CITY OF CAMBRIDGE, MA
FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

CONFORMED SET

DECEMBER 11, 2009

PROJECT DESIGN TEAM

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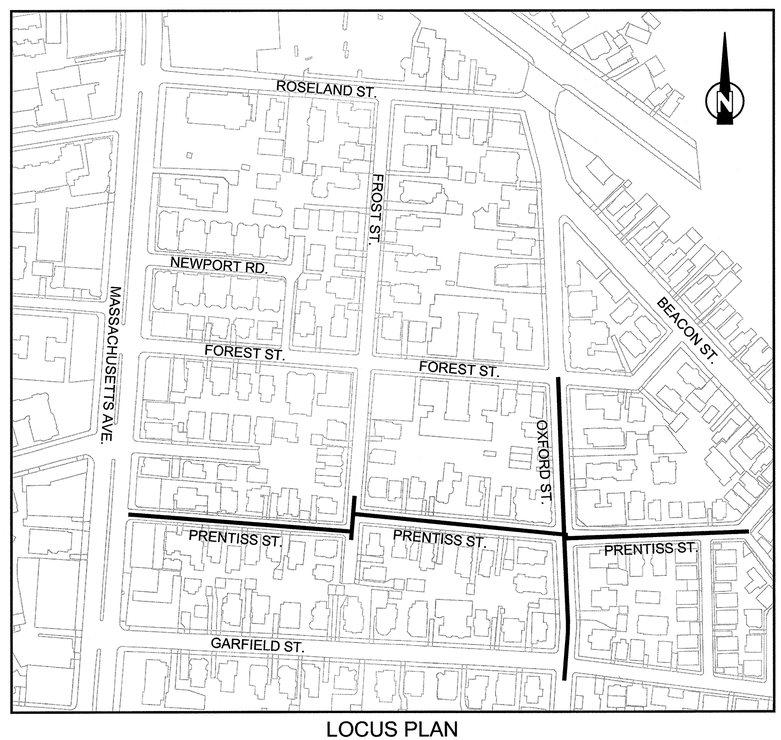

LOCUS PLAN

APPROX. SCALE: 1" = 150'

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

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SHEET NUMBER	SHEET SET NUMBER	DRAWING LIST SHEET NAME
G-1	1 OF 59	GENERAL – COVER SHEET – SITE LOCATION
G-2	2 OF 59	GENERAL – DRAWING LIST AND LEGEND
GC-1	3 OF 59	GENERAL CIVIL – UTILITY KEY PLAN
GC-2	4 OF 59	GENERAL CIVIL – UTILITY BASELINE PLAN
GC-3	5 OF 59	GENERAL CIVIL – GENERAL NOTES AND CATCH BASIN TABLE
GC-4	6 OF 59	GENERAL CIVIL – TRENCH AND SERVICE CONNECTION DETAILS
GC-5	7 OF 59	GENERAL CIVIL – MANHOLE DETAILS
GC-6	8 OF 59	GENERAL CIVIL – CATCH BASIN DETAILS
GC-7	9 OF 59	GENERAL CIVIL – MISC. CIVIL UTILITY DETAILS
GEO-1	10 OF 59	GEOTECHNICAL – INSTRUMENTATION AND MONITORING PLAN
GEO-2	11 OF 59	GEOTECHNICAL – INSTRUMENTATION AND MONITORING PLAN
C-1	12 OF 59	CIVIL – COMPOSITE SITE PLAN
C-2	13 OF 59	CIVIL – PRENTISS STREET PLAN AND PROFILE – STA 100+00 TO 201+25
C-3	14 OF 59	CIVIL – PRENTISS STREET PLAN AND PROFILE – STA 201+25 TO 205+50
C-4	15 OF 59	CIVIL – PRENTISS STREET PLAN AND PROFILE – STA 205+50 TO 208+10
C-5	16 OF 59	CIVIL – FROST STREET PLAN AND PROFILE – STA 300+00 TO 303+00
C-6	17 OF 59	CIVIL – OXFORD STREET PLAN AND PROFILE – STA 400+00 TO 403+50
C-7	18 OF 59	CIVIL – OXFORD STREET PLAN AND PROFILE – STA 403+50 TO 406+00
C-8	19 OF 59	CIVIL – DETAILED PLAN – SECTIONS A & B
U-1	20 OF 59	UTILITY COORDINATION – PRENTISS STREET
U-2	21 OF 59	UTILITY COORDINATION – FROST STREET AND OXFORD STREET
TW-1	22 OF 59	TEMPORARY WATER BYPASS – PRENTISS STREET
GR-1	23 OF 59	GENERAL ROADWAY – ROADWAY KEY PLAN
GR-2	24 OF 59	GENERAL ROADWAY – ROADWAY BASELINE PLAN
GR-3	25 OF 59	GENERAL ROADWAY – CURB AND SIDEWALK DETAILS
GR-4	26 OF 59	GENERAL ROADWAY – CURB AND SIDEWALK DETAILS
R-1	27 OF 59	ROADWAY – RESTORATION PLAN – STA 1000+00 TO 1004+68
R-2	28 OF 59	ROADWAY – GRADING PLAN – STA 1000+00 TO 1004+68
R-3	29 OF 59	ROADWAY – PROFILE – STA 1000+00 TO 1004+48
R-4	30 OF 59	ROADWAY – CURB TIE PLAN – STA 1000+00 TO 1004+68
R-5	31 OF 59	ROADWAY – PAVEMENT MARKING PLAN – STA 1000+00 TO 1004+68
R-6	32 OF 59	ROADWAY – RESTORATION PLAN – STA 2000+00 TO 2004+20
R-7	33 OF 59	ROADWAY – GRADING PLAN – STA 2000+00 TO 2004+20
R-8	34 OF 59	ROADWAY – PROFILE – STA 2000+00 TO 2004+20
R-9	35 OF 59	ROADWAY – CURB TIE PLAN – STA 2000+00 TO 2004+20
R-10	36 OF 59	ROADWAY – PAVEMENT MARKING PLAN – STA 2000+00 TO 2004+20
R-11	37 OF 59	ROADWAY – RESTORATION PLAN – STA 3000+00 TO 3004+00
R-12	38 OF 59	ROADWAY – GRADING PLAN – STA 3000+00 TO 3004+00
R-13	39 OF 59	ROADWAY – PROFILE – STA 3000+00 TO 3004+00
R-14	40 OF 59	ROADWAY – CURB TIE PLAN STA 3000+00 TO 3004+00
R-15	41 OF 59	ROADWAY – PAVEMENT MARKING PLAN STA 3000+00 TO 3004+00
R-16	42 OF 59	ROADWAY – RESTORATION PLAN – STA 4000+00 TO 4002+58
R-17	43 OF 59	ROADWAY – GRADING PLAN – STA 4000+00 TO 4002+58
R-18	44 OF 59	ROADWAY – PROFILE – STA 4000+00 TO 4002+58
R-19	45 OF 59	ROADWAY – CURB TIE PLAN – STA 4000+00 TO 4002+58
R-20	46 OF 59	ROADWAY – PAVEMENT MARKING PLAN – STA 4000+00 TO 4002+58
R-21	47 OF 59	ROADWAY – RESTORATION PLAN – STA 5000+00 TO 5004+42
R-22	48 OF 59	ROADWAY – GRADING PLAN – STA 5000+00 TO 5004+42
R-23	49 OF 59	ROADWAY – PROFILE – STA 5000+00 TO 5004+42
R-24	50 OF 59	ROADWAY – CURB TIE PLAN STA 5000+00 TO 5004+42
R-25	51 OF 59	ROADWAY – PAVEMENT MARKING PLAN STA 5000+00 TO 5004+42
R-26	52 OF 59	ROADWAY – WHEELCHAIR RAMP PLAN
R-27	53 OF 59	ROADWAY – WHEELCHAIR RAMP PLAN
TMP-1	54 OF 59	TRAFFIC MANAGEMENT – GENERAL TRAFFIC MANAGEMENT NOTES AND DETAILS
TMP-2	55 OF 59	TRAFFIC MANAGEMENT – PRENTISS STREET DETOUR PLAN
TMP-3	56 OF 59	TRAFFIC MANAGEMENT PLAN – PRENTISS STREET DETOUR PLAN
TMP-4	57 OF 59	TRAFFIC MANAGEMENT PLAN – PRENTISS STREET DETOUR PLAN
TMP-5	58 OF 59	TRAFFIC MANAGEMENT PLAN – OXFORD STREET WORK ZONES FOR UTILITY WORK
TMP-6	59 OF 59	TRAFFIC MANAGEMENT PLAN – OXFORD STREET WORK ZONES FOR UTILITY WORK

ABBREVIATIONS

A.G.	ABOVE GRADE
BC	BOTTOM OF CURB
BIT CONC	BITUMINOUS CONCRETE
BOT	BOTTOM
BW	BOTTOM OF WALL
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
CL	CENTERLINE OF TROUGH
CLF	CHAIN LINK FENCE
C.O.	CLEAN OUT
CONC	CONCRETE
CS	COMBINED SEWER
CTE	CONNECT TO EXISTING
CTV	CABLE TELEVISION
CU	COPPER
DI	DUCTILE IRON
DMH	DRAIN MANHOLE
ELEV	ELEVATION
EMH	ELECTRIC MANHOLE
EXIST.	EXISTING
FA	FIRE ALARM
FB	FIRE BOX
FP	FLAG POLE
FS	FLAG STONE
GC	GRANITE CURB
GG	GAS GATE
GM	GAS METER
GRAN	GRANITE
GV	GATE VALVE
GW	GROUND WATER
H.H.	HAND HOLE
HYD	HYDRANT
I	INVERT
LD	LEAD
LP	LIGHT POST
NVO	NO VISIBLE OUTLET
P	POST
PM	PARKING METER
PROP.	PROPOSED
PVC	POLYVINYL CHLORIDE
R	RIM
RCP	REINFORCED CONCRETE PIPE
RWS	RETAINING WALL STONE
RWCN	RETAINING WALL CONCRETE
S	SIGN
SD	STORM DRAIN
SMH	SEWER MANHOLE
SS	SANITARY SEWER
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TELE	TELEPHONE
THRESH.	THRESHOLD
TL	TRAFFIC LIGHT
TOH	TOP OF HOOD
T.S.	TOP OF STEP
TW	TOP OF WATER
UNK	UNKNOWN
UP	UTILITY POLE
VC	VITRIFIED CLAY
W	WATER ELEVATION
W/	WITH
WD	WOOD
WG	WATER GATE
WL	WATER LEVEL
WMH	WATER MANHOLE
WW	WINDOW WELL

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	BOUND FOUND	
240	CONTOUR	240
B-1	BORING	B-1
OHE	OVERHEAD ELECTRIC	
X	CHAIN LINK FENCE SANITARY	X
S	SEWER	S
D	DRAIN LINE	D
E	ELECTRICAL LINE TELECOMM	E
T	LINE	T
W	WATER LINE	W
G	GAS LINE	G
CATV	CABLE LINE	CATV
	6" DRAIN LATERAL	
	SANITARY SERVICE	
S	SANITARY MANHOLE	S
D	DRAIN MANHOLE (ROUND)	D
	DRAIN MANHOLE (SQUARE)	D
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
M	UNKNOWN MANHOLE	
	CATCH BASIN (TYPE 1)	D
	CATCH BASIN (TYPE 2)	D
	CATCH BASIN (TYPE 3)	D
	CATCH BASIN (TYPE 4)	D
	DIRECT INLET (TYPE 5)	D
	CATCH BASIN(GRADING SHEETS)	
	UTILITY POLE	
	UTILITY POLE WITH LIGHT	
PB	HAND HOLE	
	FIRE HYDRANT	
	FIRE BOX	
	ELECTRICAL BOX	
	WATER GATE	
	WATER SERVICE	
G	GAS GATE	
	LIGHTS	
S	SIGN	
	CAPPED SERVICE / LINE	
FLOW	DIRECTION OF PIPE FLOW	
	TREE	
TP-1	TEST PIT	TP-1
MW	GW MONITORING WELL	
	SLIPLINE PIT	

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Scale	AS NOTED				
Date	12/11/2009				
Job No.	2007108.10-A				
Designed by	TP				
Drawn by	TP				
Checked by	TJR	No.	Description	Date	
Approved by	JJS		REVISIONS		

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL - DRAWING LIST AND LEGEND

Sheet: G-2
2 OF 59

File No.

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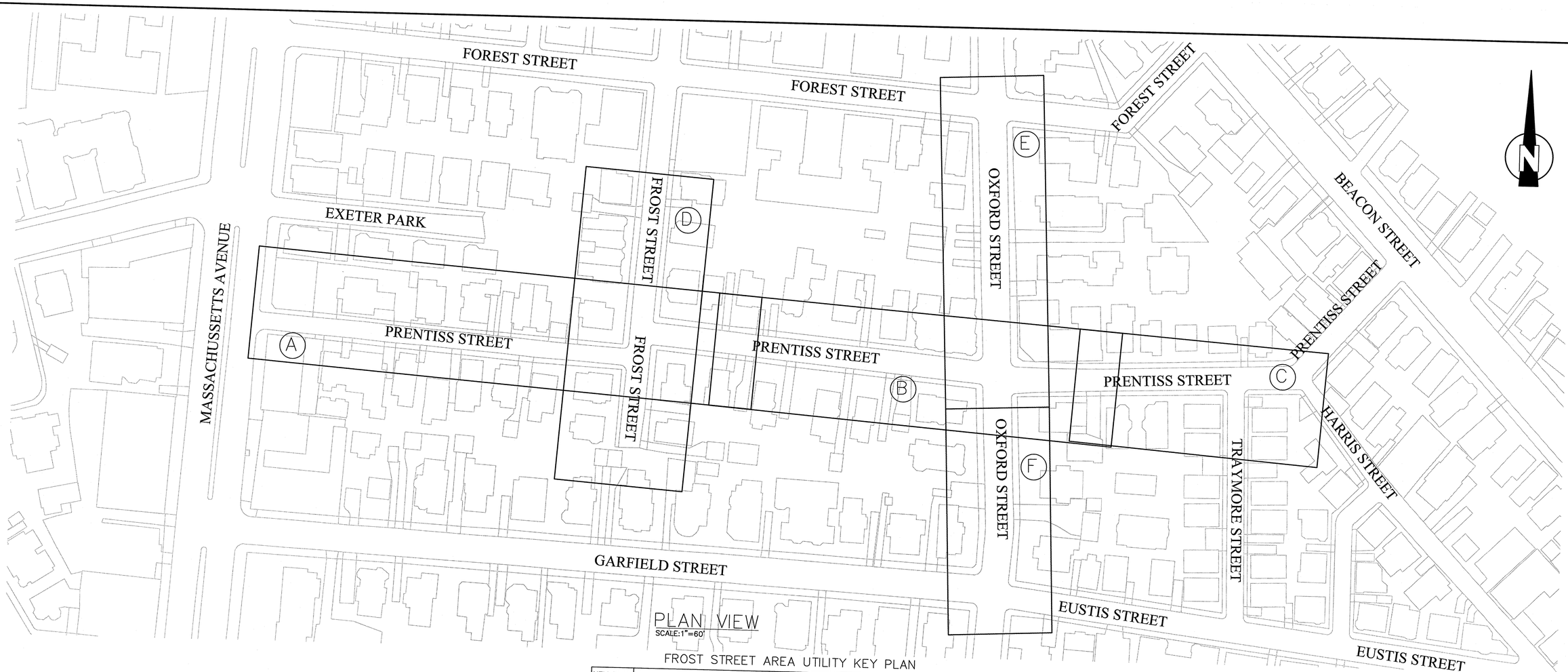

PLAN VIEW
SCALE: 1"=60'

FROST STREET AREA UTILITY KEY PLAN

KEY PLAN LABEL	ASSOCIATED DRAWINGS
A	• GC-2 – GENERAL CIVIL – UTILITY BASELINE PLAN • C-2 – CIVIL– PRENTISS STREET STA 100+00 TO 201+25 PLAN AND PROFILE • U-1 – UTILITY COORDINATION – PRENTISS STREET • TW-1 – TEMPORARY WATER BYPASS – PRENTISS STREET • TMP-2 – TRAFFIC MANAGEMENT
B	• GC-2 – GENERAL CIVIL – UTILITY BASELINE PLAN • C-3 – CIVIL– PRENTISS STREET STA 201+25 TO 205+50 PLAN AND PROFILE • U-1 – UTILITY COORDINATION – PRENTISS STREET • TW-1 – TEMPORARY WATER BYPASS – PRENTISS STREET • TMP-3, TMP-5, TMP-6 – TRAFFIC MANAGEMENT
C	• GC-2 – GENERAL CIVIL – UTILITY BASELINE PLAN • C-4 – CIVIL– PRENTISS STREET STA 205+50 TO 208+10 PLAN AND PROFILE • U-1 – UTILITY COORDINATION – PRENTISS STREET • TW-1 – TEMPORARY WATER BYPASS – PRENTISS STREET • TMP-4 – TRAFFIC MANAGEMENT
D	• GC-2 – GENERAL CIVIL – UTILITY BASELINE PLAN • C-5 – CIVIL– FROST STREET STA 300+00 TO 303+00 PLAN AND PROFILE • U-2 – UTILITY COORDINATION – FROST STREET AND OXFORD STREET • TMP-2 – TRAFFIC MANAGEMENT
E	• GC-2 – GENERAL CIVIL – UTILITY BASELINE PLAN • C-6 – CIVIL– OXFORD STA 400+00 TO 403+50 PLAN AND PROFILE • U-1 – UTILITY COORDINATION – PRENTISS STREET • TMP-4, TMP-5, TMP-6 – TRAFFIC MANAGEMENT
F	• GC-2 – GENERAL CIVIL – UTILITY BASELINE PLAN • C-7 – CIVIL– OXFORD STA 403+50 TO 406+00 PLAN AND PROFILE • U-1 – UTILITY COORDINATION – PRENTISS STREET • TMP-4, TMP-6 – TRAFFIC MANAGEMENT

NOTE

ROADWAY KEY PLAN IS SHOWN ON SHEET GR-1

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Drawing: GENERAL CIVIL - UTILITY KEY PLAN

Sheet: GC-1

File No.

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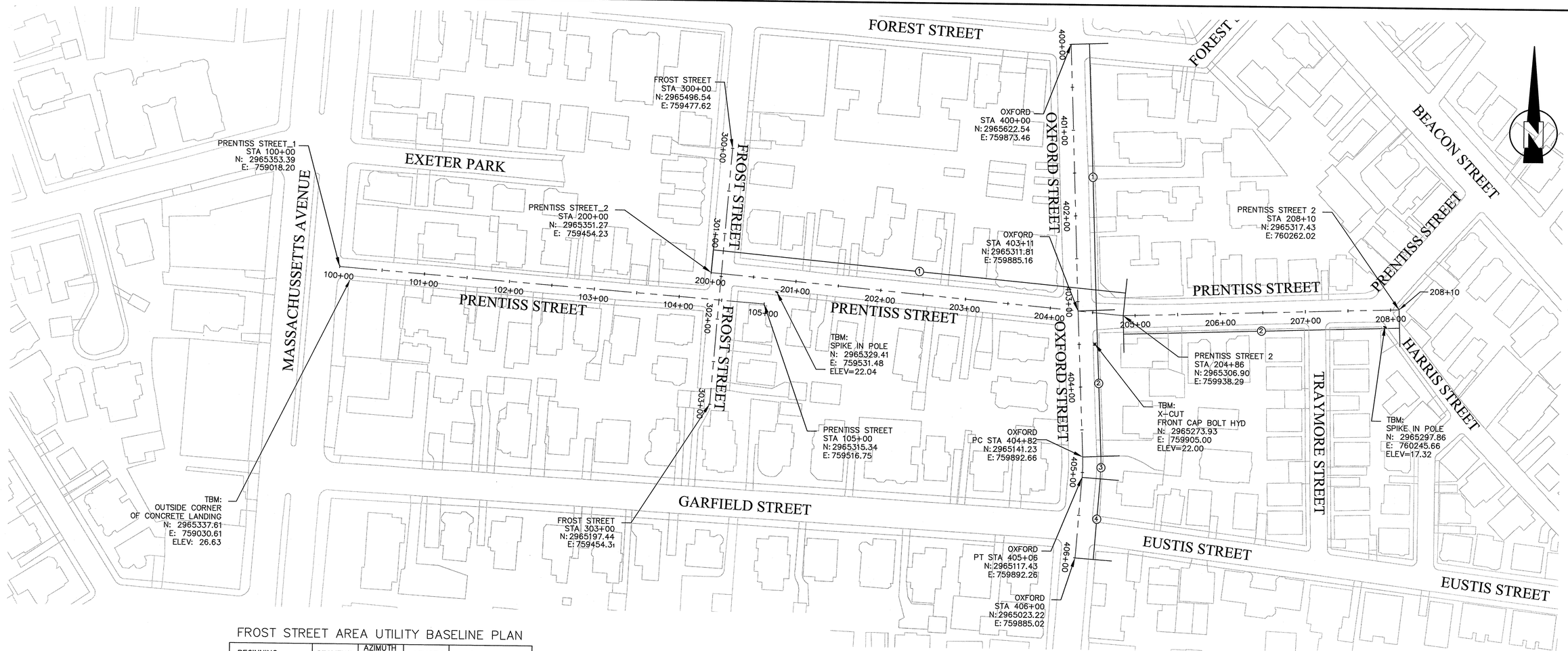

PLAN VIEW
SCALE:1"=60'

FROST STREET AREA UTILITY BASELINE PLAN

BEGINNING ALIGNMENT	SEGMENT LABEL	AZIMUTH OR RADIUS	LENGTH	ENDING ALIGNMENT
PRENTISS_1 STA 100+00 N: 2965353.39 E: 759016.20	--	S85°38'07"E	500.00'	PRENTISS_1 STA 105+00 N: 2965315.34 E: 759516.75
PRENTISS_2 STA 200+00 N: 2965351.27 E: 759454.23	1	S84°45'44"E	486.10'	PRENTISS_2 STA 204+86.10 N: 2965306.90 E: 759938.29
	2	S91°51'50"E	323.90'	PRENTISS_2 STA 208+10 N: 2965317.43 E: 760262.02
FROST STA 300+00 N: 2965496.54 E: 759477.62	--	S04°27'23"W	300.00'	FROST STA 303+00 N: 2965197.44 E: 759454.31
OXFORD STA 400+00 N: 2965622.54 E: 759873.46	1	S02°09'21"E	310.95'	OXFORD STA 403+10.95 N: 2965311.81 E: 759885.16
	2	S02°31'09"E	170.74'	OXFORD STA 404+81.69 N: 2965141.23 E: 759892.66
	3	R=200.00'	23.81'	OXFORD STA 405+05.50 N: 2965117.43 E: 759892.26
	4	S04°23'27"W	94.50'	OXFORD STA 406+00 N: 2965023.22 E: 759885.02

NOTE

ROADWAY BASELINE PLAN IS SHOWN ON SHEET GR-2

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Drawing: GENERAL CIVIL - UTILITY BASELINE PLAN

Sheet: GC-2

4 OF 59

File No.

