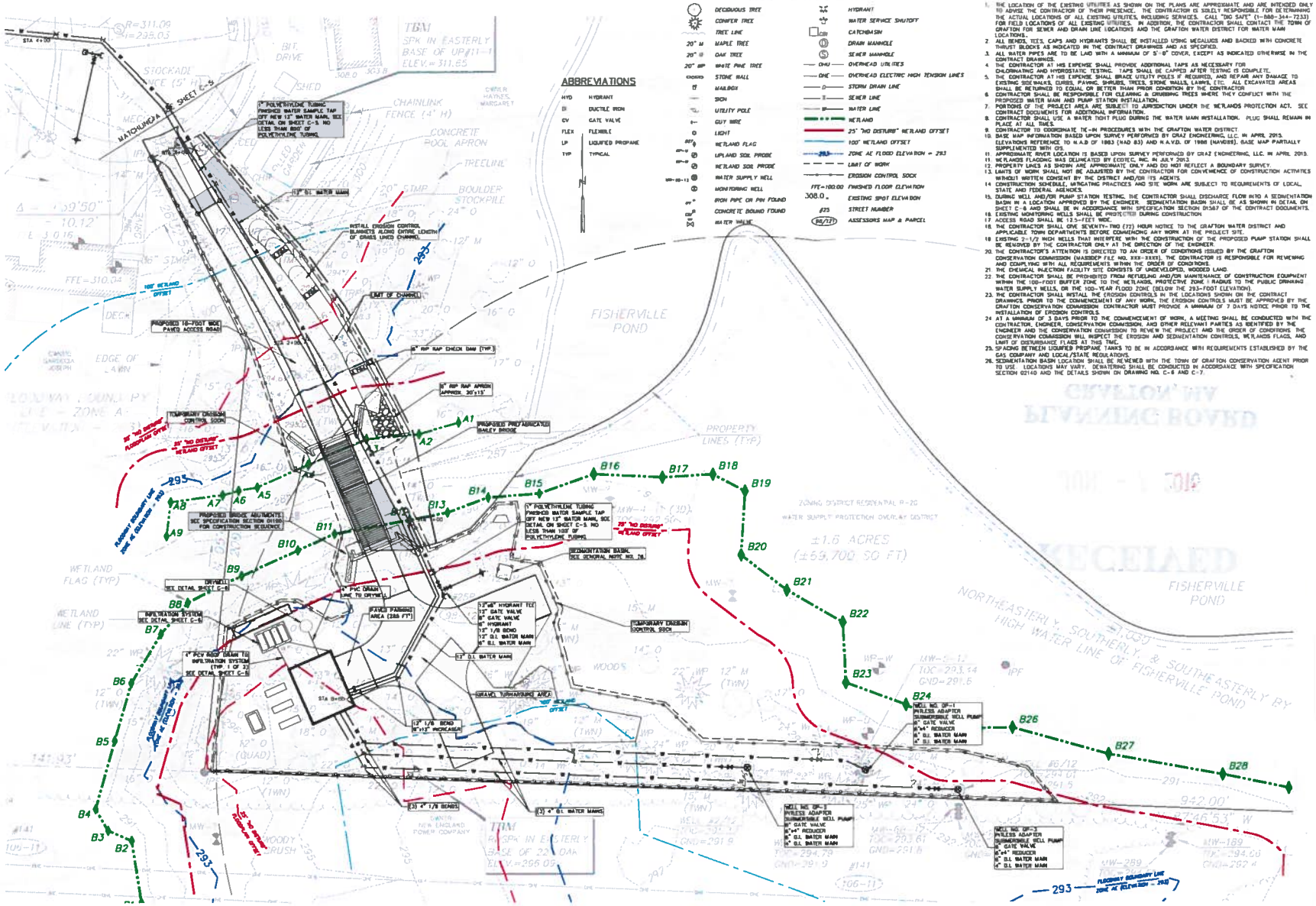
GRADING PLAN

REVIEW SUBMITTAL NOT FOR CONSTRUCTION

TATA & HOWARD
47 CHESTNUT STREET
MARLBOROUGH, MA 01752
(508) 303-9400

T&H NO.: 3763
DATE: JUNE 2016
SCALE: AS NOTED

C-3



TRINITY AVENUE STA. 0+00 TO STA. 3+25
SCALE: 1" = 20'