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GENERAL NOTES FOR UTILITY IMPROVEMENTS

1. THE CONTRACTOR SHALL PROVIDE A STAKE LAYOUT ON SITE FOR THE ENGINEER'S REVIEW PRIOR COMMENCING SIDEWALK WORK. THE CONTRACTOR SHALL NOTE CUT AND FILL AMOUNTS AT ALL BACK OF SIDEWALK STEPS, WALLS, DRIVEWAYS, WALKWAYS, BUILDING ENTRANCES, STRUCTURES AND TRANSITIONS TO EXISTING SIDEWALKS.

2. THE CONTRACTOR SHALL COORDINATE RUBBISH REMOVAL WITH THE CITY. THE CONTRACTOR SHALL ASSIST WITH RUBBISH PICK UP IN AREAS THAT ARE UNDER CONSTRUCTION.

3. THE LOCATION OF EXISTING UNDERGROUND PIPES, CABLES, CONDUITS AND STRUCTURES AS SHOWN HAS BEEN COLLECTED FROM THE BEST AVAILABLE SOURCES AND THE OWNER TOGETHER WITH ITS AGENTS DOES NOT IMPLY OR GUARANTEE THE DATA AND INFORMATION IN CONNECTION WITH THE UNDERGROUND PIPES, CABLES, CONDUITS, STRUCTURES AND SUCH OTHER PARTS AS TO THEIR COMPLETENESS NOR THEIR LOCATIONS AS INDICATED. THE CONTRACTOR SHALL CONTACT UTILITY OWNERS AND REQUEST MARKING LOCATION OF ALL THEIR LINES IN THE WORK AREAS. THE CONTRACTOR SHALL ASSUME THAT THERE ARE EXISTING WATER, GAS, AND OTHER UTILITY CONNECTIONS TO EACH AND EVERY BUILDING ENROUTE, WHETHER THEY APPEAR ON THE PLANS OR NOT. ANY EXPENSE AND/OR DELAY OCCASIONED BY THESE UTILITIES AND STRUCTURES OR DAMAGE THERETO, INCLUDING THOSE NOT SHOWN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT NO ADDITIONAL EXPENSE TO THE OWNER. (SEE SPECIAL CONDITIONS).

4. LINES FOR SERVICES, POLICE AND FIRE ALARM BOXES, STREET LIGHTS, AND TRAFFIC SIGNALS ARE NOT SHOWN ON THE PLANS. THE APPROPRIATE UTILITY COMPANIES OR AUTHORITIES SHOULD BE CONTACTED AND CONSULTED FOR LOCATIONS OF THE ABOVE.

5. THE CONTRACTOR SHALL NOTIFY THE DIG SAFE CENTER (TEL. NO.1-888-DIG-SAFE) AT LEAST THREE BUSINESS DAYS PRIOR TO ANY EXCAVATION WORK. IN ADDITION, NOTIFICATION SHALL ALSO BE GIVEN TO ALL AFFECTED PRIVATE AND/OR PUBLIC UTILITIES TO PERMIT STREET MARKING OF THEIR LINES.

6. THE STATIONS AS SHOWN FOR SEWERS AND DRAINS ARE APPROXIMATE. THE EXACT STATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND RECORDED ON THE RECORD DRAWINGS.

7. ALL CATCH BASIN LATERALS SHALL BE 12-INCH DUCTILE IRON PIPE, UNLESS OTHERWISE SHOWN OR DIRECTED.

8. ALL EXISTING CATCH BASIN LATERALS WHICH ARE NOT RECONNECTED SHALL BE PLUGGED WATERTIGHT AT BOTH ENDS WITH BRICK MASONRY 8-INCHES THICK.

9. ALL EXISTING MANHOLE FRAMES, COVERS, CATCH BASIN FRAMES AND GRATES REMOVED AND NOT REUSED SHALL REMAIN THE PROPERTY OF THE OWNER AND THEN LATER SELECTED BY THE OWNER AND DELIVERED BY THE CONTRACTOR TO A LOCATION DESIGNATED BY THE OWNER.

10. BORINGS WERE TAKEN FOR THE PURPOSE OF DESIGN AND INDICATE CONDITIONS AT THE LOCATION OF THE BORING ONLY. SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION MAY VARY FROM THOSE SHOWN IN THE BORING LOGS. GROUNDWATER LEVELS INDICATED IN THE BORING LOGS ARE THOSE EXISTING AT THE TIME SUBSURFACE INVESTIGATIONS WERE MADE AND DO NOT REPRESENT PERMANENT GROUNDWATER LEVELS. GROUNDWATER AS MEASURED IN MONITORING WELLS SHALL BE USED AS REPRESENTATIVE OF GROUNDWATER CONDITIONS IN THE PROJECT AREAS. SEE "APPENDIX B" OF THE SPECIFICATIONS, AND THE LOCUS PLAN, SHEET C-1.

11. TEST PITS SHALL BE EXCAVATED AT THOSE LOCATIONS INDICATED ON THE DRAWINGS AND WHERE ORDERED OR APPROVED BY THE OWNER. ALL TEST PIT EXCAVATIONS SHALL BE MADE TO DETERMINE THE LOCATIONS OF EXISTING UTILITIES OR STRUCTURES AND PERFORMED WELL IN ADVANCE OF CONSTRUCTION OPERATIONS SO THAT ANY CHANGES IN ALIGNMENT AND/OR GRADE OF THE PROPOSED WORK OR UTILITY LOCATIONS MAY BE DETERMINED. ALL DECISIONS RELATIVE TO UTILITY CONFLICTS AND RELOCATION REQUIREMENTS SHALL BE MADE BY THE UTILITY OWNER.

12. AT THOSE LOCATIONS WHERE TEST PITS ARE REQUIRED TO DETERMINE THE LOCATION OF EXISTING UTILITIES, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES INVOLVED AT LEAST 72 HOURS PRIOR TO EXCAVATION OF THE TEST PITS.

13. WHERE TEMPORARY OR PERMANENT UTILITY RELOCATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY 30 DAYS IN ADVANCE OF CONSTRUCTION AND SHALL COORDINATE THE NEW WORK WITH THE UTILITY RELOCATION.

14. THE CONTRACTOR SHALL COORDINATE THE RELOCATION OF WATER MAINS WITH THE RESIDENT ENGINEER WHO WILL CONSULT WITH THE CITY WATER DEPARTMENT CONCERNING COORDINATION OF THE WORK AND FINAL LOCATIONS FOR RELOCATED WATER MAINS.

15. LOCATIONS OF WATER, SANITARY, AND DRAINAGE SERVICE CONNECTIONS SHALL BE DETERMINED DURING CONSTRUCTION, IN CONSULTATION WITH PROPERTY OWNER AND CITY. CONTRACTOR SHALL ADJUST THE ALIGNMENT OF SERVICE LATERALS IN THE FIELD TO COORDINATE WITH EXISTING WATER, GAS, TELECOM, AND ELECTRIC SERVICES.

16. THE LIMITS OF EXCAVATIONS FOR NEW PIPELINES OR STRUCTURES ARE APPROXIMATE ONLY. ACTUAL HORIZONTAL AND VERTICAL LIMITS INCLUDING MEASUREMENT FOR THE NEW WORK SHALL BE DETERMINED DURING CONSTRUCTION.

17. EXISTING CONDITIONS ARE SHOWN SCREENED.

18. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS INFORMATION AND REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL CONDITIONS TO THE ENGINEER PRIOR TO BEGINNING WORK.

19. INTERRUPTIONS OF SERVICES SHALL NOT BE PERMITTED. THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AND PROVIDE ALL TEMPORARY UTILITIES AND CONNECTIONS TO AVOID INTERRUPTIONS OF WATER, SANITARY, DRAINAGE, ELECTRIC, PHONE, GAS, FIBER OPTICS, AND CABLE SERVICES.

20. EXISTING UTILITY ELEVATIONS ARE BASED ON THE BEST AVAILABLE INFORMATION. IN THE ABSENCE OF CONFIRMED VERTICAL INFORMATION, UTILITY PROFILES WERE ASSUMED AS FOLLOWS:

UTILITY	ASSUMED COVER (FEET)
TELEPHONE	2.0
ELECTRIC, CATV, GAS	3.5
WATER	4.0

POTENTIAL UTILITY CONFLICTS SHALL BE VERIFIED BY THE CONTRACTOR USING TEST PITS AS PER THE DRAWINGS.

21. PRIOR TO BEGINNING WORK THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS INFORMATION AND REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND THE ACTUAL CONDITIONS TO THE ENGINEER.

22. THE CONTRACTOR SHALL PROTECT ALL TRAVELED WAYS FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.

23. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL AREAS ADJACENT TO THE LIMITS OF CONSTRUCTION WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.

24. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS, RUBBISH, EXCAVATED MATERIAL AND DEBRIS, UNLESS OTHERWISE NOTED, AND IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL DISPOSAL PERMITS AT NO ADDITIONAL COST TO THE OWNER.

25. THE CONTRACTOR MAY BE ASKED BY THE OWNER TO SUSPEND CONSTRUCTION OPERATIONS TEMPORARILY TO AVOID CONFLICTS WITH LARGE PUBLIC EVENTS OR LARGE STORM EVENTS. THE CONTRACTOR SHALL NOT BE COMPENSATED FOR COSTS RELATING TO SHUTDOWNS FOR THESE REASONS.

26. THE CONTRACTOR SHALL ALLOW ACCESS TO PRIVATE PARKING. THE CONTRACTOR SHALL COORDINATE WITH THE CITY AND RESIDENTS PRIOR TO BLOCKING DRIVEWAYS.

27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SNOW PLOWING AND REMOVAL FROM ALL AREAS WITHIN THE PROJECT LIMITS. INCLUDING BUT NOT LIMITED TO, UNPAVED SURFACES, PARKED EQUIPMENT AREAS OR ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR STREET SWEEPING, SNOW REMOVAL FROM SIDEWALKS, TRASH REMOVAL, AND RECYCLABLE MATERIALS FROM ALL AREAS WHERE CONSTRUCTION RESTRICTS VEHICULAR OR PEDESTRIAN ACCESS TO STREETS OR SIDEWALKS AND WHERE CONTRACTORS PRESENCE INTERFERES WITH MUNICIPAL TRASH REMOVAL, STREET SWEEPING, OR SNOW PLOWING.

28. THE CONTRACTOR SHALL VERIFY THAT THEIR TRENCH SUPPORTS ARE BELOW THE ROADWAY AT THE END OF EACH DAY FOR PLATING OF TRENCH TO MAINTAIN ACCESS TO ROADS AND DRIVEWAYS AFTER HOURS.

29. THE CONTRACTOR SHALL PROVIDE, INSTALL, AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL DEVICES AS SPECIFIED, AND SHALL NOT COMMENCE CONSTRUCTION UNTIL THESE MEASURES HAVE BEEN APPROVED BY THE ENGINEER.

30. AREAS WITHIN THIS CONTRACT, ARE SUBJECT TO THE UTILITY RELATED ABATEMENT MEASURE REGULATIONS OF THE MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.00 AND SECTIONS 02010 – SUBSURFACE INVESTIGATION, 02080 – SOIL AND WASTE MANAGEMENT, 02095 – TRANSPORTATION AND DISPOSAL OF SOIL AND FILL, OF THE SPECIFICATIONS. THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO ENVIRONMENTAL DATA (SOIL AND GROUND WATER) FROM BORINGS AND MONITORING WELLS AS REPRESENTATIVE OF SUBSURFACE CONDITIONS IN URBAN AREAS. THE ENVIRONMENTAL DATA ARE APPENDED TO THE SPECIFICATIONS.

31. FOR TEMPORARY PAVING (INTERIM CONDITIONS), ALL CATCH BASINS, MANHOLES, AND OTHER SUBSURFACE STRUCTURES SHALL MATCH EXISTING GRADES.

32. FINISH GRADE OF ALL CATCH BASINS, MANHOLES, AND OTHER SUBSURFACE STRUCTURES SHALL MATCH PROPOSED ROAD SURFACE GRADING SHOWN ON SHEETS R-1 THROUGH R-87.

33. "LEFT" AND "RIGHT" INDICATED IN CATCH BASIN NOTES REFER TO DIRECTION OF FLOW INTO THE CATCH BASIN GRATE ACCORDING TO THE PROPOSED GRADING PLAN. THE DIRECTION OF FLOW IS BASED UPON STANDING IN THE CENTER OF THE ROAD AND LOOKING TOWARD THE CURB IN WHICH THE CATCH BASIN IS BEING INSTALLED.

34. THE CONTRACTOR SHALL NOT BE PERMITTED TO START-UP OR OPERATE EQUIPMENT BEFORE OR AFTER ESTABLISHED WORKING HOURS OF 7:00 AM TO 4:00 PM MONDAY THROUGH FRIDAY, WITHOUT WRITTEN APPROVAL OF THE OWNER, UNLESS NOTED OTHERWISE.

TREE PROTECTION NOTES

1. PROPER AUTHORIZATION MUST BE OBTAINED FROM THE CITY ARBORIST. REFER TO SPECIAL CONDITIONS SECTION 00825A ATTACHMENT I OF THE CONTRACT DOCUMENTS.

2. THE CONTRACTOR SHALL PROVIDE ALL TREE PROTECTION MEASURES AND HAVE ALL PRECONSTRUCTION FERTILIZATION COMPLETED PRIOR TO COMMENCING EXCAVATION WORK.

3. TREES SHALL BE WRAPPED WITH 2X4'S AND SNOW FENCING. TRESS SHALL BE PRUNED PROFESSIONALLY BY A CERTIFIED (ISA OR MCA) ARBORIST (IF NECESSARY). ALL TREES WITHIN THE CONSTRUCTION ZONE SHALL BE PRUNED BY A CERTIFIED ARBORIST PRIOR TO START OF ANY CONSTRUCTION ACTIVITIES.

4. THE CONTRACTOR SHALL REMOVE AND PRUNE TREES AND SHRUBS IN ACCORDANCE WITH THE TREE REMOVAL PLAN AND THE SPECIFICATION SECTIONS 02900 LANDSCAPING AND 02950 TREE PLANTING. REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

5. FINES WILL BE IMPOSED THROUGH MGL CHAPTER 87.

6. ANY EXPOSED ROOTS SHALL BE COVERED WITH SOIL AT THE END OF EACH WORK DAY.

7. THE CONTRACTOR SHALL COORDINATE WITH DIG SAFE PRIOR TO REMOVING ANY STUMPS. DAMAGE TO EXISTING SIDEWALKS AND UTILITIES SHALL BE REPAIRED AS SPECIFIED AFTER REMOVING STUMPS.

8. TREES AND STUMPS REMOVED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW TREES AS REQUIRED. STUMP REMOVAL SHALL BE SUFFICIENT TO ALLOW PLANTING OF NEW TREE.

SURVEY NOTES

1. THE TOPOGRAPHY, SITE DETAIL & SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN INSTRUMENT SURVEY CONDUCTED ON THE GROUND BY MERIDIAN ASSOCIATES, INC. DURING SEPTEMBER AND OCTOBER 2008.

2. ALL UNDERGROUND UTILITY DATA REPRESENTS RECORD INFORMATION RECOVERED THROUGH RESEARCH WITHOUT SURFACE DEMARCATION NOR SUBSURFACE VERIFICATION.

3. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE BASED UPON A PARTIAL FIELD SURVEY AND COMPILATION OF PLANS OF RECORD. MERIDIAN ASSOCIATES, INC. DOES NOT WARRANTY NOR GUARANTEE THE LOCATION OF ALL UTILITIES DEPICTED OR NOT DEPICTED. THE CONTRACTOR, PRIOR TO COMMENCEMENT OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UTILITIES AND CONTACT DIG SAFE AT 1-888-344-7233.

4. HORIZONTAL CONTROL NETWORK IS BASED UPON THE NORTH AMERICAN DATUM OF 1983, MASSACHUSETTS STATE PLANE COORDINATE SYSTEM DERIVED WITH GLOBAL POSITIONING SYSTEM (GPS) OBSERVATIONS.

5. VERTICAL DATUM IS BASED UPON NATIONAL GEODETIC VERTICAL DATUM OF 1929.

6. PROPERTY LINES DEPICTED HEREON ARE COMPILED FROM THE CITIES OF CAMBRIDGE AND SOMERVILLE ASSESSORS MAPS. THIS PLAN IS NOT TO BE USED FOR THE RECONSTRUCTION OF BOUNDARY LINES OR FOR TITLE INSURANCE PURPOSES. ALL BOUNDARY LINES DEPICTED ARE APPROXIMATE ONLY.

7. LOCATIONS OF BENCH MARKS ARE LOCATED ON THE PLANS.

CATCH BASIN SCHEDULE

NUMBER	STATION	INV. OUT	TYPE	FIGURE	GRATE
CB-1A	STA 100+15 (8.8'L)	22.60 (12"Ø DI)	TYPE 1	FIG. 2604.2	RIGHT
CB-1B	STA 100+14.67 (9'R)	23.04 (12"Ø DI)	TYPE 5	FIG. 2604.5	LEFT
CB-2	STA 104+21 (8.0'R)	17.70 (16"Ø DI)	TYPE 4	FIG. 2604.4	LEFT (1), RIGHT (1)
CB-3	STA 104+21 (8.8'L)	17.40 (16"Ø DI)	TYPE 4	FIG. 2604.4	LEFT (1), RIGHT (1)
CB-4	STA 300+89.5 (13'L)	17.21 (12"Ø DI)	TYPE 1	FIG. 2604.2	LEFT
CB-5	STA 300+89.5 (11'R)	17.21 (12"Ø DI)	TYPE 3	FIG. 2604.4	RIGHT
CB-6	STA 202+11.5 (12'R)	14.25 (16"Ø DI)	TYPE 2	FIG. 2604.3	LEFT (1), RIGHT (1)
CB-7	STA 202+11.8 (11.8'L)	15.59 (16"Ø DI)	TYPE 4	FIG. 2604.4	LEFT (1), RIGHT (1)
CB-8	STA 203+96.5 (12'R)	14.10 (12"Ø DI)	TYPE 1	FIG. 2604.2	RIGHT
CB-9	STA 203+96.5 (11.9'L)	15.00 (16"Ø DI)	TYPE 4	FIG. 2604.4	LEFT (1), RIGHT (1)
CB-10	STA 204+44.8 (29'L)	15.10 (12"Ø DI)	TYPE 3	FIG. 2604.4	LEFT
CB-11	STA 204+14 (25.4'L)	15.10 (12"Ø DI)	TYPE 1	FIG. 2604.2	RIGHT
CB-12	STA 206+01 (13'R)	13.08 (12"Ø DI)	TYPE 1	FIG. 2604.2	RIGHT
CB-13	STA 206+01 (11'L)	13.10 (12"Ø DI)	TYPE 3	FIG. 2604.4	LEFT
CB-14	STA 207+03 (15'R)	13.30 (12"Ø DI)	TYPE 2	FIG. 2604.3	LEFT (1), RIGHT (1)
CB-15	STA 207+66 (11.6'L)	13.40 (10"Ø DI)	TYPE 4	FIG. 2604.4	LEFT (1), RIGHT (1)
CB-16	STA 207+74 (12'R)	13.34 (12"Ø DI)	TYPE 1	FIG. 2604.2	RIGHT
CB-17	STA 208+06 (7.8'L)	13.50 (12"Ø DI)	TYPE 1	FIG. 2604.2	LEFT
CB-18	STA 403+78 (15'R)	16.25 (10"Ø DI)	TYPE 5	FIG. 2604.5	LEFT
CB-19	STA 403+78 (15.6'L)	15.25 (10"Ø DI)	TYPE 5	FIG. 2604.5	RIGHT

NOTE

SEE SHEET GC-6 FOR CATCH BASIN TYPE DETAILS.

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 39434
REGISTERED PROFESSIONAL ENGINEER
1/11/10

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	TJR
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL CIVIL - GENERAL NOTES AND CATCH BASIN TABLE

Sheet: GC-3

5 OF 59

File No.

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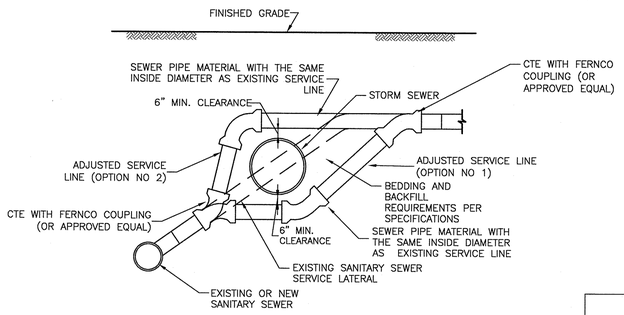
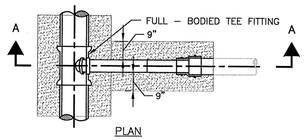
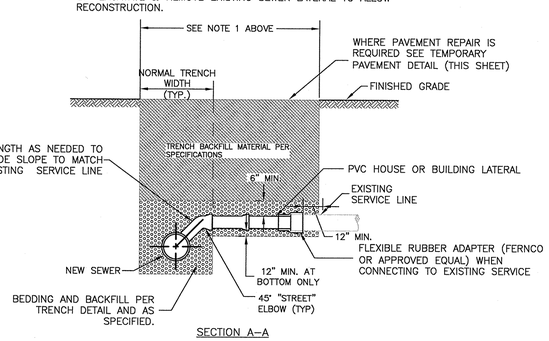


SANITARY SEWER SERVICE LINE RECONNECTION FOR STORM SEWER CONFLICTS



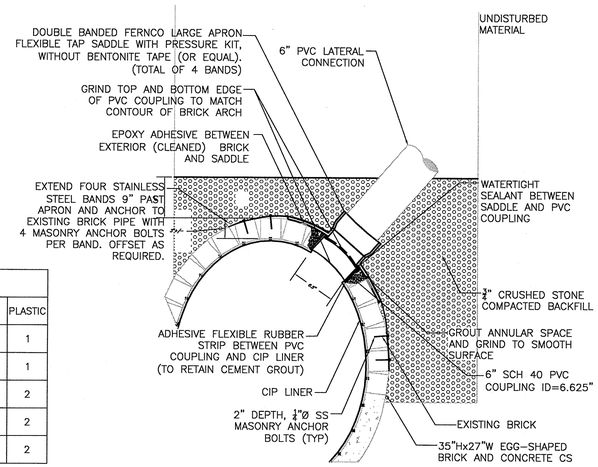
PLAN

NOTES:
1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN/PROFILES AND AS SPECIFIED.
2. EXCAVATE & REMOVE EXISTING SEWER LATERAL TO ALLOW RECONSTRUCTION.



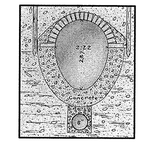
SECTION A–A

SEWER OR DRAIN SERVICE CONNECTION < 12' DEEP



LATERAL CONNECTION TO CIP LINED PIPE (OXFORD STREET)

NOT TO SCALE

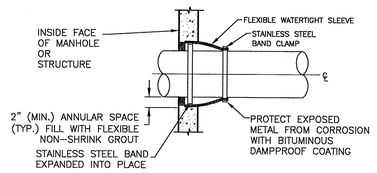


RECORD DRAWING OF EXISTING 35"WX27"H EGG–SHAPED CS (1897)

NOT TO SCALE

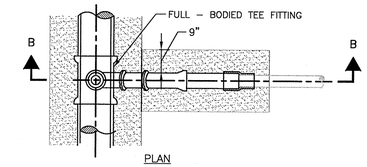
NOTES:

1. LINE 35"Hx27"W EGG–SHAPED BRICK AND CONCRETE PIPE WITH CURED–IN–PLACE LINER.
2. EXCAVATE AREA OF EXISTING BRICK ARCH WHERE SADDLE CONNECTION WILL BE MADE.
3. CORE 6 1/4"Ø HOLE THROUGH BRICK AND HARDENED LINER, REMOVING LOOSE BRICKS AS NECESSARY.
4. INSTALL ADHESIVE FLEXIBLE RUBBER STRIP AND 6"Ø SCH 40 PVC COUPLING. GRIND TOP EDGE OF PVC COUPLING TO MATCH CONTOUR OF EXISTING BRICK ARCH. TRIM INTERIOR EDGE OF COUPLING TO FORM SMOOTH INSIDE SURFACE.
5. GROUT ANNULAR SPACE BETWEEN EXISTING BRICK AND PVC COUPLING TO A SMOOTH FINISH.
6. INSTALL FLEXIBLE TAP SADDLE (FERNCO OR EQUAL) AND WATERTIGHT SEALANT. USE EPOXY ADHESIVE TO SECURE SADDLE TO CLEANED BRICK. IN ADDITION, SECURE SADDLE TO EXISTING BRICKS WITH STAINLESS STEEL BANDS AND MASONRY ANCHOR BOLTS.
7. CONNECT NEW 6" PVC LATERAL INTO FERNCO SADDLE.
8. EXTEND NEW PVC LATERAL AS NECESSARY TO CONNECT TO EXISTING BUILDING SEWER SERVICE.
9. BACKFILL EXCAVATED AREA AS INDICATED.

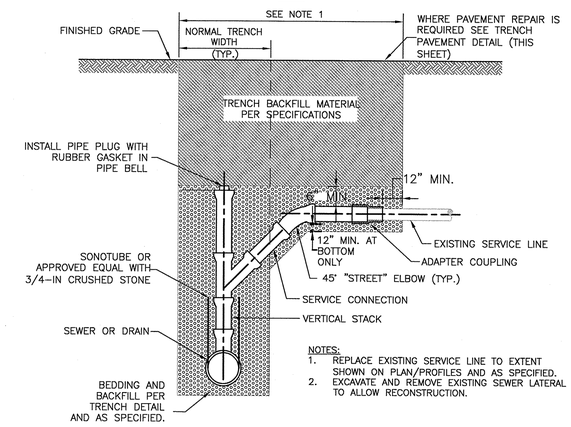


NOTE:
1. PRECAST OPENING OR CORE DRILLED INTO EXISTING STRUCTURE. SIZE VARIES TO ACCOMMODATE EXTENSION BONNET FLANGE DIAMETER OR PIPE.

FLEXIBLE SLEEVE CONNECTION DETAIL



PLAN



NOTES:
1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN/PROFILES AND AS SPECIFIED.
2. EXCAVATE AND REMOVE EXISTING SEWER LATERAL TO ALLOW RECONSTRUCTION.

SECTION B–B

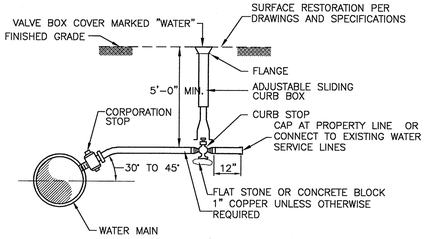
SEWER OR DRAIN SERVICE CONNECTION WITH CHIMNEY > 12' DEEP

EXISTING PIPE MATERIAL		BRICK	RCP	DI	VC	PLASTIC
NEW PIPE MATERIAL	BRICK	1	1	1	1	1
	RCP	1	1	1	1	1
	DI	1	1	2	2	2
	VC	1	1	2	2	2
	PLASTIC	1	1	2	2	2

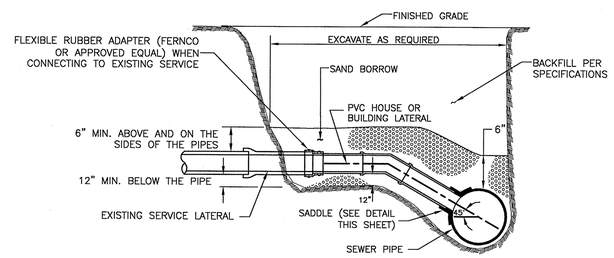
PIPE CONNECTION TABLE*

TYPE 1 = CONCRETE COLLAR
TYPE 2 = TRANSITION COUPLING (DRESSER OR EQUAL)

* SERVICE LATERALS 200mm [8"] OR LESS SHALL BE FERNCO–TYPE.

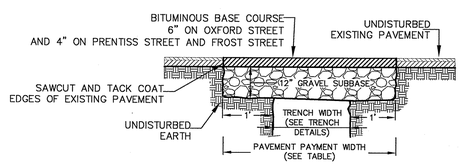


NEW WATER SERVICE DETAIL

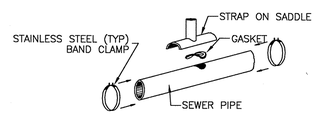


SEWER SERVICE SADDLE CONNECTION FOR PIPE GREATER THAN 18" DIA. OR ODD SIZE

NOTE:
1. REPLACE EXISTING SERVICE LINE TO EXTENT SHOWN ON PLAN/PROFILES AND AS SPECIFIED.



NOTES:
1. REMOVE AND DISPOSE ALL TEMPORARY PAVEMENT AS REQUIRED. RESTORE AND COMPACT SUBBASE AS REQUIRED PRIOR TO PERMANENT TRENCH PAVEMENT.



LATERAL STRAP–ON SADDLE

TRENCH PAY LIMIT TABLE FOR TEMPORARY PAVEMENT

PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT: 0 – 8'	OVER 8' – 12'	OVER 12' – 16'	OVER 16' – 20'	PAY WIDTH
0" – 24"	6'–6"	9'–6"	12'–6"	15'–6"	
OVER 24"	O.D. + 4'–0"	O.D. + 7'–0"	O.D. + 10'–0"	O.D. + 13'–0"	

I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION

FOR EACH ADDITIONAL 4'–0" OF PIPE INVERT DEPTH OVER 20', ADD 3'–0" TO WIDTH LIMITS

TEMPORARY PAVEMENT DEPTH SHALL BE 3–IN.

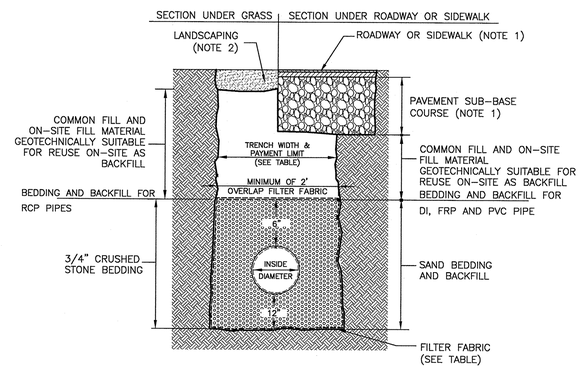
TRENCH PAY LIMIT TABLE FOR PERMANENT PAVEMENT

PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT: 0 – 8'	OVER 8' – 12'	OVER 12' – 16'	OVER 16' – 20'	PAY WIDTH
0" – 24"	8'–6"	11'–6"	14'–6"	17'–6"	
OVER 24"	O.D. + 6'–0"	O.D. + 9'–0"	O.D. + 12'–0"	O.D. + 15'–0"	

I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION

FOR EACH ADDITIONAL 4'–0" OF PIPE INVERT DEPTH OVER 20', ADD 3'–0" TO WIDTH LIMITS

TRENCH PAVEMENT DETAIL



NOTES:
1. REFER TO PAVING AND SURFACING, AND CURBS, WALKS AND DRIVEWAYS REQUIREMENTS.
2. REFER TO LANDSCAPING REQUIREMENTS
3. REFER TO "TRENCH PAY LIMIT TABLE FOR PIPES" FOR PAYMENT OF ALL ITEMS IN WHICH PAY TRENCH WIDTH IS A VARIABLE FOR CALCULATIONS OF QUANTITIES EXCEPT FOR TRENCH PAVEMENT.
4. REFER TO TRENCH PAVEMENT DETAIL FOR PAVEMENT PAYMENT WIDTHS.

TRENCH DETAIL FOR WATER, SEWER, AND DRAIN PIPES

TRENCH PAY LIMIT TABLE FOR ROCK

PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT: 0 – 12'	OVER 12' – 20'	PAY WIDTH
0" – 24"	5'–0"	7'–0"	
OVER 24"	D + 3'–0"	D + 5'–0"	

I.D. = INSIDE DIMENSION

PAY LIMIT FOR ROCK REMOVAL OUTSIDE PROPOSED STRUCTURES SHALL BE 1'0" OUTSIDE THE WIDEST DIMENSION OF THE STRUCTURE.

PAYMENT DEPTH FOR ROCK SHALL BE NO LESS THAN 3'–0"

FILTER FABRIC USE

	SOIL TYPE: SILT OR CLAY	GRANULAR SOIL
ABOVE GROUND WATER	FILTER FABRIC NOT REQUIRED	FILTER FABRIC NOT REQUIRED
BELOW GROUND WATER	FILTER FABRIC REQUIRED	FILTER FABRIC NOT REQUIRED

TRENCH PAY LIMIT TABLE ALL EXCAVATION (NOT INCLUDING ROCK)

PIPE SIZE (I.D.)	DEPTH TO PIPE INVERT: 0 – 8'	OVER 8' – 12'	OVER 12' – 16'	OVER 16' – 20'	PAY WIDTH
0" – 24"	6'–6"	9'–6"	12'–6"	15'–6"	
OVER 24"	O.D. + 4'–0"	O.D. + 7'–0"	O.D. + 10'–0"	O.D. + 13'–0"	

I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION

FOR EACH ADDITIONAL 4'–0" OF PIPE INVERT DEPTH OVER 20', ADD 3'–0" TO WIDTH LIMITS

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS JOHN J. STRUZZIERI No. 30436 REGISTERED PROFESSIONAL ENGINEER 12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	TJR	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL CIVIL - TRENCH AND SERVICE CONNECTION DETAILS

Sheet: GC-4

File No.

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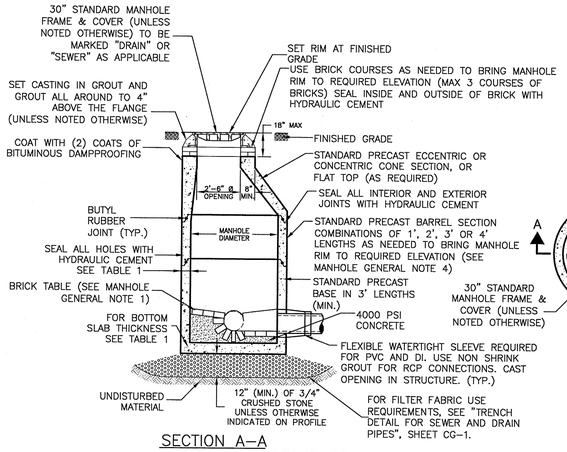
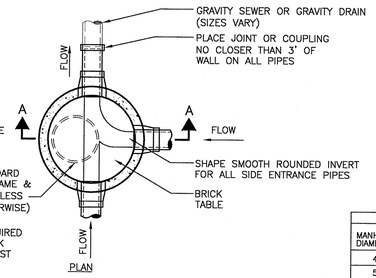


SECTION A–A

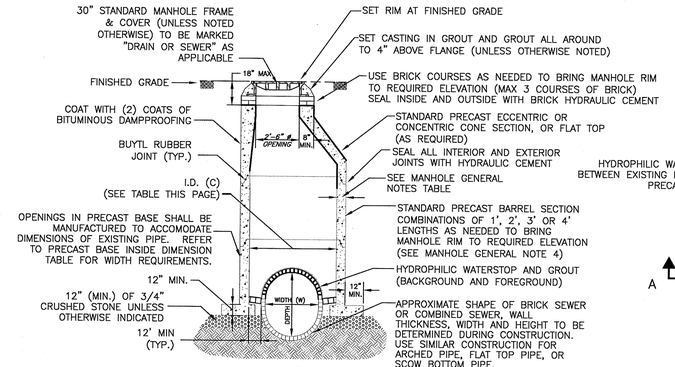


PLAN

STANDARD MANHOLE DETAIL
(FIGURE 2252.2)

TABLE 1				
MANHOLE DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE DIAMETER * RCP	DI/PVC
4'	5"	6"	24"	30"
5'	6"	8"	36"	42"
6'	7"	8"	48"	54"
8'	9"	8"	66"	72"
10'	11"	10"	72"	84"

* MAY VARY DEPENDING ON SIZE AND LOCATION OF ADDITIONAL PENETRATIONS OR RELATIONSHIP OF PENETRATIONS IN MANHOLE



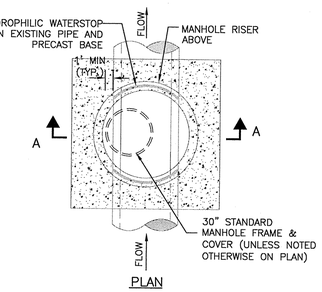
SECTION A–A

NOTES:
1. REMOVE EXISTING BRICK PIPE TO SPRING LINE WITHIN THE INSIDE OF THE PRECAST MANHOLE BASE AND CONSTRUCT THE INVERT TO THE SPRING LINE AS SHOWN.

PRECAST BASE INSIDE DIMENSION TABLE

WIDTH (W)	I.D. (C)
8" TO 24"	4' ø
27" TO 36"	5' ø
48" TO 66"	6' ø
66" TO 72"	8' ø
> 72"	10' ø

I.D. = INSIDE DIMENSION



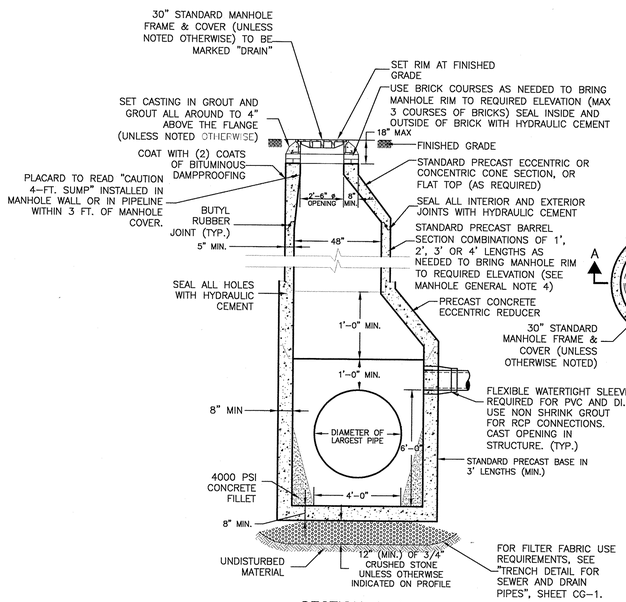
PLAN

TYPE 4 – PRECAST DROP OVER MANHOLE DETAIL WITH NO BASE
(FIGURE 2252.3)

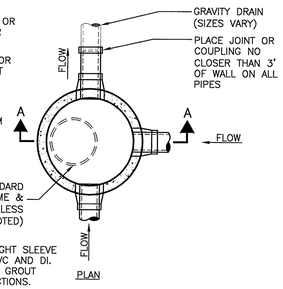
WALL THICKNESS	MAX TRENCH WIDTH
LESS THAN 6"	I.D. + 5'-0"
6" TO 12"	I.D. + 6'-0"
13" TO 18"	I.D. + 7'-0"
19" & GREATER	O.D. + 6'-0"

I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION

FOR TRENCHES GREATER THAN 5' DEEP ADD 3' FOR TEMPORARY SUPPORT OF EXCAVATION



SECTION A–A



PLAN

SUMP MANHOLE DETAIL
(FIGURE 2252.5)

	4'ø MANHOLE 5" WALL	5'ø MANHOLE 6" WALL	6'ø MANHOLE 7" WALL	8'ø MANHOLE 9" WALL	10'ø MANHOLE 11" WALL
MAX. PIPE O.D. STRAIGHT THRU TO 45° DEFLECTION	30" O.D. 24" R.C. PIPE	44" O.D. 36" R.C. PIPE	51" O.D. 42" R.C. PIPE	72" O.D. 60" R.C. PIPE	86" O.D. 72" R.C. PIPE
MAX. PIPE O.D. 90° DEFLECTION	23" O.D. 18" R.C. PIPE	33.5" O.D. 27" R.C. PIPE	37" O.D. 30" R.C. PIPE	51" O.D. 42" R.C. PIPE	72" O.D. 60" R.C. PIPE

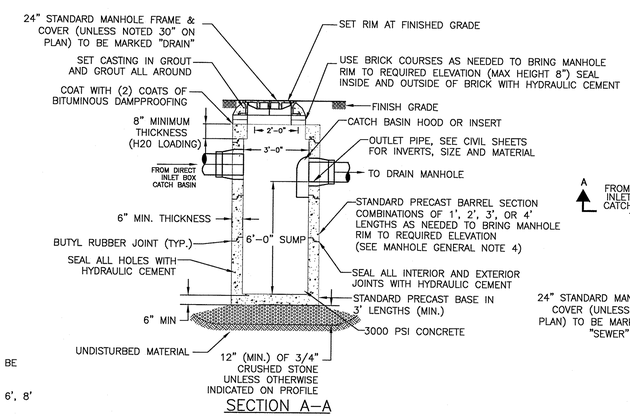
MANHOLE GENERAL NOTES:

1. HIGHEST POINT OF BRICK TABLE AT MANHOLE WALL, TO BE AT ELEV OF CROWN OF PIPE. TABLE TO SLOPE AT 8.3%.

2. SEWER OR DRAIN MANHOLE DIAMETER SHALL BE 4', 5', 6', 8' OR 10' AS SHOWN ON PLAN/PROFILE VIEWS.

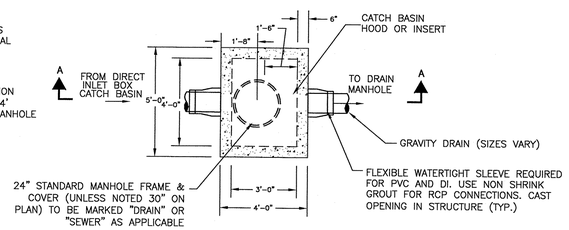
3. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H20 LOADINGS. UNLESS OTHERWISE NOTED

4. PRECAST MANHOLES SHALL BE PRE–ORDERED WITH PENETRATIONS AT ELEVATIONS INDICATED ON CONTRACT DRAWINGS.



SECTION A–A

NOTES:
1. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H20 LOADINGS.
2. FOR DESCRIPTION OF MATERIALS, SEE SPECIFICATIONS.