SYMBOLS & ABBREVIATIONS

DECIDUOUS TREE
CONIFER TREE
TREE LINE
20" M MAPLE TREE
20" B OAK TREE
20" WP WHITE PINE TREE
STONE WALL
MAILBOX
SIGN
UTILITY POLE
GUY WIRE
LIGHT
WETLAND FLAG
UPLAND SOIL PROBE
WETLAND SOIL PROBE
WATER SUPPLY WELL
MONITORING WELL
IRON PIPE OR PIN FOUND
CONCRETE BOUND FOUND
WATER VALVE
HYDRANT
WATER SERVICE SHUTOFF
CB CATCHBASIN
DRAIN MANHOLE
SEWER MANHOLE
OHU OVERHEAD UTILITIES
OHE OVERHEAD ELECTRIC HIGH TENSION LINES
D STORM DRAIN LINE
S SEWER LINE
W WATER LINE
WETLAND
25' "NO DISTURB" WETLAND OFFSET
100' WETLAND OFFSET
ZONE AE FLOOD ELEVATION = 293
LIMIT OF WORK
EROSION CONTROL SOCK
FFE=100.00 FINISHED FLOOR ELEVATION
308.0 EXISTING SPOT ELEVATION
#25 STREET NUMBER
(86/121) ASSESSORS MAP & PARCEL