3'X4' SUMP MANHOLE DETAIL

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JOHN J. STRUZZIERY
No. 30434
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Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
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Drawn by	TP			
Checked by	TJR	No.	Description	Date
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THE WORKS
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Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL CIVIL - MANHOLE DEATILS

Sheet: GC-5
7 OF 59

File No.

PLOT DATE=12/10/2009 6:20:53 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_CIVIL_DETAILS_SHEETS-UTILITY.dwg

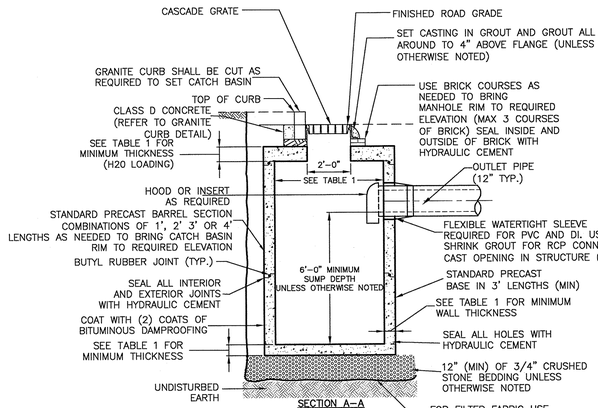
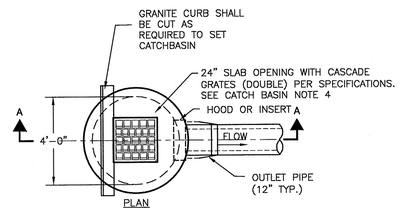


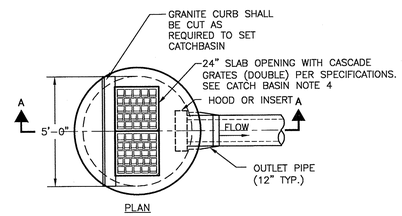
TABLE 1: PRECAST SIZE TABLE				
	MANHOLE WIDTH	MINIMUM WALL THICKNESS		
	Ø (I.D.)	TOP	BOTTOM	SIDE
TYPE 1	4'–0"	8"	6"	5"
TYPE 2	5'–0"	8"	8"	6"

I.D. = INSIDE DIMENSION

TYPE 1 CATCH BASIN (FIGURE 2604.2)
AND TYPE 2 CATCH BASIN (FIGURE 2604.3)



TYPE 1: SINGLE GRATE CATCH BASIN



TYPE 2: DOUBLE GRATE CATCH BASIN

WALL THICKNESS	MAX TRENCH WIDTH
LESS THAN 6"	I.D. + 5'–0"
6" TO 12"	I.D. + 6'–0"
13" TO 18"	I.D. + 7'–0"
19" & GREATER	O.D. + 6'–0"

I.D. = INSIDE DIMENSION
O.D. = OUTSIDE DIMENSION

FOR TRENCHES GREATER THAN 5' DEEP ADD 3' FOR TEMPORARY SUPPORT OF EXCAVATION

GENERAL CATCH BASIN NOTES:

1. FACE OF PIPE SHALL NOT PROJECT MORE THAN 4–INCHES FROM FACE OF WALL ALONG CENTERLINE OF PIPE.

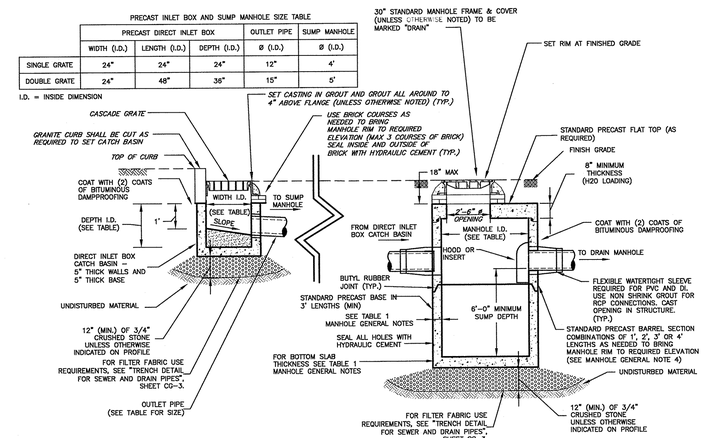
2. DESIGN PRECAST SECTIONS WITH FRAME AND GRATE FOR AASHTO H20 LOADING UNLESS OTHERWISE NOTED.

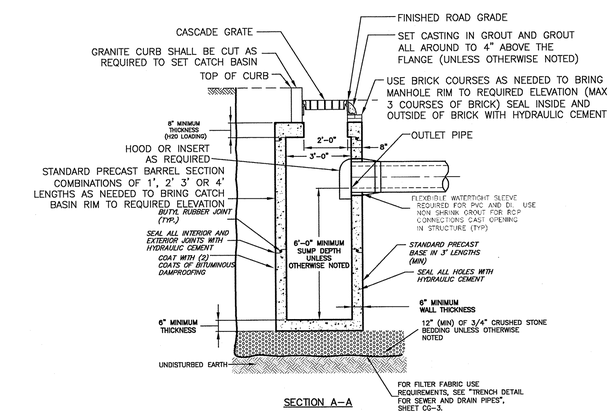
3. PRECAST TOP SLAB OPENING CAN BE CENTERED OR OFFSET AS NECESSARY.

4. GRATE VANES SHALL BE INSTALLED IN DIRECTION TO RECEIVE FLOWS.

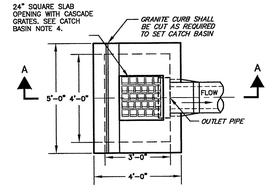
PRECAST INLET BOX AND SUMP MANHOLE SIZE TABLE					
	PRECAST DIRECT INLET BOX			OUTLET PIPE	SUMP MANHOLE
	WIDTH (I.D.)	LENGTH (I.D.)	DEPTH (I.D.)	Ø (I.D.)	Ø (I.D.)
SINGLE GRATE	24"	24"	24"	12"	4'
DOUBLE GRATE	24"	48"	36"	15"	5'

I.D. = INSIDE DIMENSION

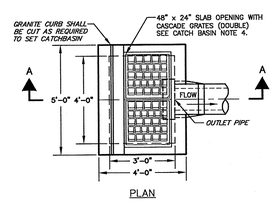




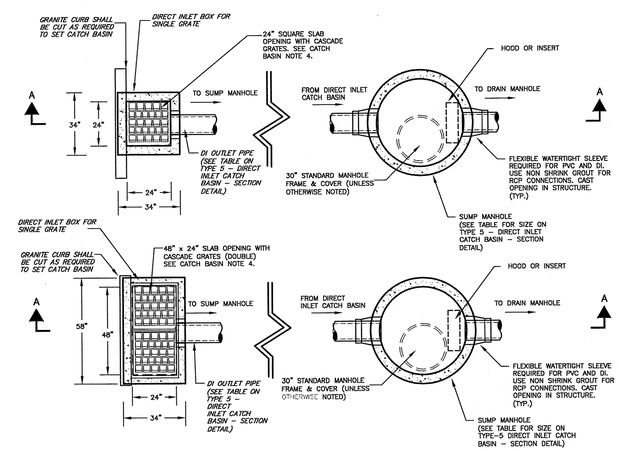
TYPE 3 & 4 CATCH BASIN (FIGURE 2604.4)



TYPE 3: SINGLE GRATE CATCH BASIN



TYPE 4: DOUBLE GRATE CATCH BASIN



TYPE 5: DIRECT INLET CATCH BASIN (FIGURE 2604.5)

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No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

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Date	12/11/2009			
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Designed by	TP			
Drawn by	TP			
Checked by	TJR	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

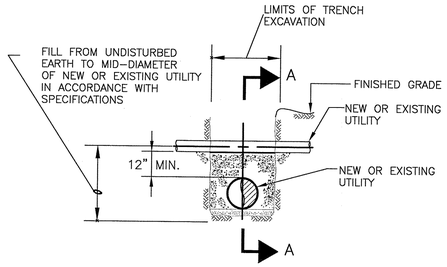
Drawing: GENERAL CIVIL - CATCH BASIN DETAILS

Sheet: GC-6

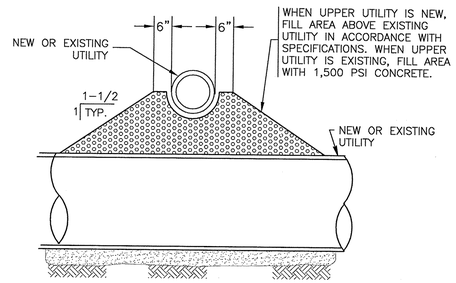
8 OF 59

File No.

PLOT DATE=12/10/2009 6:21:52 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_CIVIL_DETAILS_SHEETS--UTILITY.dwg

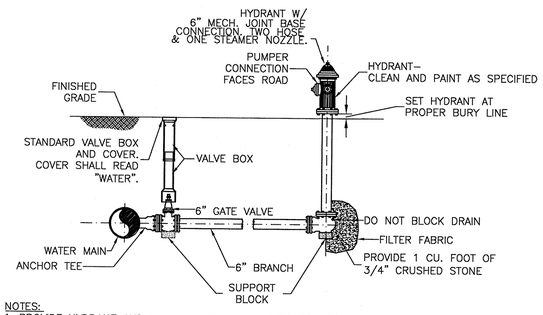


ELEVATION UTILITY CROSSING



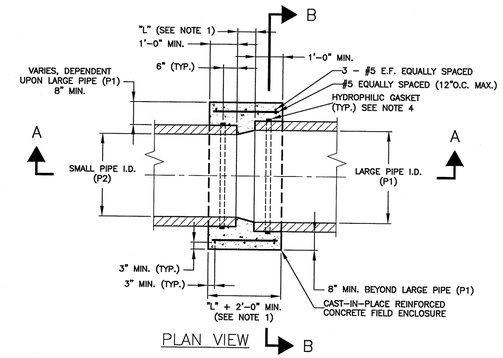
SECTION A–A

TYPICAL UTILITY CROSSING DETAIL

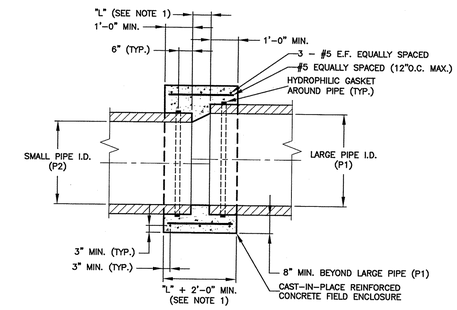


NOTES:
1. PROVIDE HYDRANT AND VALVE JOINTS WITH APPROVED MECHANICAL JOINTS.
2. SUPPORT BLOCKS TO BE PRESSURE TREATED WOOD OR CONCRETE MASONRY BLOCK.
3. ALL VALVES OPEN LEFT.

FIRE HYDRANT DETAIL

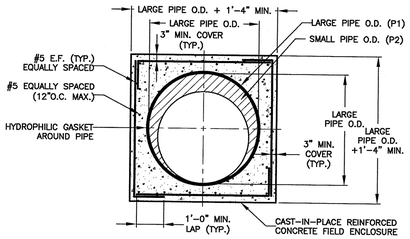


PLAN VIEW



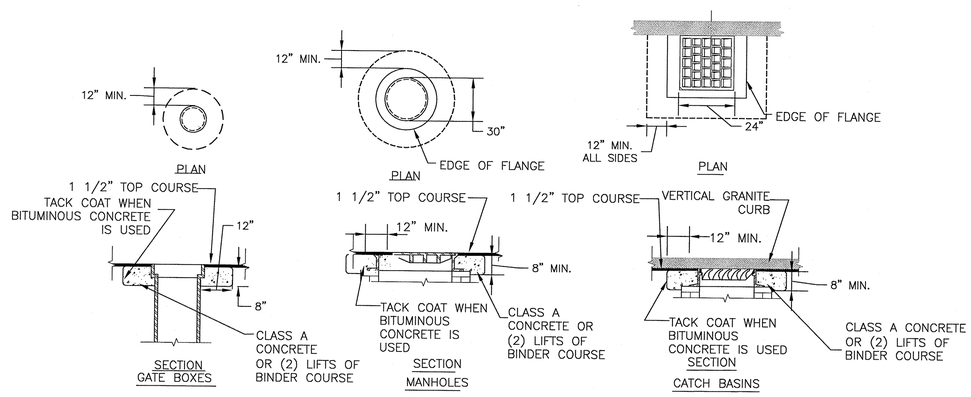
SECTION A–A

NOTES:
1. SPACING BETWEEN PIPES (L) DEPENDS ON PIPE SIZES, FOR PIPES OF THE SAME SIZE USE 4".
THE DISTANCE "L" EQUALS THE LARGE PIPE I.D. MINUS THE SMALL PIPE I.D. TIMES TWO [L=(P1–P2)x2] BUT NO LESS THAN 4".
2. PROPOSED PIPE INVERT SHALL MATCH EXISTING PIPE INVERT UNLESS OTHERWISE NOTED.
3. SAND BLAST EXISTING PIPE PERIMETER AND APPLY BONDING AGENT PRIOR TO CONCRETE ENCASEMENT.
4. CONCRETE AND REBAR REQUIREMENTS SHALL CONFORM TO CAST–IN–PLACE CONCRETE.
5. LOCATION OF FIELD ENCLOSURE SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.
6. FOR NON–PRESSURE PIPES OF SAME OR DIFFERENT MATERIALS OR SIZES.
7. THE CONTRACTOR SHALL LOCATE CAST–IN–PLACE FIELD ENCLOSURES ON AS–BUILT DRAWINGS WITH 3 TIES OR WITH GPS.

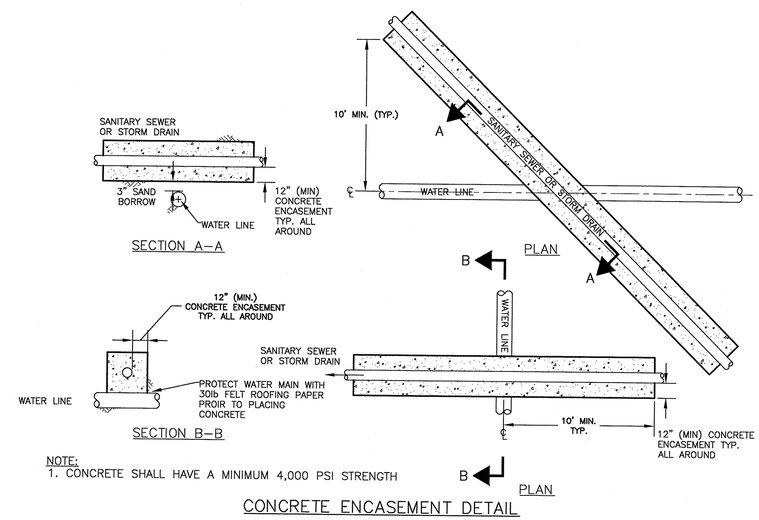


SECTION B–B

CAST–IN–PLACE CONCRETE FIELD ENCLOSURE



RAISING CASTINGS DETAIL



NOTE:
1. CONCRETE SHALL HAVE A MINIMUM 4,000 PSI STRENGTH

CONCRETE ENCASEMENT DETAIL

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No. 30334
REGISTERED PROFESSIONAL ENGINEER
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Date	12/11/2009			
Job No.	2007108.10-A			
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THE WORKS
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Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

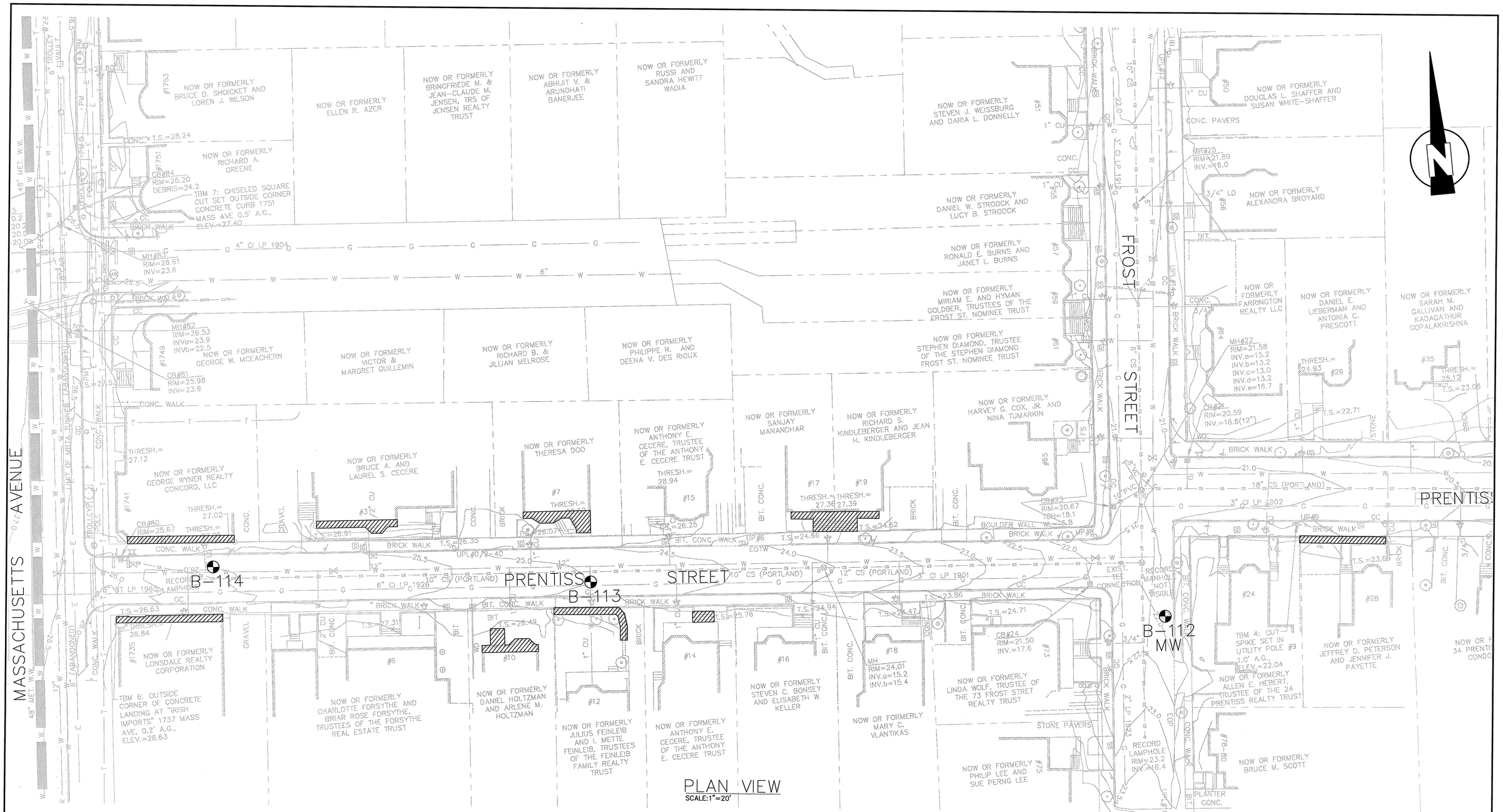
Drawing: GENERAL CIVIL - MISC. CIVIL UTILITY DETAILS

Sheet: GC-7

9 OF 59

File No.

PLOT DATE=12/10/2009 6:22:00 PM, USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_CIVIL_DETAILS_SHEETS-UTILITY.dwg



PLAN VIEW
SCALE: 1"=20'

LEGEND

PRE-CONSTRUCTION SURVEY AREA – BUILDING EXTERIOR SURFACES

GENERAL NOTES:

1. PRE-CONSTRUCTION SURVEY: Refer to specification section 01390 – PRE-CONSTRUCTION SURVEY.

2. TEST BORING LOGS: TEST BORING LOGS ARE APPENDED IN THE CONTRACT SPECIFICATIONS. BORING LOCATIONS ARE SHOWN ON THIS PLAN AND ARE INDICATED WITH THE FOLLOWING SYMBOL B-112 MW (MW) INDICATES MONITORING WELL.