ABBREVIATIONS

HYD	HYDRANT
DI	DUCTILE IRON
GV	GATE VALVE
FLEX	FLEXIBLE
LP	LIQUIFIED PROPANE
TYP	TYPICAL

GENERAL NOTES

1. THE LOCATION OF THE EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE INTENDED ONLY TO ADVISE THE CONTRACTOR OF THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATIONS OF ALL EXISTING UTILITIES, INCLUDING SERVICES. CALL "DIG SAFE" (1-888-344-7233) FOR FIELD LOCATIONS OF ALL EXISTING UTILITIES. IN ADDITION, THE CONTRACTOR SHALL CONTACT THE TOWN OF GRAFTON FOR SEWER AND DRAIN LINE LOCATIONS AND THE GRAFTON WATER DISTRICT FOR WATER MAIN LOCATIONS.
2. ALL BENDS, TEES, CAPS AND HYDRANTS SHALL BE INSTALLED USING MEGALUGS AND BACKED WITH CONCRETE THRUST BLOCKS AS INDICATED IN THE CONTRACT DRAWINGS AND AS SPECIFIED.
3. ALL WATER PIPES ARE TO BE LAID WITH A MINIMUM OF 5'-0" COVER, EXCEPT AS INDICATED OTHERWISE IN THE CONTRACT DRAWINGS.
4. THE CONTRACTOR AT HIS EXPENSE SHALL PROVIDE ADDITIONAL TAPS AS NECESSARY FOR CHLORINATING AND HYDROSTATIC TESTING. TAPS SHALL BE CAPPED AFTER TESTING IS COMPLETE.
5. THE CONTRACTOR AT HIS EXPENSE SHALL BRACE UTILITY POLES IF REQUIRED, AND REPAIR ANY DAMAGE TO EXISTING SIDEWALKS, CURBS, PAVING, SHRUBS, TREES, STONE WALLS, LAWNS, ETC. ALL EXCAVATED AREAS SHALL BE RETURNED TO EQUAL OR BETTER THAN PRIOR CONDITION BY THE CONTRACTOR.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING & CRUSHING TREES WHERE THEY CONFLICT WITH THE PROPOSED WATER MAIN AND PUMP STATION INSTALLATION.
7. PORTIONS OF THE PROJECT AREA ARE SUBJECT TO JURISDICTION UNDER THE WETLANDS PROTECTION ACT. SEE CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.
8. CONTRACTOR SHALL USE A WATER TIGHT PLUG DURING THE WATER MAIN INSTALLATION. PLUG SHALL REMAIN IN PLACE AT ALL TIMES.
9. CONTRACTOR TO COORDINATE TIE-IN PROCEDURES WITH THE GRAFTON WATER DISTRICT.
10. BASE MAP INFORMATION BASED UPON SURVEY PERFORMED BY CRAZ ENGINEERING, LLC. IN APRIL 2013. ELEVATIONS REFERENCE TO N.A.D OF 1983 (NAD 83) AND N.A.V.D. OF 1988 (NAVD88). BASE MAP PARTIALLY SUPPLEMENTED WITH GPS.
11. APPROXIMATE RIVER LOCATION IS BASED UPON SURVEY PERFORMED BY CRAZ ENGINEERING, LLC. IN APRIL 2013.
11. WETLANDS FLAGGING WAS DELINEATED BY ECOTEC, INC. IN JULY 2012.
12. PROPERTY LINES AS SHOWN ARE APPROXIMATE ONLY AND DO NOT REFLECT A BOUNDARY SURVEY.
13. LIMITS OF WORK SHALL NOT BE ADJUSTED BY THE CONTRACTOR FOR CONVENIENCE OF CONSTRUCTION ACTIVITIES WITHOUT WRITTEN CONSENT BY THE DISTRICT AND/OR ITS AGENTS.
14. CONSTRUCTION SCHEDULE, MITIGATING PRACTICES AND SITE WORK ARE SUBJECT TO REQUIREMENTS OF LOCAL, STATE AND FEDERAL AGENCIES.
15. DURING WELL AND/OR PUMP STATION TESTING, THE CONTRACTOR SHALL DISCHARGE FLOW INTO A SEDIMENTATION BASIN IN A LOCATION APPROVED BY THE ENGINEER. SEDIMENTATION BASIN SHALL BE AS SHOWN IN DETAIL ON SHEET C-6 AND SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 01587 OF THE CONTRACT DOCUMENTS.
16. EXISTING MONITORING WELLS SHALL BE PROTECTED DURING CONSTRUCTION.
17. ACCESS ROAD SHALL BE 12.5-FEET WIDE.
18. THE CONTRACTOR SHALL GIVE SEVENTY-TWO (72) HOUR NOTICE TO THE GRAFTON WATER DISTRICT AND APPLICABLE TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK AT THE PROJECT SITE.
19. EXISTING 2-1/2 INCH WELLS THAT INTERFERE WITH THE CONSTRUCTION OF THE PROPOSED PUMP STATION SHALL BE REMOVED BY THE CONTRACTOR ONLY AT THE DIRECTION OF THE ENGINEER.
20. THE CONTRACTOR'S ATTENTION IS DIRECTED TO AN ORDER OF CONDITIONS ISSUED BY THE GRAFTON CONSERVATION COMMISSION (MASSDEP FILE NO. XXX-XXXX). THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COMPLYING WITH ALL REQUIREMENTS WITHIN THE ORDER OF CONDITIONS.
21. THE CHEMICAL INJECTION FACILITY SITE CONSISTS OF UNDEVELOPED, WOODED LAND.
22. THE CONTRACTOR SHALL BE PROHIBITED FROM REFUELING AND/OR MAINTENANCE OF CONSTRUCTION EQUIPMENT WITHIN THE 100-FOOT BUFFER ZONE TO THE WETLANDS, PROTECTIVE ZONE I RADIUS TO THE PUBLIC DRINKING WATER SUPPLY WELLS, OR THE 100-YEAR FLOOD ZONE (BELOW THE 293-FOOT ELEVATION).
23. THE CONTRACTOR SHALL INSTALL THE EROSION CONTROLS IN THE LOCATIONS SHOWN ON THE CONTRACT DRAWINGS PRIOR TO THE COMMENCEMENT OF ANY WORK. THE EROSION CONTROLS MUST BE APPROVED BY THE GRAFTON CONSERVATION COMMISSION. CONTRACTOR MUST PROVIDE A MINIMUM OF 7 DAYS NOTICE PRIOR TO THE INSTALLATION OF EROSION CONTROLS.
24. AT A MINIMUM OF 3 DAYS PRIOR TO THE COMMENCEMENT OF WORK, A MEETING SHALL BE CONDUCTED WITH THE CONTRACTOR, ENGINEER, CONSERVATION COMMISSION, AND OTHER RELEVANT PARTIES AS IDENTIFIED BY THE ENGINEER AND THE CONSERVATION COMMISSION TO REVIEW THE PROJECT AND THE ORDER OF CONDITIONS. THE CONSERVATION COMMISSION WILL INSPECT THE EROSION AND SEDIMENTATION CONTROLS, WETLANDS FLAGS, AND LIMIT OF DISTURBANCE FLAGS AT THIS TIME.
25. SPACING BETWEEN LIQUIFIED PROPANE TANKS TO BE IN ACCORDANCE WITH REQUIREMENTS ESTABLISHED BY THE GAS COMPANY AND LOCAL/STATE REGULATIONS.
26. SEDIMENTATION BASIN LOCATION SHALL BE REVIEWED WITH THE TOWN OF GRAFTON CONSERVATION AGENT PRIOR TO USE. LOCATIONS MAY VARY. DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH SPECIFICATION SECTION 02140 AND THE DETAILS SHOWN ON DRAWING NO. C-6 AND C-7.

TRINITY AVENUE PUMP STATION

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 98 LOT 121

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILBURY STREET
GRAFTON, MA 01519

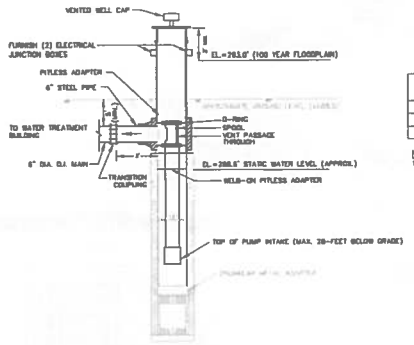
UTILITY PLAN 1

REVIEW SUBMITTAL NOT FOR CONSTRUCTION

TATA & HOWARD
87 FOREST STREET
MARLBOROUGH, MA 01752
(508) 303-9400

TAH NO.: 3763
DATE: JUNE 2016
SCALE: 1" = 20'

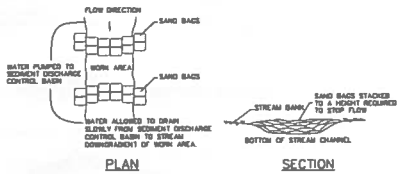
C-4



WELL NO.	WELL DEPTH (FEET)	SCREEN LENGTH (FEET)
GP-1	37'	8'
GP-2	39'	8'
GP-3	36'	5'

NOTE:
1. SEE SPECIFICATION SECTIONS 11216 AND 13420 FOR ADDITIONAL INFORMATION

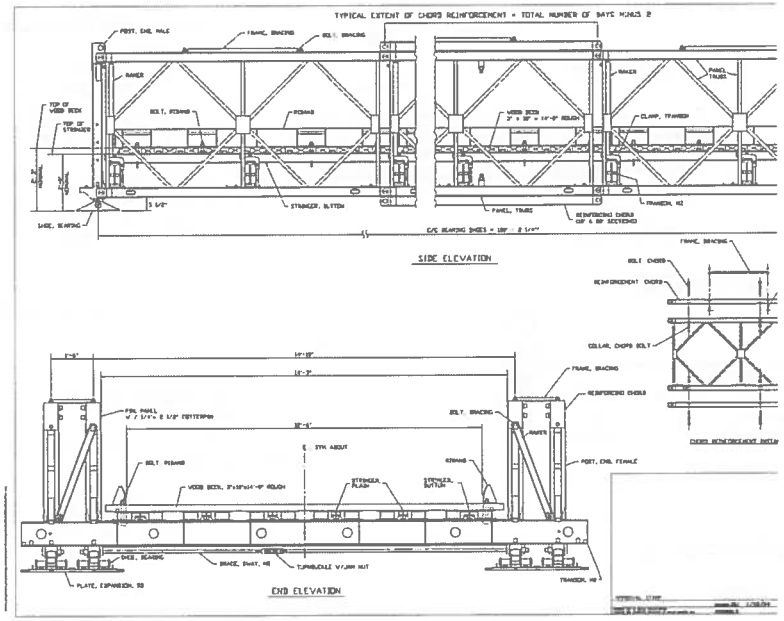
GRAVEL PACKED WELL WITH PITLESS ADAPTER
SCALE: NONE