CONFORMED SET
DECEMBER 11, 2009

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Approved by	JP

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THE WORKS
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Client: CITY OF CAMBRIDGE, MA

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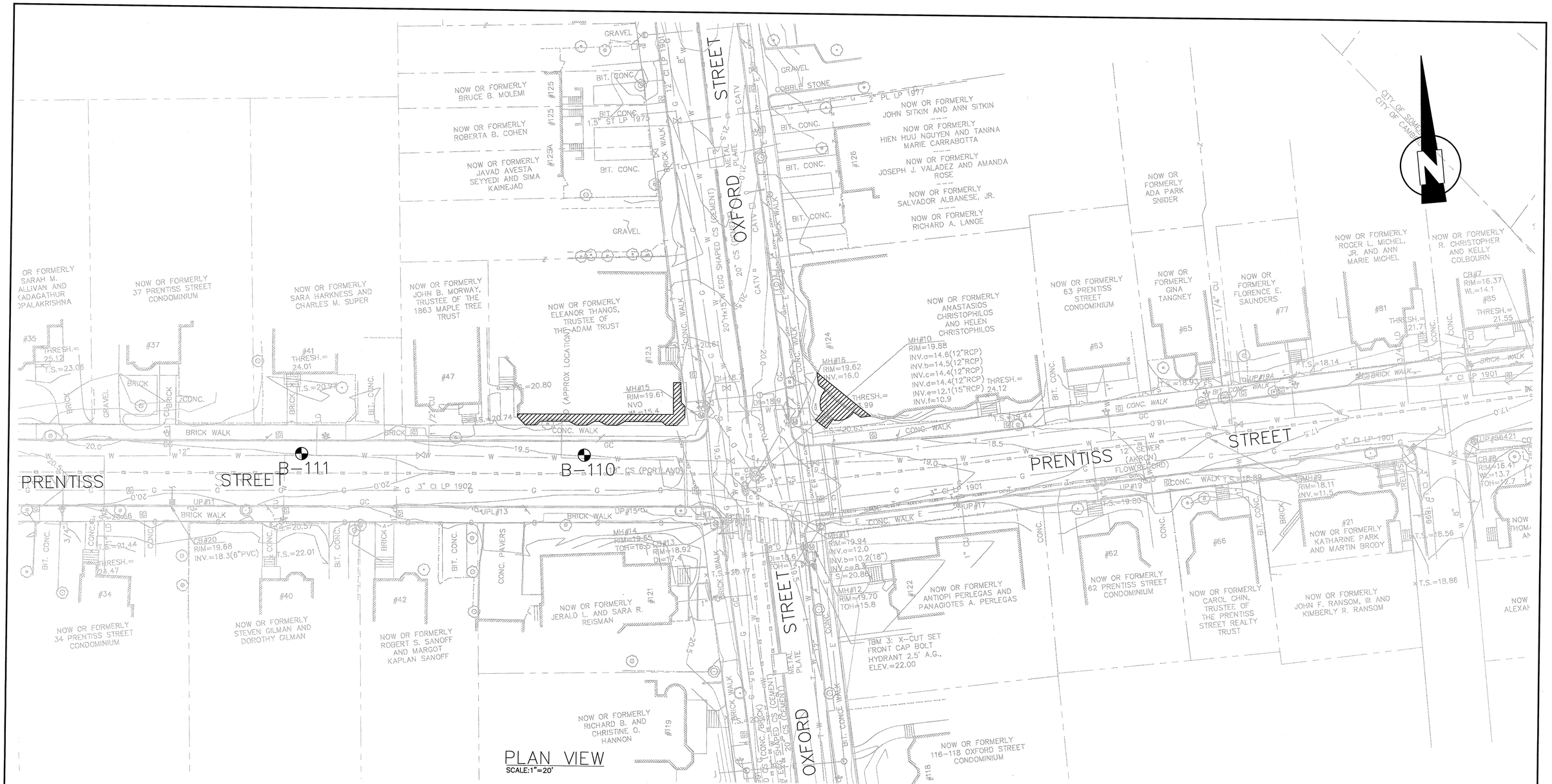
Drawing: GEOTECHNICAL - INSTRUMENTATION AND MONITORING PLAN

Sheet: GEO-1
10 OF 59

File No.

PLOT DATE=12/10/2009 6:24:00 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS-CONFORMED_SET\Conformed_Set\2007108.10-GEOTECH_SHEETS.dwg



PLAN VIEW
SCALE:1"=20'

LEGEND

PRE-CONSTRUCTION SURVEY AREA – BUILDING EXTERIOR SURFACES

GENERAL NOTES:

1. PRE-CONSTRUCTION SURVEY: Refer to specification section 01390 – PRE-CONSTRUCTION SURVEY.

2. TEST BORING LOGS: TEST BORING LOGS ARE APPENDED IN THE CONTRACT SPECIFICATIONS. BORING LOCATIONS ARE SHOWN ON THIS PLAN AND ARE INDICATED WITH THE FOLLOWING SYMBOL B-112 MW (MW) INDICATES MONITORING WELL.

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No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

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Approved by	JP

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Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT – PRENTISS STREET

Drawing: GEOTECHNICAL - INSTRUMENTATION AND MONITORING PLAN

Sheet: GEO-2

11 OF 59

File No.

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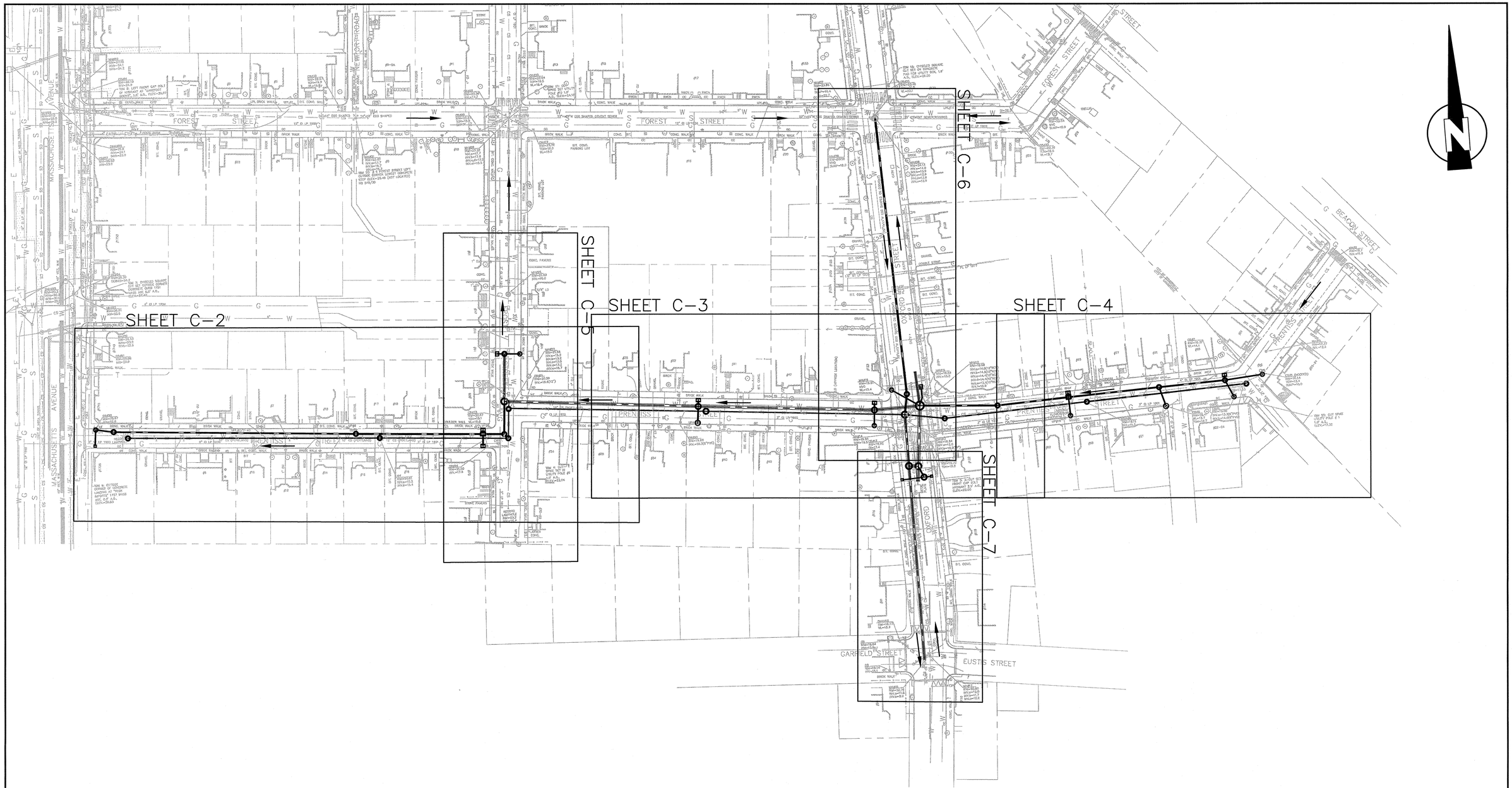

PLAN VIEW
SCALE:1"=50'

CONFORMED SET
DECEMBER 11, 2009

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CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
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Drawn by	AMF
Checked by	KMR
Approved by	JGS

No.	Description	Date
	REVISIONS	

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Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

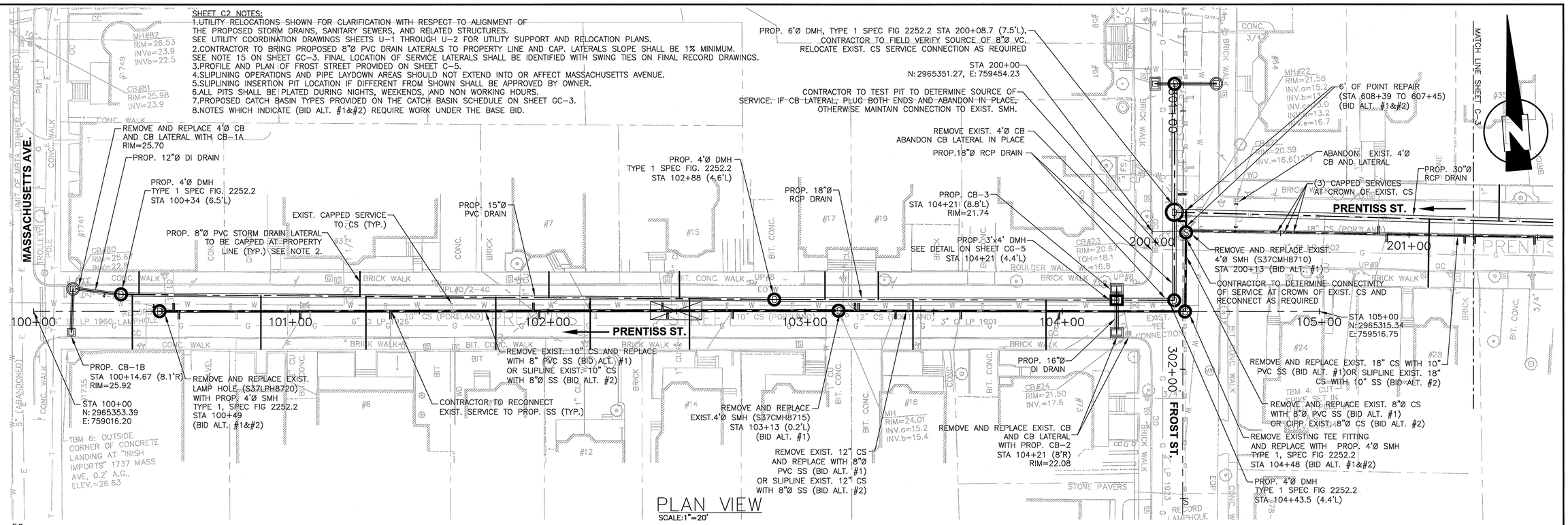
Drawing: CIVIL - COMPOSITE SITE PLAN

Sheet: C-1
12 OF 59

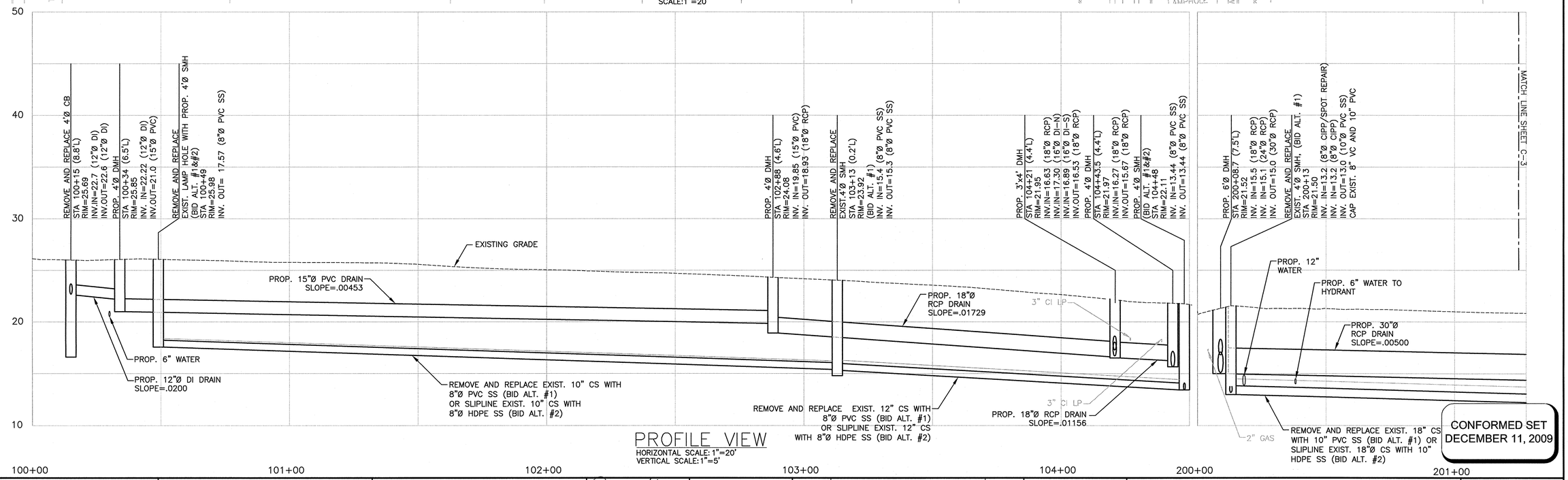
File No.

PLOT DATE= 12/7/2009 3:32:43 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_SHEETS--MWH.dwg

SHEET C2 NOTES:
1.UTILITY RELOCATIONS SHOWN FOR CLARIFICATION WITH RESPECT TO ALIGNMENT OF THE PROPOSED STORM DRAINS, SANITARY SEWERS, AND RELATED STRUCTURES. SEE UTILITY COORDINATION DRAWINGS SHEETS U-1 THROUGH U-2 FOR UTILITY SUPPORT AND RELOCATION PLANS.
2.CONTRACTOR TO BRING PROPOSED 8"Ø PVC DRAIN LATERALS TO PROPERTY LINE AND CAP. LATERALS SLOPE SHALL BE 1% MINIMUM. SEE NOTE 15 ON SHEET GC-3. FINAL LOCATION OF SERVICE LATERALS SHALL BE IDENTIFIED WITH SWING TIES ON FINAL RECORD DRAWINGS.
3.PROFILE AND PLAN OF FROST STREET PROVIDED ON SHEET C-5.
4.SLIPLINING OPERATIONS AND PIPE LAYDOWN AREAS SHOULD NOT EXTEND INTO OR AFFECT MASSACHUSETTS AVENUE.
5.SLIPLINING INSERTION PIT LOCATION IF DIFFERENT FROM SHOWN SHALL BE APPROVED BY OWNER.
6.ALL PITS SHALL BE PLATED DURING NIGHTS, WEEKENDS, AND NON WORKING HOURS.
7.PROPOSED CATCH BASIN TYPES PROVIDED ON THE CATCH BASIN SCHEDULE ON SHEET GC-3.
8.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.



PLAN VIEW
SCALE:1"=20'



PROFILE VIEW
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
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ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHMIDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	AMF
Drawn by	AMF
Checked by	KMR
Approved by	JGS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

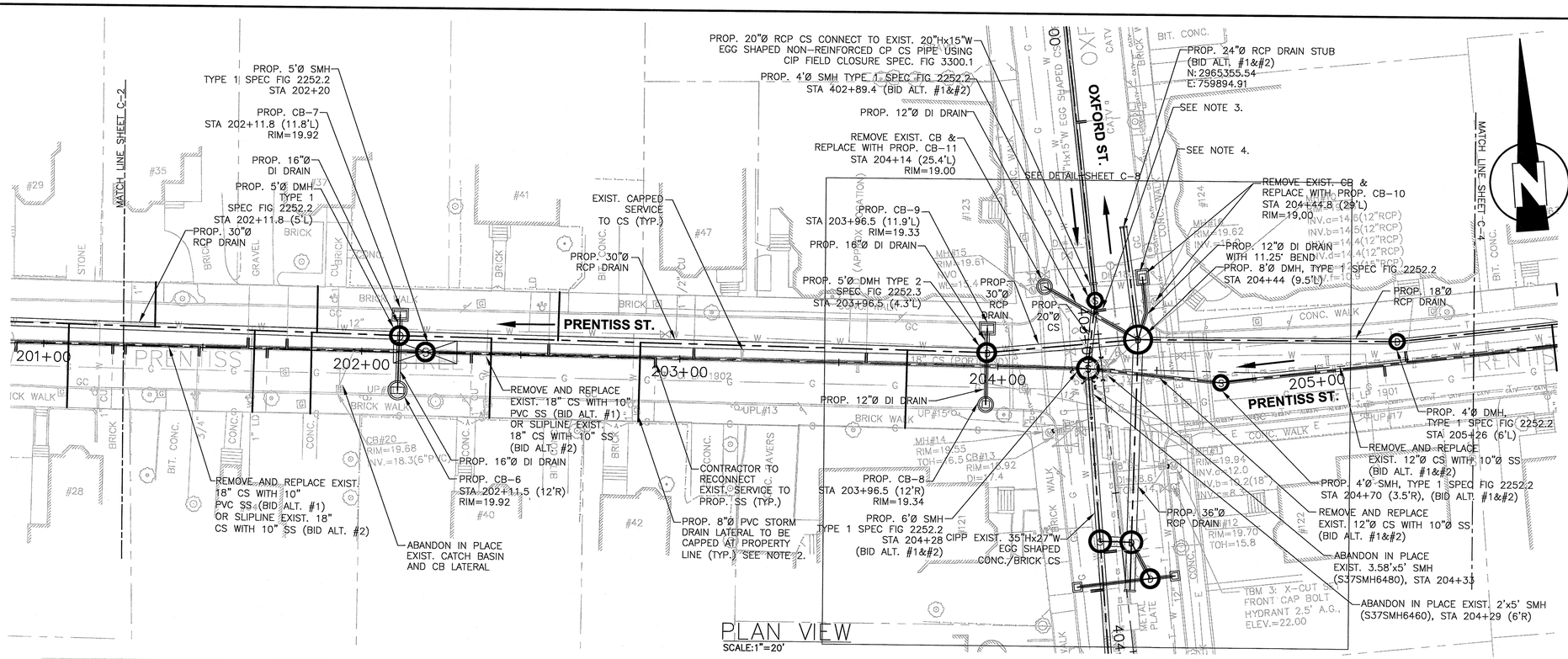
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - PRENTISS STREET PLAN AND PROFILE STA 100+00 TO 201+25

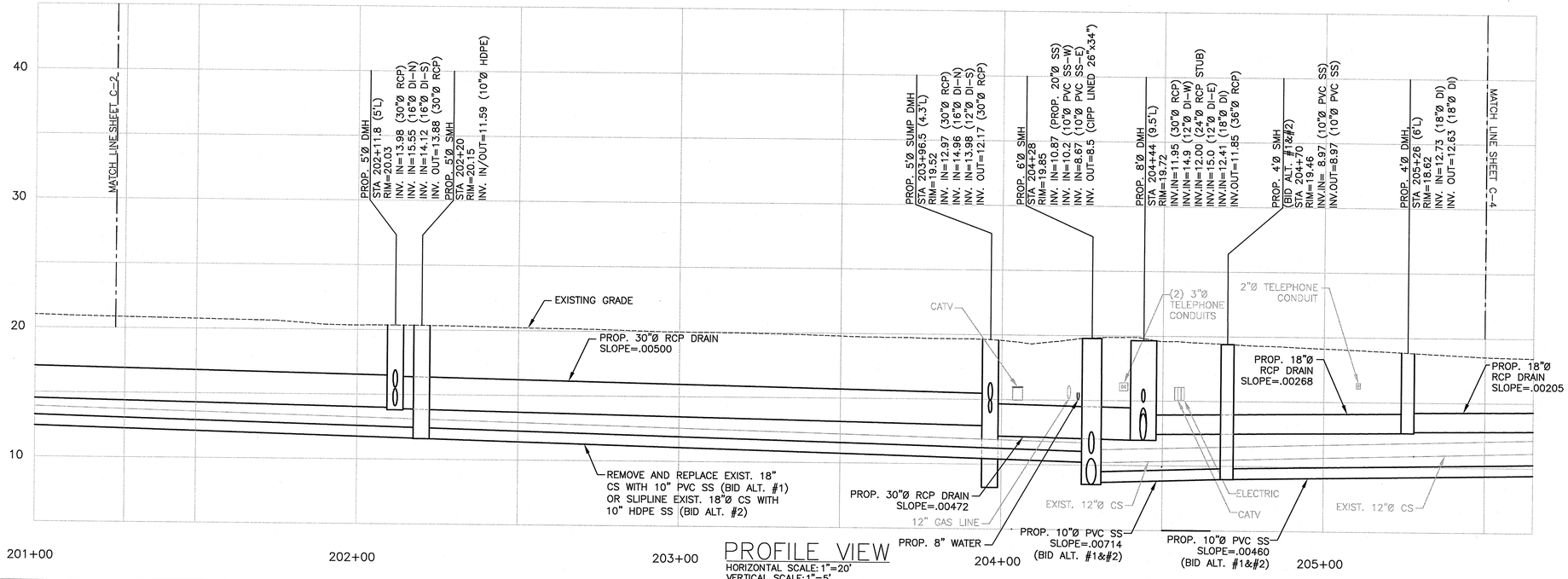
Sheet: C-2

File No.