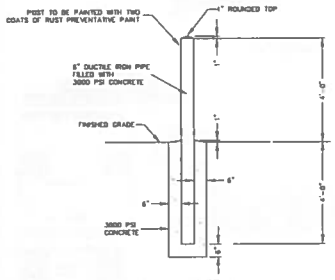
PLAN

SECTION

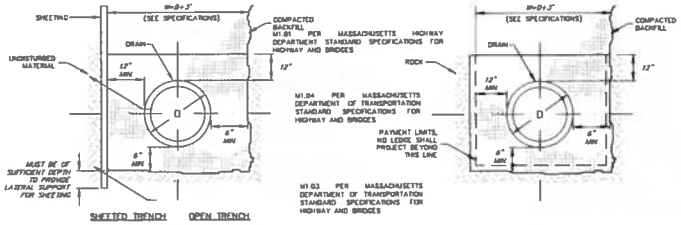
TYPICAL COFFERDAM
N.T.S.



BAILEY BRIDGE
SCALE: NONE

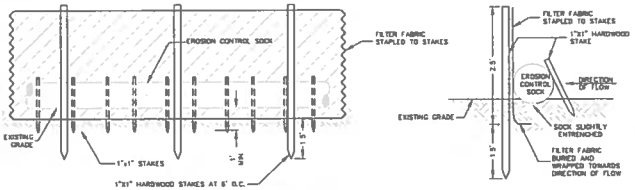


BOLLARD DETAIL
SCALE: NONE

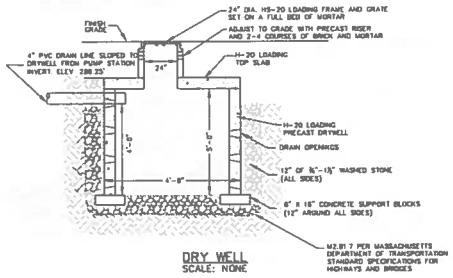


PVC DRAINAGE LINE TRENCH SECTIONS
SCALE: NONE

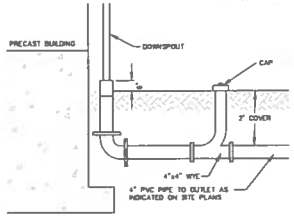
NOTES:
1. BARBWIRE ARM BLADES ON FENCE WILL BE VERTICAL FOR ENTIRE LENGTH OF CANTILEVER GATE
2. ALL GATES ARE WELD CONSTRUCTION



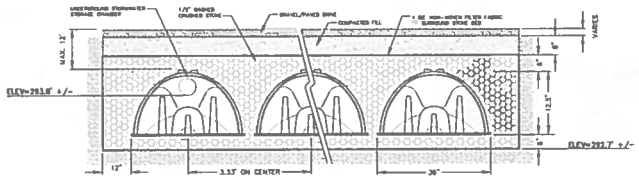
EROSION CONTROLS
SCALE: NONE



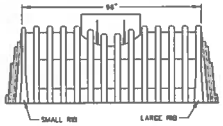
DRY WELL
SCALE: NONE



ROOF DRAIN
SCALE: NONE



UNDERGROUND DRAINAGE BASIN
SCALE: NONE



UNDERGROUND DRAINAGE BASIN
SCALE: NONE

TRINITY AVENUE PUMP STATION

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 98 LOT 121

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILLBURY STREET
GRAFTON, MA 01519

1	6/5/14	Revised Submittal Submittal	
0	3/14/14	Original Submittal Submittal	

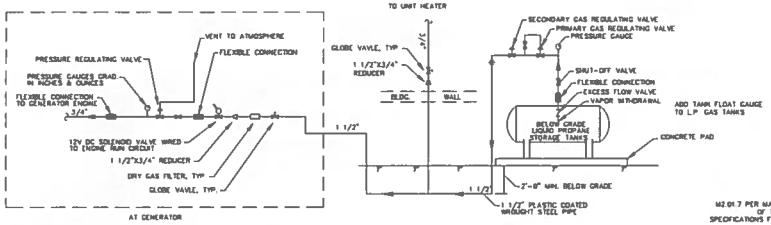
DETAILS 1

REVIEW SUBMITTAL NOT FOR CONSTRUCTION

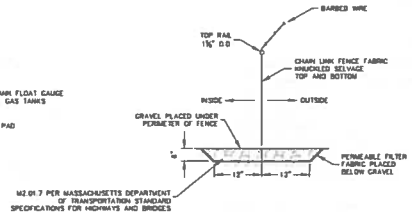
TATA & HOWARD
67 FOREST STREET
MARLBOROUGH, MA 01752
(508) 303-9400

Job No.: 3703
DATE: JUNE 2014
SCALE: AS NOTED

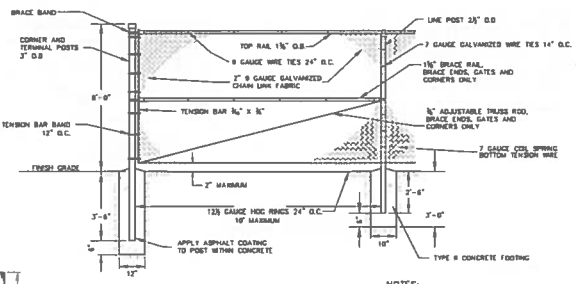
C-6



LPG SYSTEM SCHEMATIC
SCALE: NONE

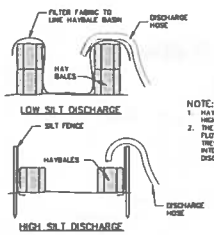


FENCE GRAVEL UNDERLAY
SCALE: NONE



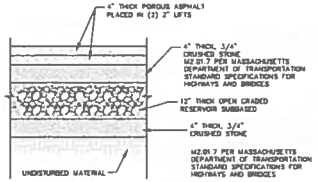
CHAIN LINK FENCE
SCALE: NONE

NOTES:
1. SEE SPECIFICATION FOR CHAIN LINK FENCE COATING AND COLOR.

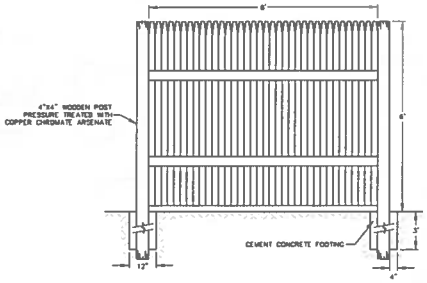


SEDIMENTATION DISCHARGE CONTROL BASIN
SCALE: NONE

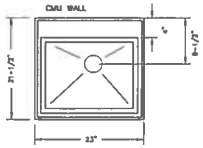
NOTE:
1. HAYBALES SHALL BE STACKED 1 OR 2 ROWS HIGH AS REQUIRED TO MITIGATE THE FLOW
2. THE BASIN SHALL BE SIZED TO FILTER THE FLOW BEING DISCHARGED TO THE BASIN FOR TRENCH DEWATERING A MINIMUM OF 120 S.F INTERIOR AREA REQUIRED PER 1000 GPM DISCHARGE.



POROUS PAVEMENT SECTION
SCALE: NONE

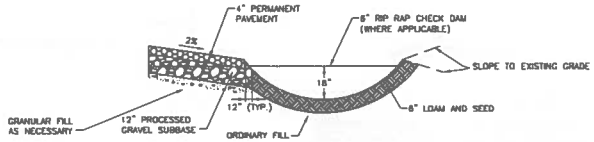


STOCKADE FENCE
SCALE: NONE

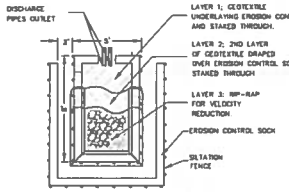


SAMPLE SINK
SCALE: NONE

NOTE:
1. SEE PLUMBING DRAWINGS FOR ADDITIONAL REGARDING SAMPLE SINK AND ANALYZER.