PLOT DATE=12/7/2009 3:34:00 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_SHEETS--MWH.dwg



PLAN VIEW
SCALE:1"=20'



PROFILE VIEW
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

SHEET C3 NOTES:

1.UTILITY RELOCATIONS SHOWN FOR CLARIFICATION WITH RESPECT TO ALIGNMENT OF THE PROPOSED STORM DRAINS, SANITARY SEWERS, AND RELATED STRUCTURES. SEE UTILITY COORDINATION DRAWINGS SHEETS U1-U2 FOR UTILITY SUPPORT AND RELOCATION PLANS

2.CONTRACTOR TO BRING PROPOSED 8"Ø PVC DRAIN LATERALS TO PROPERTY LINE AND CAP. LATERALS SLOPE SHALL BE 1% MINIMUM. SEE NOTE 15 ON SHEET GC-3. FINAL LOCATION OF SERVICE LATERALS SHALL BE IDENTIFIED WITH SWING TIES ON FINAL RECORD DRAWINGS.

3.CONTRACTOR TO TEST PIT TO DETERMINE SOURCE OF SERVICE. IF CB LATERAL, PLUG BOTH ENDS AND ABANDON IN PLACE, OTHERWISE CONNECT LATERAL TO PROP. 20"Ø CS.

4.CONDUIT ASSUMED TO BE RETIRED. CONTRACTOR SHALL COORDINATE WITH VERIZON DURING CONSTRUCTION. IF NOT RETIRED CONTRACTOR SHALL COORDINATE RELOCATION WITH VERIZON.

5.SLIPLINING OPERATIONS AND PIPE LAYDOWN AREAS SHOULD NOT EXTEND INTO OR AFFECT MASSACHUSETTS AVENUE OR OXFORD STREET.

6.SLIPLINING INSERTION PIT LOCATION IF DIFFERENT FROM SHOWN SHALL BE APPROVED BY OWNER.

7.ALL PITS SHALL BE PLATED DURING NIGHTS, WEEKENDS, AND NON WORKING HOURS.

8.PROPOSED CATCH BASIN TYPES PROVIDED ON THE CATCH BASIN SCHEDULE ON SHEET GC-3.

9.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.

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DECEMBER 11, 2009

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BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHMIDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
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Drawn by	AMF
Checked by	KMR
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No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - PRENTISS STREET PLAN AND PROFILE STA 201+25 TO 205+50

Sheet: C-3

File No.

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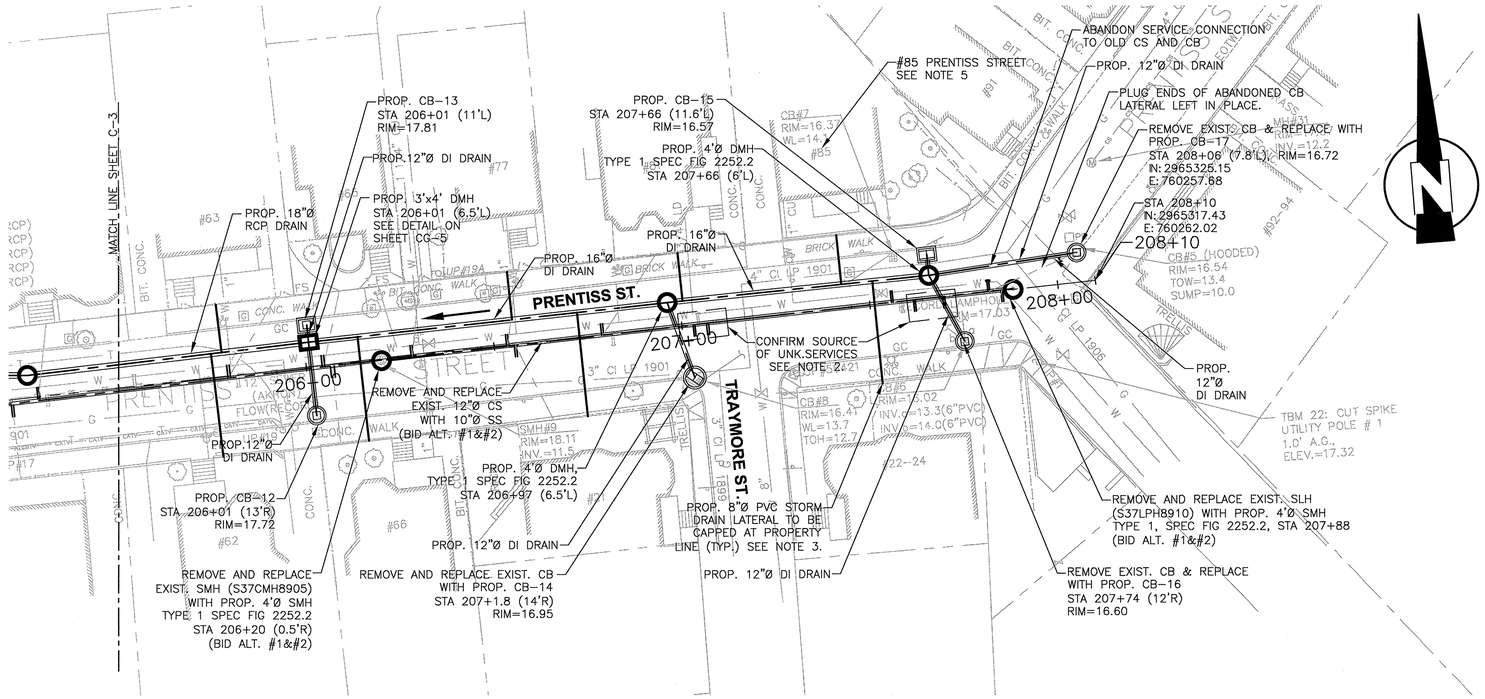
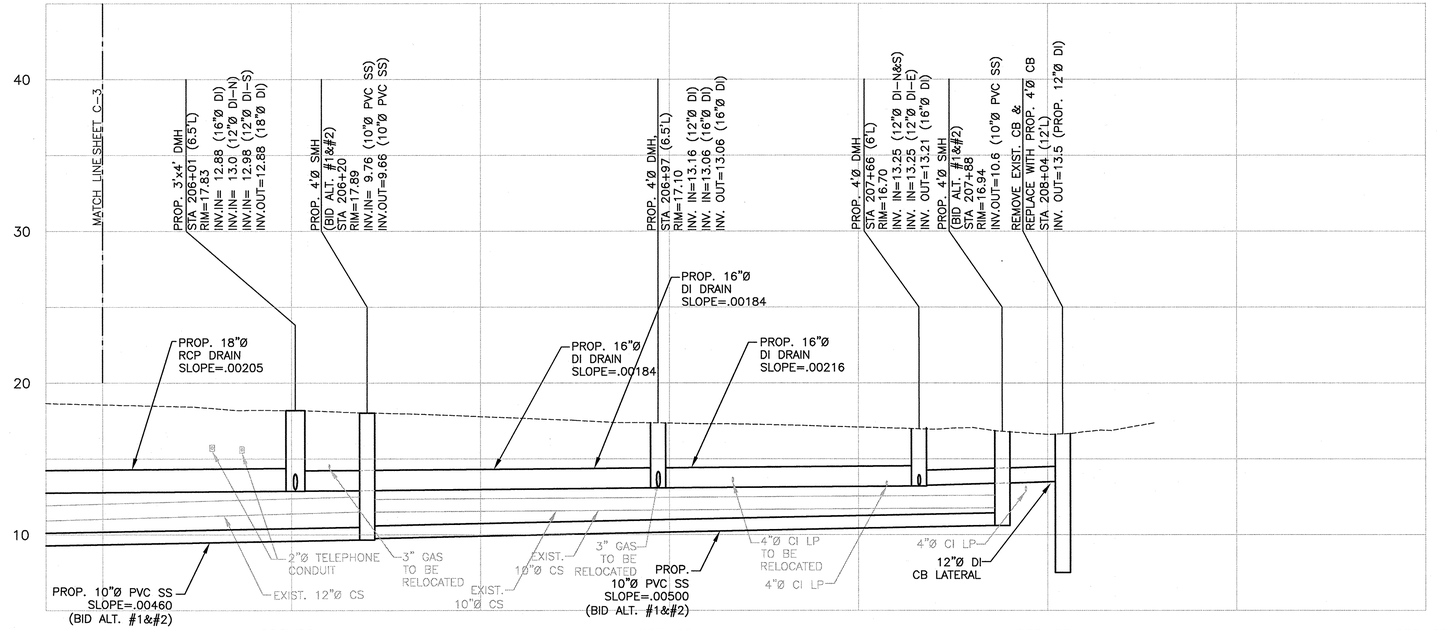


PLAN VIEW

SCALE:1"=20'



PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

SHEET C4 NOTES:

1.CONTRACTOR TO CONFIRM LATERAL CONNECTIONS ARE FROM CATCH BASINS TO BE REMOVED. IF CONFIRMED ABANDON LATERAL IN PLACE. CONSULT WITH ENGINEER IF TEST PITS INDICATE DIFFERENT CONDITION.

2.UTILITY RELOCATIONS SHOWN FOR CLARIFICATION WITH RESPECT TO ALIGNMENT OF THE PROPOSED STORM DRAINS, SANITARY SEWERS, AND RELATED STRUCTURES. SEE UTILITY COORDINATION DRAWINGS SHEETS U-1 THROUGH U-2 FOR UTILITY SUPPORT AND RELOCATION PLANS.

3.CONTRACTOR TO BRING PROPOSED 8"Ø PVC DRAIN LATERALS TO PROPERTY LINE AND CAP. LATERALS SLOPE SHALL BE 1% MINIMUM. SEE NOTE 15 ON SHEET GC-3. FINAL LOCATION OF SERVICE LATERALS SHALL BE IDENTIFIED WITH SWING TIES ON FINAL RECORD DRAWINGS.

4.PROPOSED CATCH BASIN TYPES PROVIDED ON THE CATCH BASIN SCHEDULE ON SHEET GC-3.

5.CONTRACTOR TO DETERMINE CONNECTIVITY OF #85 PRENTISS STREET TO CS AND RECONNECT TO PROP. SS.

6.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHAUDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	AMF
Drawn by	AMF
Checked by	KMR
Approved by	JGS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

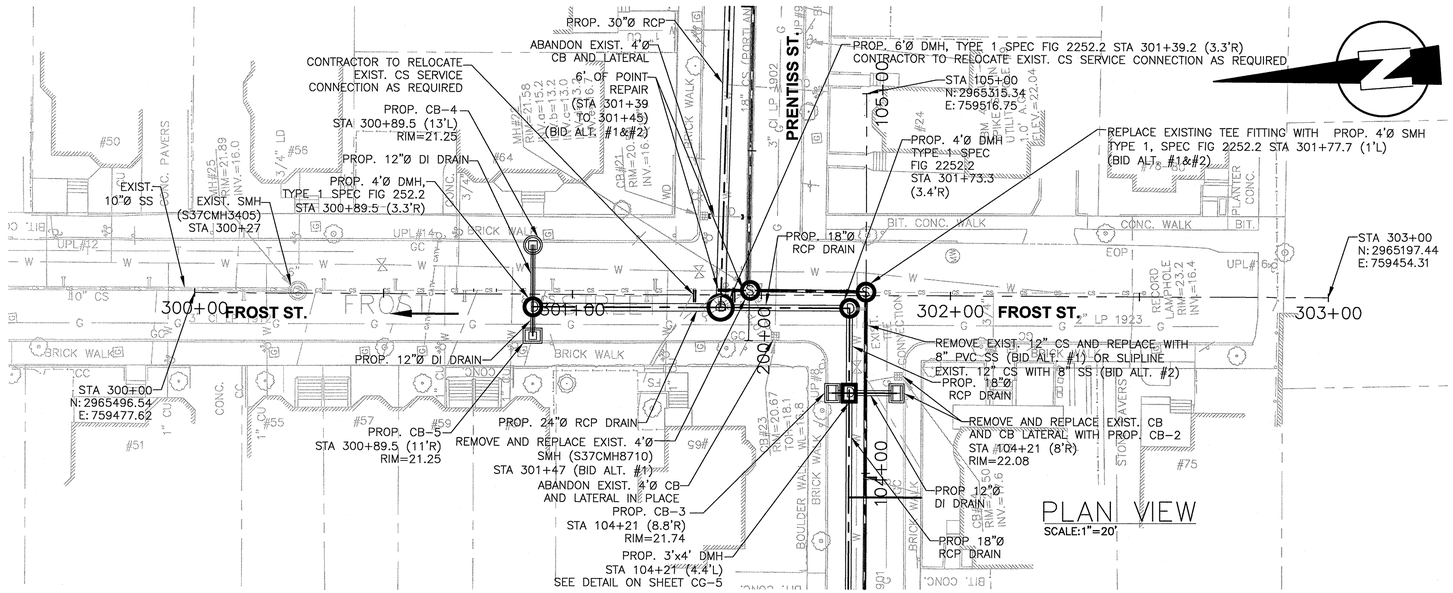
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - PRENTISS STREET PLAN AND PROFILE STA 205+50 TO 208+10

Sheet: C-4
15 OF 59

File No.

PLOT DATE=12/7/2009 3:35:58 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS-CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_SHEETS-MWH.dwg



SHEET C5 NOTES:

1.UTILITY RELOCATIONS SHOWN FOR CLARIFICATION WITH RESPECT TO ALIGNMENT OF THE PROPOSED STORM DRAINS, SANITARY SEWERS, AND RELATED STRUCTURES. SEE UTILITY COORDINATION DRAWINGS SHEETS U1–U2 FOR UTILITY SUPPORT AND RELOCATION PLANS

2.CONTRACTOR TO BRING PROPOSED 8"Ø PVC DRAIN LATERALS TO PROPERTY LINE AND CAP. LATERALS SLOPE SHALL BE 1% MINIMUM. SEE NOTE 15 ON SHEET GC–3. FINAL LOCATION OF SERVICE LATERALS SHALL BE IDENTIFIED WITH SWING TIES ON FINAL RECORD DRAWINGS.

3.CONTINUATION OF PRENTISS STREET IMPROVEMENTS SHOWN ON SHEET C–2.

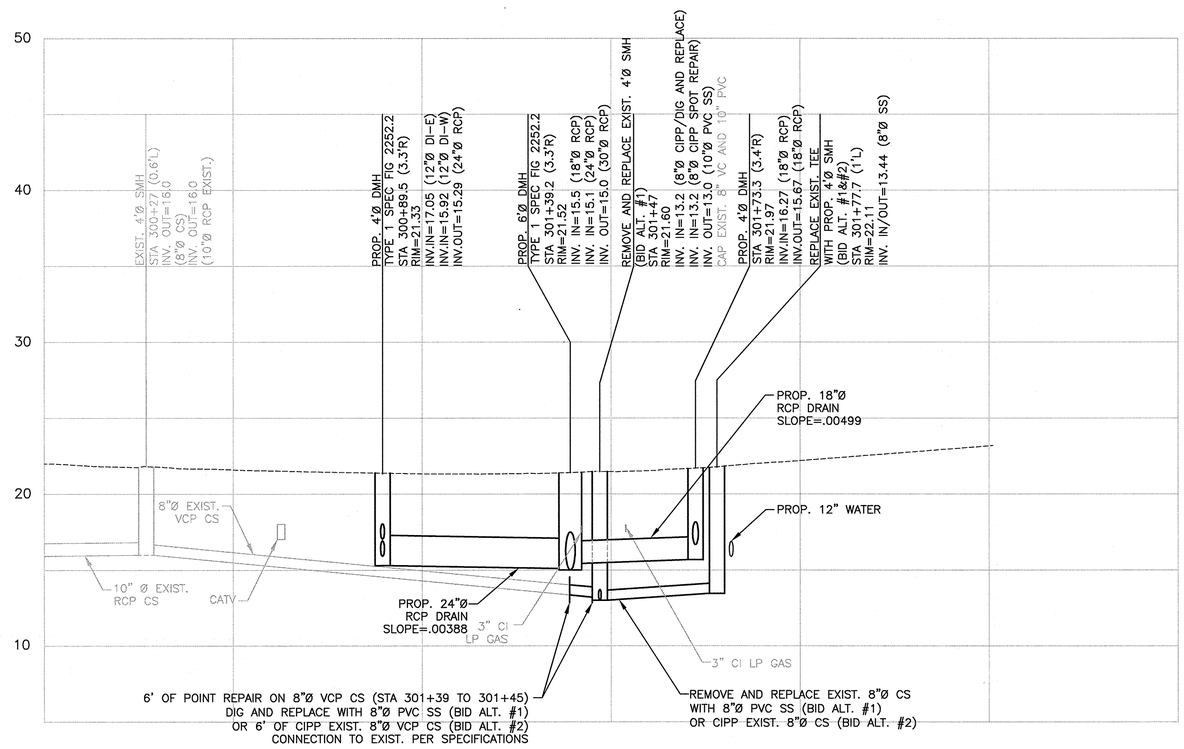
4.SLIPLINING OPERATIONS AND PIPE LAYDOWN AREAS SHOULD NOT EXTEND INTO OR AFFECT MASSACHUSETTS AVENUE OR OXFORD STREET.

5.SLIPLINING INSERTION PIT LOCATION IF DIFFERENT FROM SHOWN SHALL BE APPROVED BY OWNER.

6.ALL PITS SHALL BE PLATED DURING NIGHTS, WEEKENDS, AND NON WORKING HOURS.

7.PROPOSED CATCH BASIN TYPES PROVIDED ON THE CATCH BASIN SCHEDULE ON SHEET GC–3.

8.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.



PROFILE VIEW
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
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FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHMIDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	AMF
Drawn by	AMF
Checked by	KMR
Approved by	JGS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - PRENTISS STREET PLAN AND PROFILE STA 300+00 TO 303+00

Sheet: C-5
16 OF 59

File No.