TYPICAL ROAD, GRASS-LINED CHANNEL, CHECK DAM SECTION
SCALE: NONE

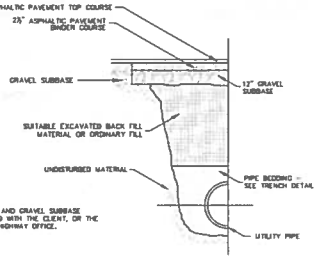


PLAN

SEDIMENTATION DISCHARGE CONTROL
SCALE: NONE

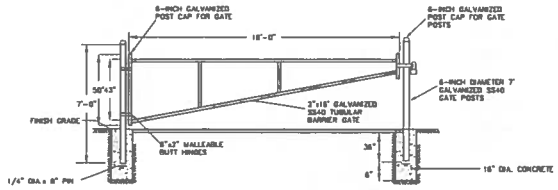
DRINKING WATER PROTECTION AREA SIGN (TYP. OF 2)
SCALE: NONE

NOTE: COLORS TO BE APPROVED BY OWNER/ENGINEER

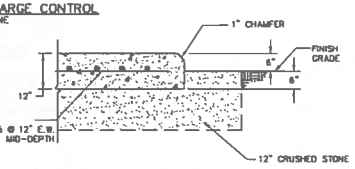


NOTES:
1. ALL PAVEMENT THICKNESSES AND GRAVEL SUBBASE THICKNESSES SHALL BE VERIFIED WITH THE CLIENT, OR THE APPROPRIATE TOWN OR STATE HIGHWAY OFFICE.

ACCESS ROAD SECTION "A"
SCALE: NONE

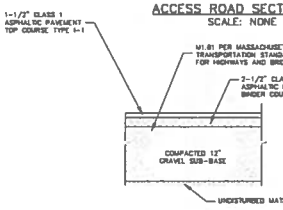


TUBULAR BARRIER GATE DETAIL
SCALE: NONE

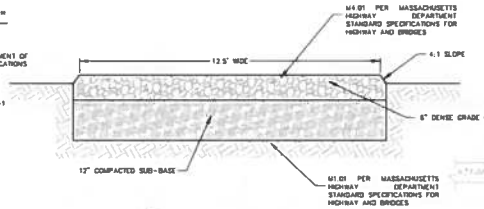


L.P. TANK CONCRETE PAD DETAIL
SCALE: NONE

NOTE: PAD DETAIL AND PAD DIMENSIONS TO BE APPROVED BY THE PROPANE SUPPLIER.

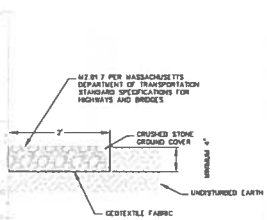


ASPHALTIC PAVEMENT SECTION
SCALE: NONE



NOTE:
SEE DIVISION 02200 IN SPECIFICATIONS FOR CRABATON REQUIREMENTS

GRAVEL ACCESS ROAD
SCALE: NONE



2-FOOT WIDE STONE DRY STRIP
SCALE: NONE

TRINITY AVENUE PUMP STATION

PROPERTY ADDRESS:
25R TRINITY AVENUE
GRAFTON, MA 01519
ASSESSORS MAP 9B LOT 121

OWNER/APPLICANT:
GRAFTON WATER DISTRICT
44 MILLBURY STREET
GRAFTON, MA 01519

Drawn by	B.C.	Reviewed by	MGB
Checked by	MGB	Approved by	PBH

-	07/14/14	Original Construction Submittal	
1	10/07/14	Revised Construction Submittal	

DETAILS 2

REVIEW SUBMITTAL NOT FOR CONSTRUCTION

TATA & HOWARD
87 FOREST STREET
MARLBOROUGH, MA 01752
(508) 303 9400

T&H NO.: 3783
DATE: JUNE 2014
SCALE: AS NOTED

C-7