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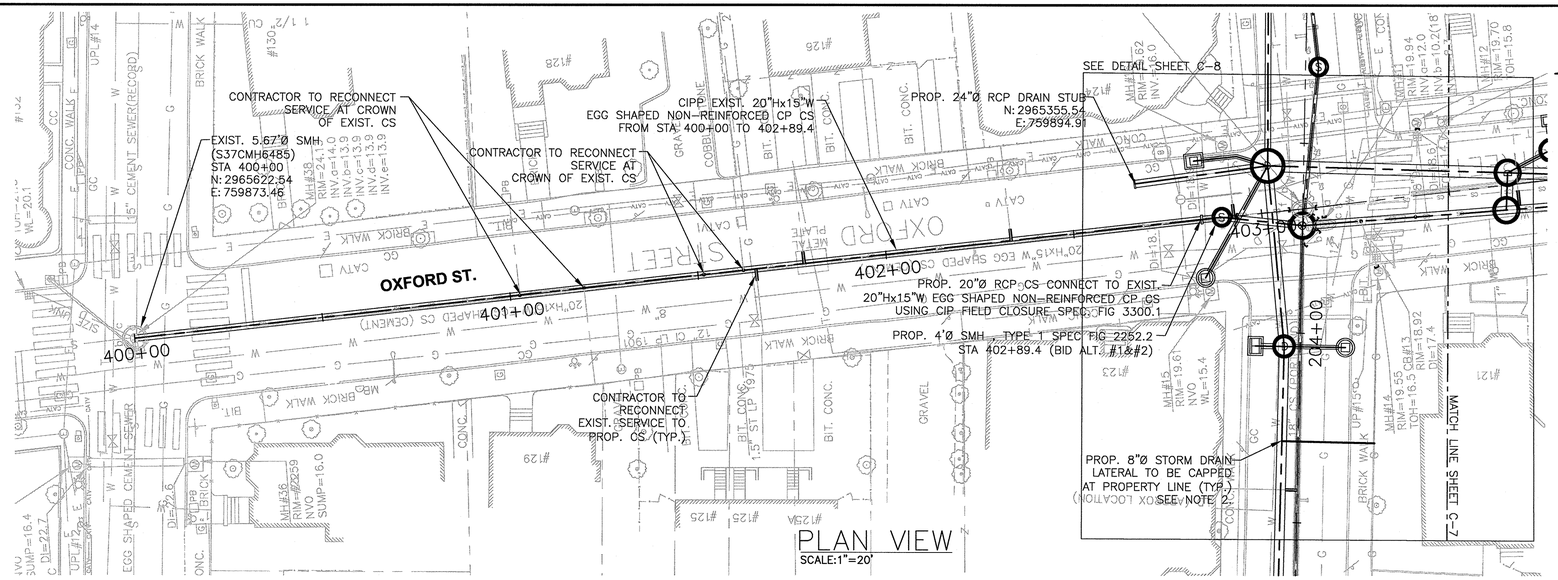


PLAN VIEW
SCALE:1"=20'

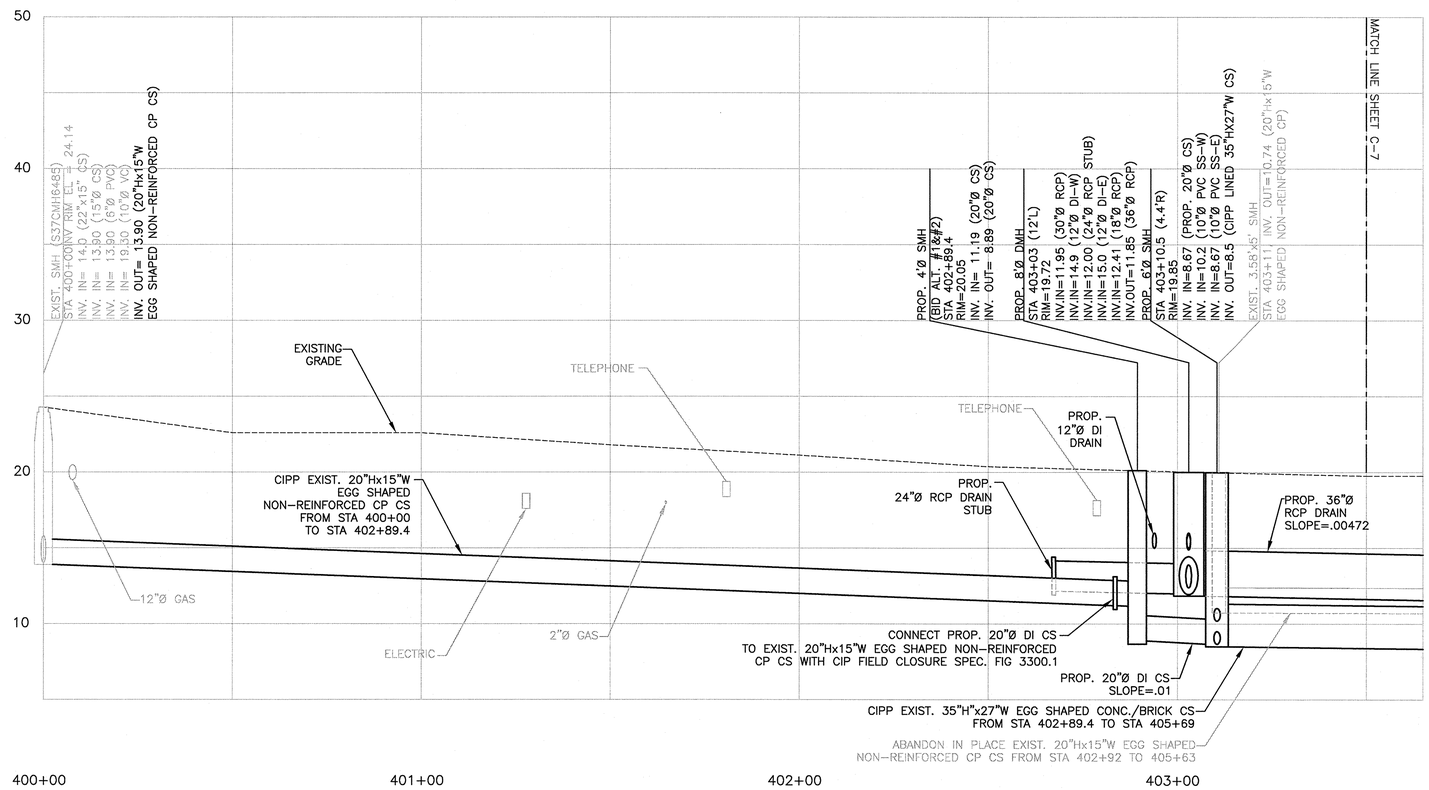
SHEET C6 NOTES:

1.UTILITY RELOCATIONS SHOWN FOR CLARIFICATION WITH RESPECT TO ALIGNMENT OF THE PROPOSED STORM DRAINS, SANITARY SEWERS, AND RELATED STRUCTURES. SEE UTILITY COORDINATION DRAWINGS SHEETS U1–U2 FOR UTILITY SUPPORT AND RELOCATION PLANS.

2.CONTRACTOR TO BRING PROPOSED 8"Ø PVC DRAIN LATERALS TO PROPERTY LINE AND CAP. LATERALS SLOPE SHALL BE 1% MINIMUM. SEE NOTE 15 ON SHEET GC–3. FINAL LOCATION OF SERVICE LATERALS SHALL BE IDENTIFIED WITH SWING TIES ON FINAL RECORD DRAWINGS.

3.PROPOSED CATCH BASIN TYPES PROVIDED ON THE CATCH BASIN SCHEDULE ON SHEET GC–3.

4.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.



PROFILE VIEW
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

CONFORMED SET
DECEMBER 11, 2009

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ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

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BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHMIDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	AMF
Drawn by	AMF
Checked by	KMR
Approved by	JGS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - OXFORD STREET PLAN AND PROFILE STA 400+00 TO 403+50

Sheet: C-6
17 OF 59

File No.

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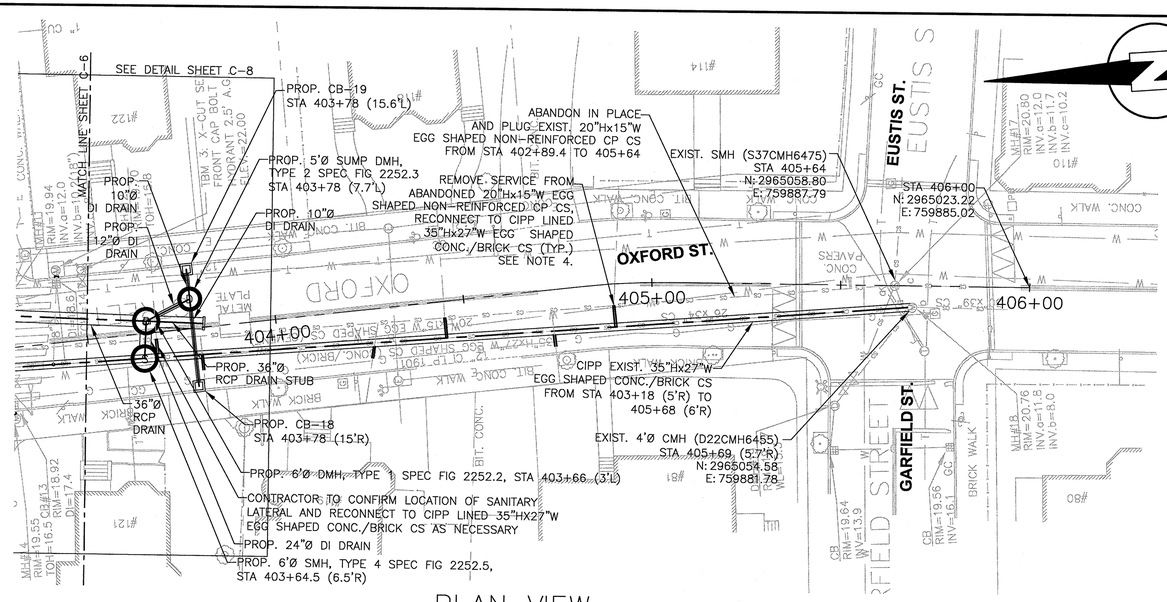


PLAN VIEW

SCALE:1"=20'

SHEET C7 NOTES:

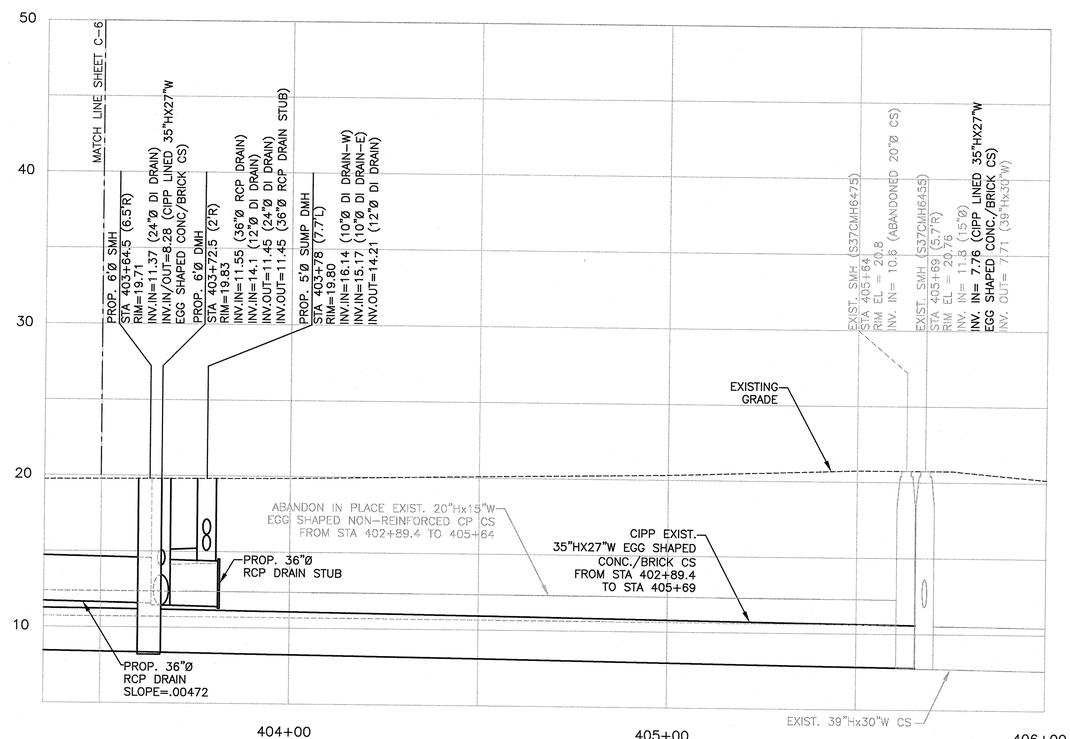
1.UTILITY RELOCATIONS SHOWN FOR CLARIFICATION WITH RESPECT TO ALIGNMENT OF THE PROPOSED STORM DRAINS, SANITARY SEWERS, AND RELATED STRUCTURES. SEE UTILITY COORDINATION DRAWINGS SHEETS U1–U2 FOR UTILITY SUPPORT AND RELOCATION PLANS

2.CONTRACTOR TO BRING PROPOSED 8"Ø PVC DRAIN LATERALS TO PROPERTY LINE AND CAP. LATERALS SLOPE SHALL BE 1% MINIMUM. SEE NOTE 15 ON SHEET GC–3. FINAL LOCATION OF SERVICE LATERALS SHALL BE IDENTIFIED WITH SWING TIES ON FINAL RECORD DRAWINGS.

3.PROPOSED CATCH BASIN TYPES PROVIDED ON THE CATCH BASIN SCHEDULE ON SHEET GC–3.

4.LATERAL RECONNECTIONS TO CIPP LINED 35"Hx37"W EGG SHAPED CONC./BRICK CS SHALL BE INSTALLED AT MINIMUM INV.EL=15.0 AT 5 FEET FROM CIPP LINED 35"Hx37"W EGG SHAPED CONC./BRICK CS IN ORDER TO AVOID FUTURE EXTENDED ALIGNMENT OF STORM DRAIN.

5.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.



PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

CONFORMED SET
DECEMBER 11, 2009

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FRAMINGHAM, MASSACHUSETTS

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BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHMIDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	AMF
Drawn by	AMF
Checked by	KMR
Approved by	JGS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - OXFORD STREET PLAN AND PROFILE
STA 403+50 TO 406+00

Sheet: C-7
18 OF 59

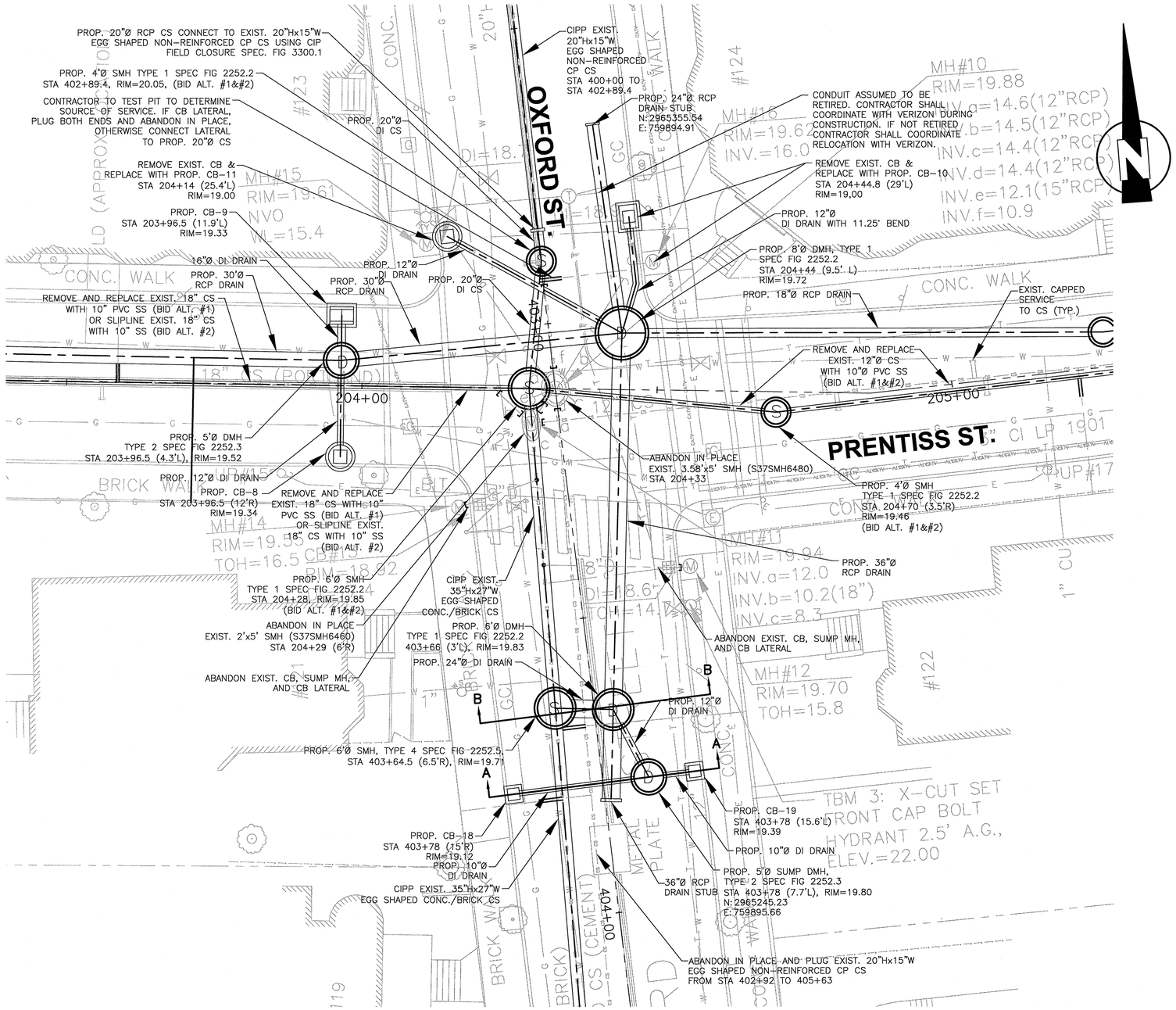
File No.

PLOT DATE=12/7/2009 3:38:36 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_SHEETS--MWH.dwg

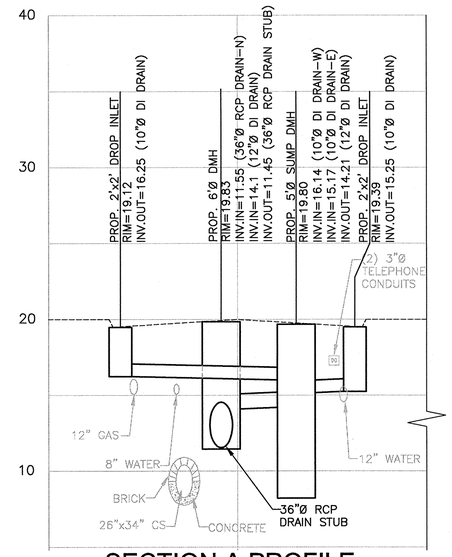
NOTES SHEET C8:

1. PLAN AND PROFILE SHOWN HERE FOR CLARITY REGARDING UTILITY CONFLICTS. SEE SHEETS C-3, C-4, C-6 AND C-7 FOR STATION OFFSETS BASED ON PROJECT HORIZONTAL CONTROLS.

2.NOTES WHICH INDICATE (BID ALT. #1&#2) REQUIRE WORK UNDER THE BASE BID.

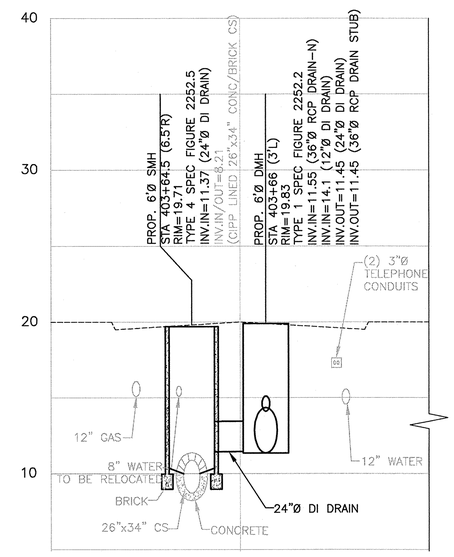


PLAN VIEW
SCALE:1"=10'



SECTION A PROFILE

PROFILE VIEW
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'



SECTION B PROFILE

PROFILE VIEW
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

CONFORMED SET
DECEMBER 11, 2009

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ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JEFFREY G. SCHMIDT
CIVIL
No. 41692
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
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Drawn by	AMF
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No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

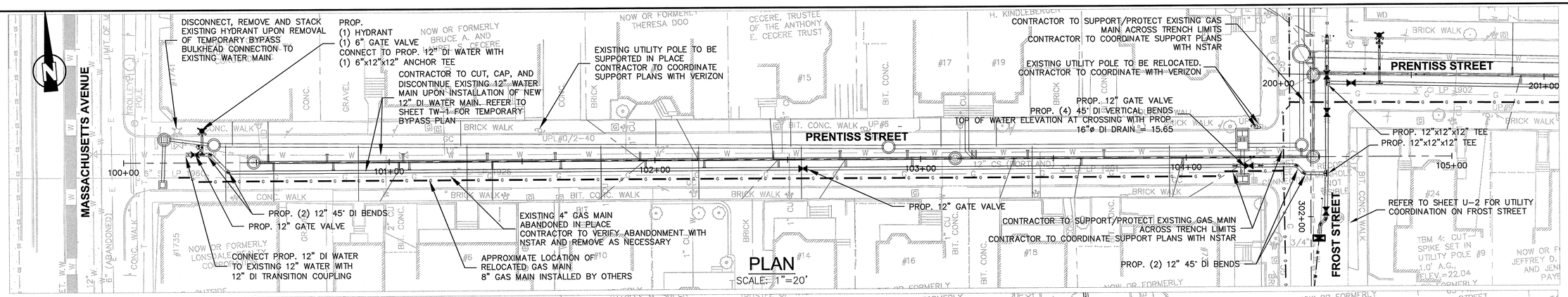
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: CIVIL - DETAILED PLAN SECTIONS A & B

Sheet: C-8

File No.

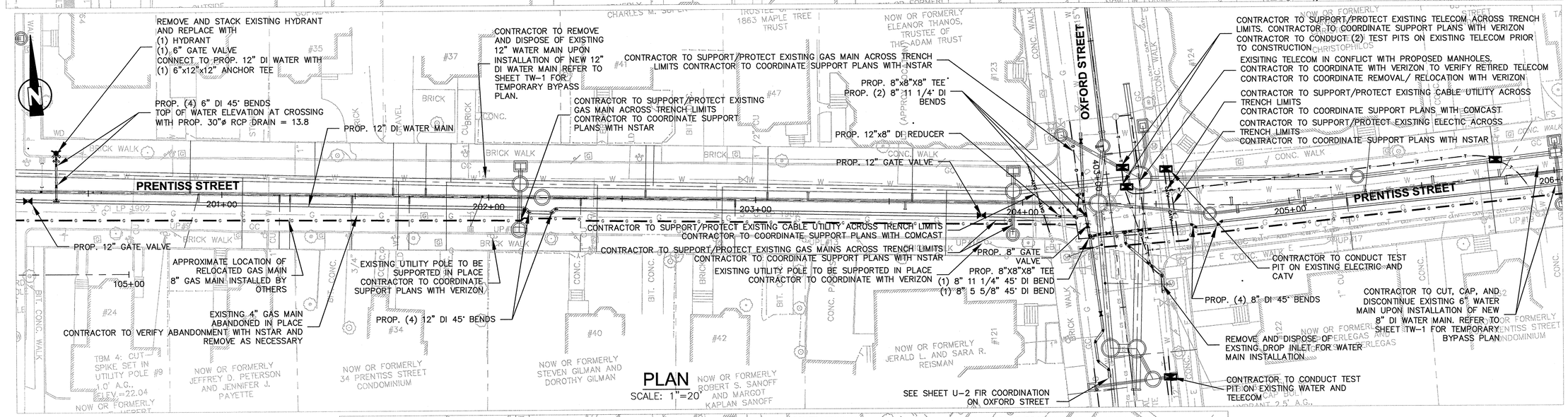
PLOT DATE=12/7/2009 3:39:17 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_SHEETS--MWH.dwg



PLAN
SCALE: 1"=20'

CONTINUE BELOW

CONTINUE ABOVE



PLAN
SCALE: 1"=20'

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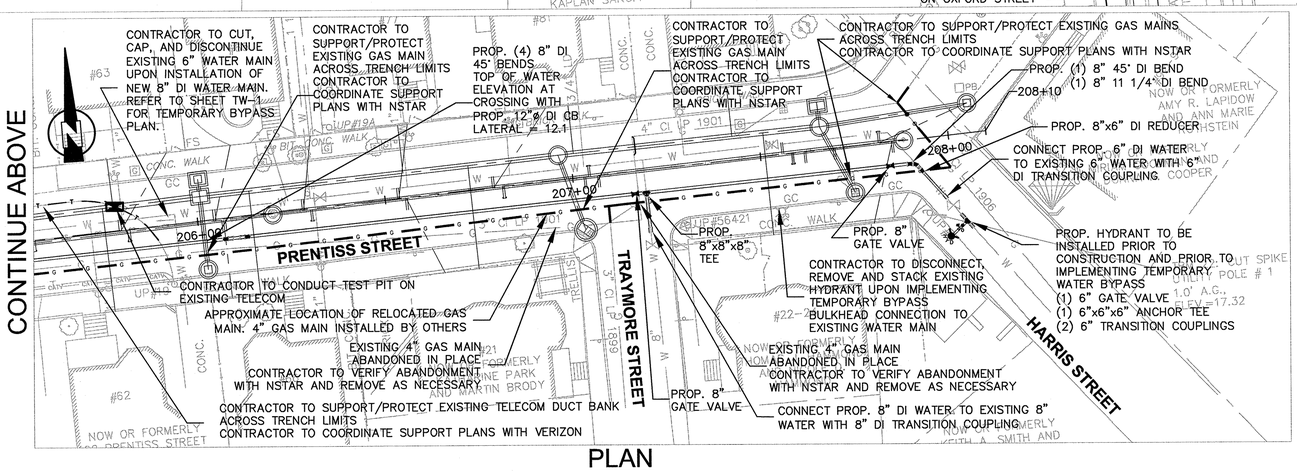
CONTINUE ABOVE



PLAN
SCALE: 1"=20'

UTILITY COORDINATION NOTES:

1. EXISTING 3" CI AND 4" CI GAS MAIN ON PRENTISS STREET HAS BEEN RELOCATED BY OTHERS. CONTRACTOR TO COORDINATE WITH NSTAR GAS TO OBTAIN RELOCATED LIMITS AND LOCATIONS OF GAS MAIN ON PRENTISS STREET.

2. CONTRACTOR SHALL CONNECT WATER SERVICES TO NEW 12" WATER MAIN. EXISTING LEAD SERVICES SHALL BE REMOVED AND REPLACED TO BACK OF SIDEWALK.
THE CITY OF CAMBRIDGE WATER DEPARTMENT HAS INDICATED THAT THERE ARE THE FOLLOWING QUANTITY OF LEAD SERVICES ON PRENTISS STREET:
(3) ¾" SERVICES EACH REQUIRING APPROXIMATELY 20 LF ± OF COPPER SERVICE PIPE
(6) 1" SERVICES EACH REQUIRING APPROXIMATELY 20 LF ± OF COPPER SERVICE PIPE
(1) 1 ¼" SERVICE EACH REQUIRING APPROXIMATELY 20 LF ± OF COPPER SERVICE PIPE
(1) 2" SERVICE EACH REQUIRING APPROXIMATELY 20 LF ± OF COPPER SERVICE PIPE

3. CONTRACTOR SHALL EXCAVATE TWO (2) TEST PITS ON THE EXISTING 12" GAS MAIN AT THE INTERSECTION OF FOREST STREET AND OXFORD STREET AND FOREST STREET AND FROST STREET. LOCATIONS OF TEST PITS SHALL BE COORDINATED WITH THE ENGINEER PRIOR TO CONSTRUCTION.

4. UNLESS OTHERWISE NOTED, WATER MAINS SHALL BE INSTALLED WITH MINIMUM 5' COVER.

5. CONTRACTOR TO PROVIDE 1" CHLORINATION TAP AT ALL LOCATIONS WHERE PROP. WATER MAIN CONNECTS TO EXISTING WATER MAIN

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC
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JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
1/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	CMC			
Drawn by	CMC			
Checked by	TJR	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

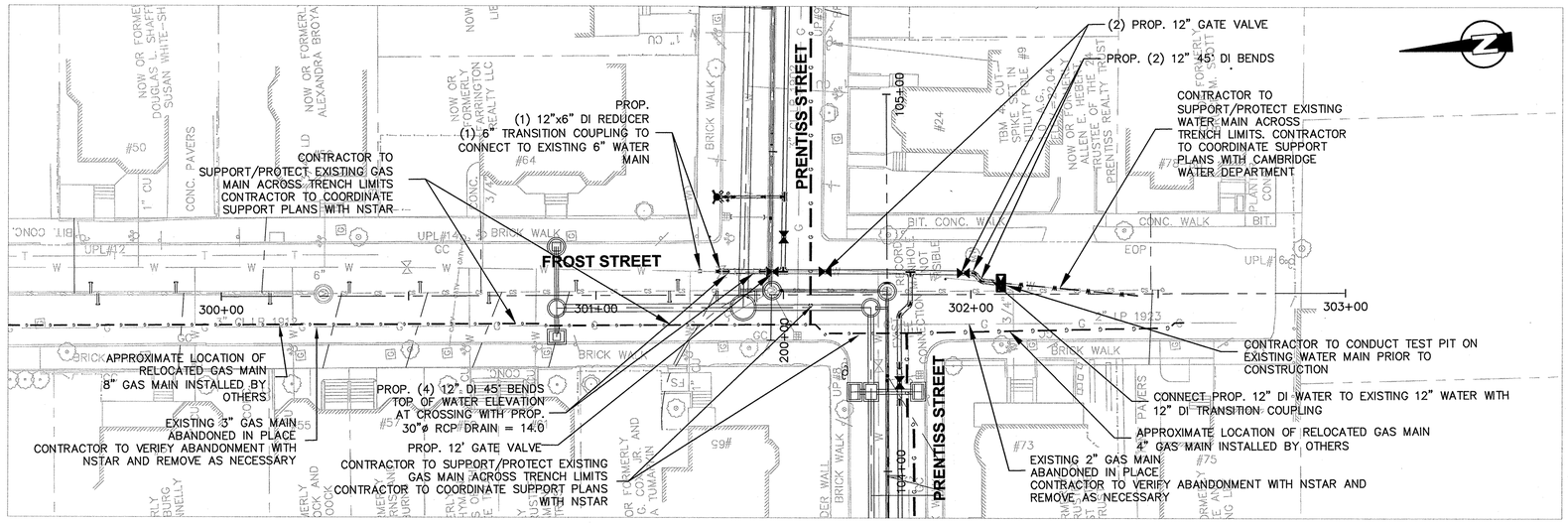
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: UTILITY COORDINATION - PRENTISS STREET

Sheet: U-1
20 OF 59

File No.

PLOT DATE=12/10/2009 6:30:21 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_COORD_SHEETS.dwg

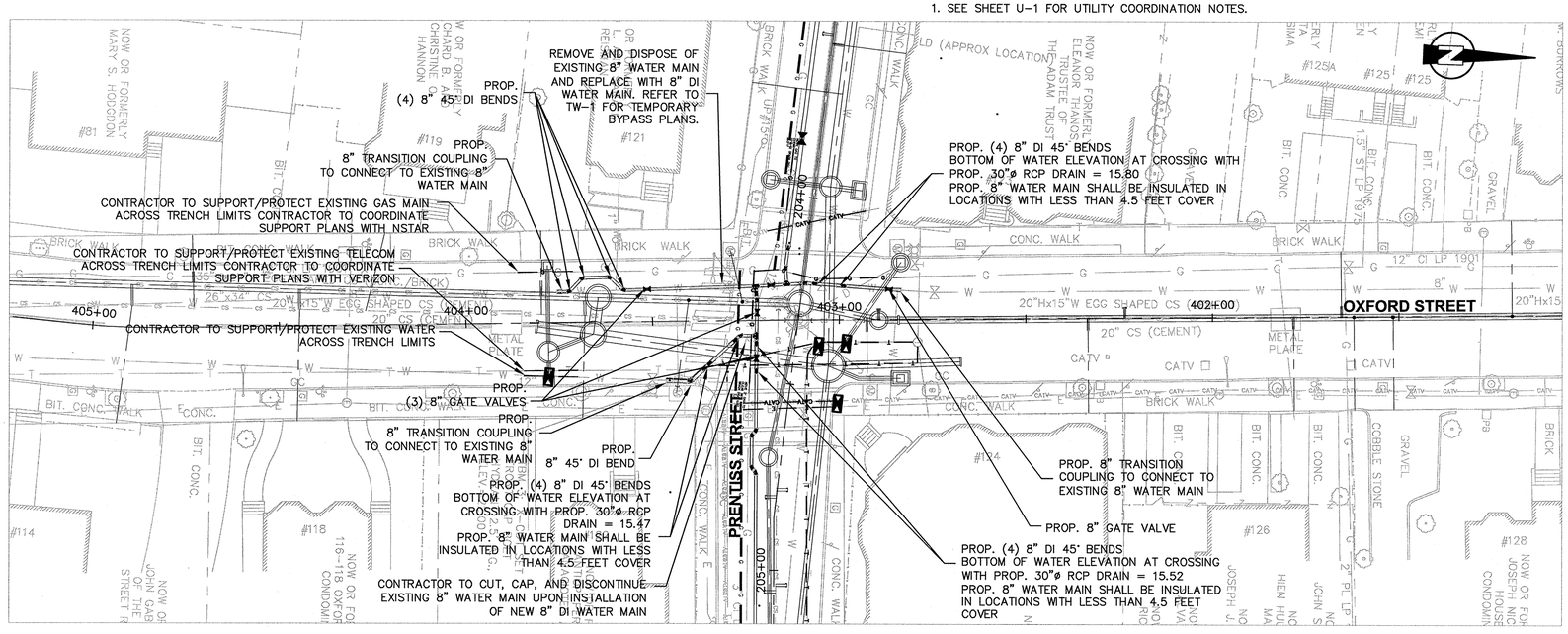


PLAN

SCALE: 1"=20'

UTILITY COORDINATION NOTES:

1. SEE SHEET U-1 FOR UTILITY COORDINATION NOTES.



PLAN

SCALE: 1"=20'

UTILITY COORDINATION NOTES:

1. SEE SHEET U-1 FOR UTILITY COORDINATION NOTES.

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Scale	AS NOTED
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Drawn by	CMC
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THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

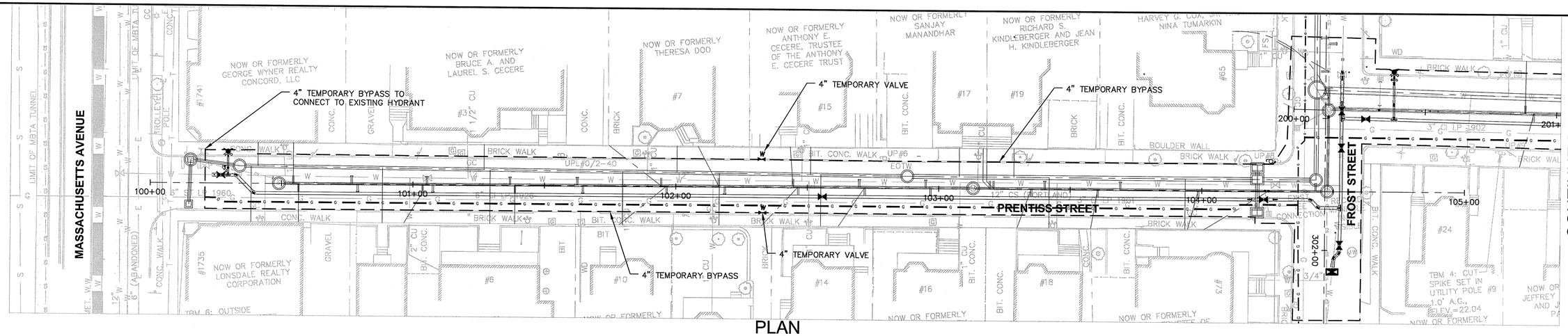
Drawing: UTILITY COORDINATION - FROST STREET AND OXFORD STREET

Sheet: U-2

21 OF 59

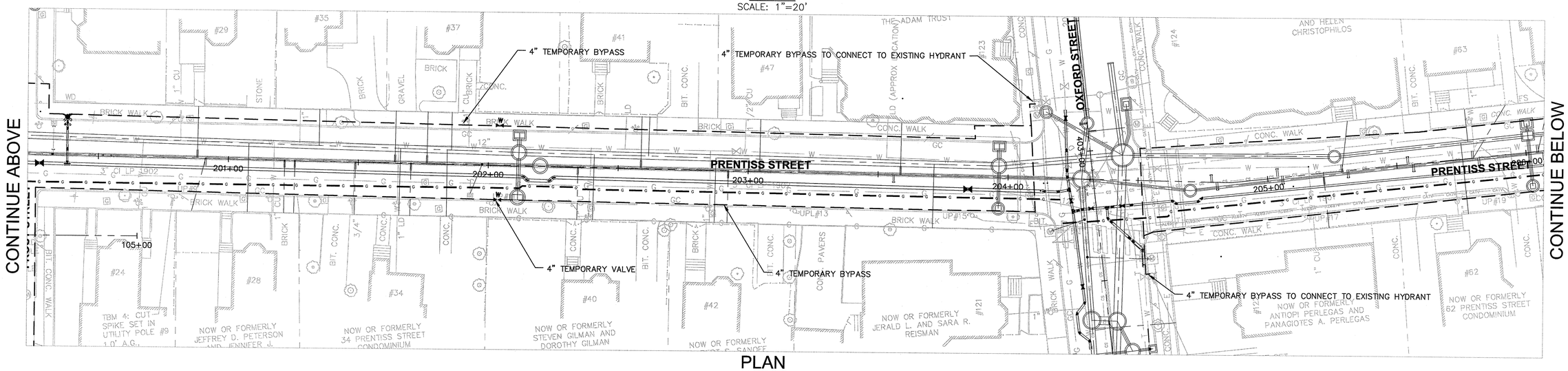
File No.

PLOT DATE=12/10/2009 6:31:10 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_UTILITY_COORD_SHEETS.dwg



PLAN

SCALE: 1"=20'

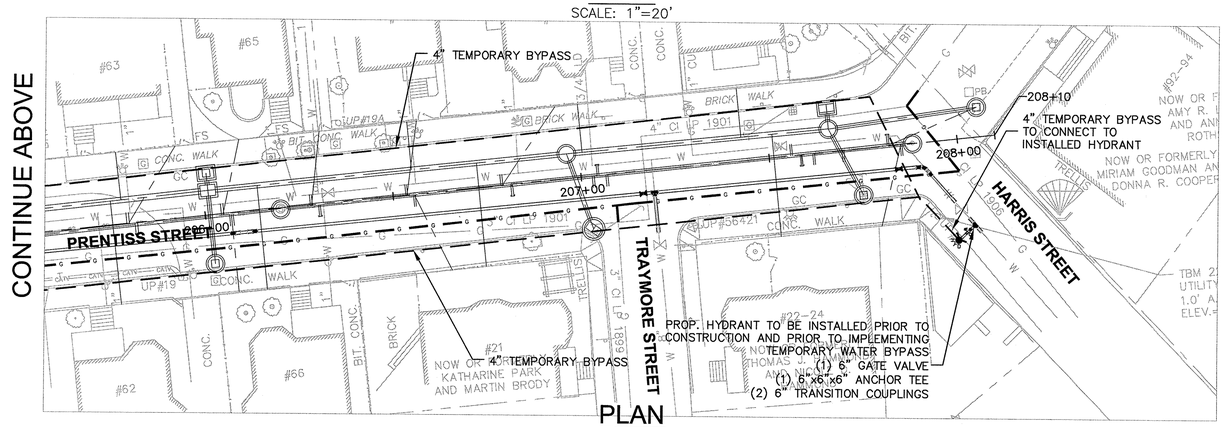


PLAN

SCALE: 1"=20'

TEMPORARY BYPASS NOTES:

1. TEMPORARY BYPASS IS PERMITTED BETWEEN APRIL 1ST AND NOVEMBER 1ST.
2. TEMPORARY PIPING SHALL BE BURIED AT ROADWAY AND DRIVEWAY CROSSINGS. SEE SECTION 02685-3.1C OF THE CONTRACT DOCUMENTS.



PLAN

SCALE: 1"=20'

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12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	CMC			
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Approved by	JJS		REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: TEMPORARY WATER BYPASS - PRENTISS STREET

Sheet: TW-1

22 OF 59

File No.

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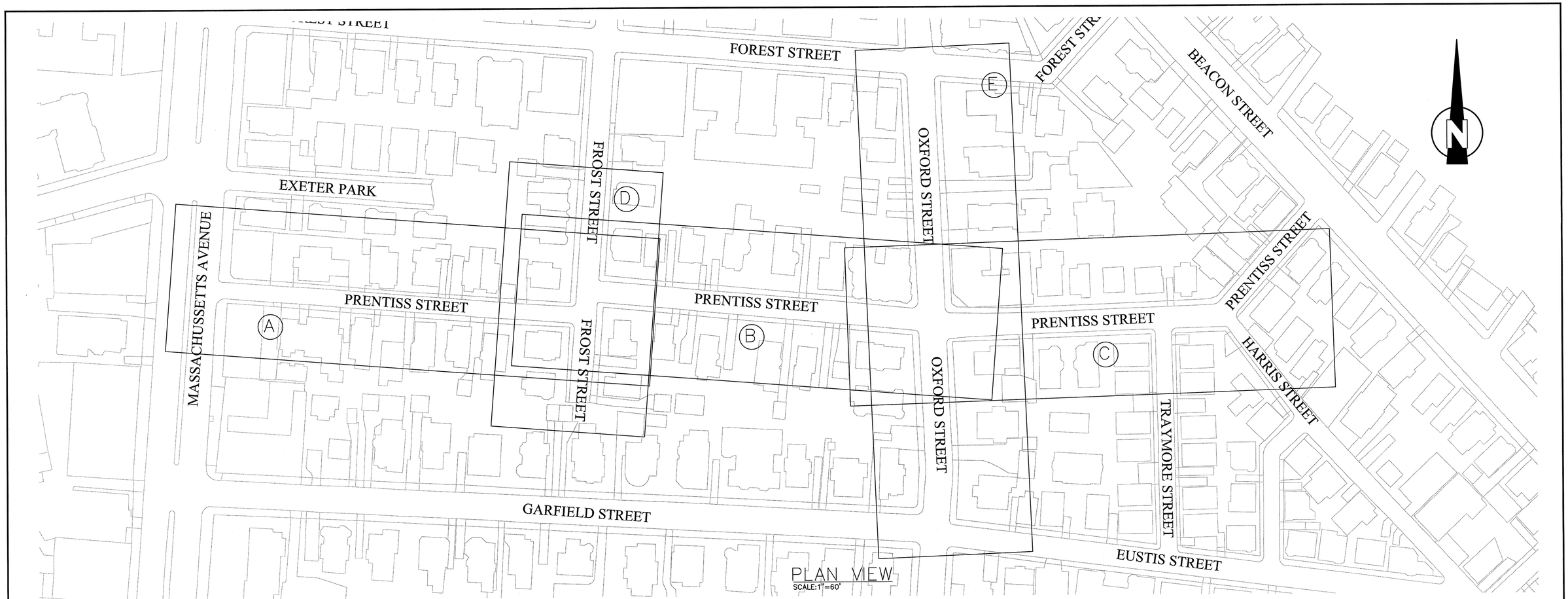

PLAN VIEW
SCALE:1"=60'

FROST STREET AREA ROADWAY KEY PLAN

KEY PLAN LABEL	ASSOCIATED DRAWINGS
A	• GR-2 – GENERAL ROADWAY – ROADWAY BASELINE PLAN • R-1 – ROADWAY – RESTORATION PLAN – STA 1000+00 TO 1004+68 • R-2 – ROADWAY – GRADING PLAN – STA 1000+00 TO 1004+68 • R-3 – ROADWAY – PROFILE – STA 1000+00 TO 1004+68 • R-4 – ROADWAY – CURB TIE PLAN – STA 1000+00 TO 1004+68 • R-5 – ROADWAY – PAVEMENT MARKING PLAN – STA 1000+00 TO 1004+68
B	• GR-2 – GENERAL ROADWAY – ROADWAY BASELINE PLAN • R-6 – ROADWAY – RESTORATION PLAN – STA 2000+00 TO 2004+20 • R-7 – ROADWAY – GRADING PLAN – STA 2000+00 TO 2004+20 • R-8 – ROADWAY – PROFILE – STA 2000+00 TO 2004+20 • R-9 – ROADWAY – CURB TIE PLAN – STA 2000+00 TO 2004+20 • R-10 – ROADWAY – PAVEMENT MARKING PLAN – STA 2000+00 TO 2004+20
C	• GR-2 – GENERAL ROADWAY – ROADWAY BASELINE PLAN • R-11 – ROADWAY – RESTORATION PLAN – STA 3000+00 TO 3004+00 • R-12 – ROADWAY – GRADING PLAN – STA 3000+00 TO 3004+00 • R-13 – ROADWAY – PROFILE – STA 3000+00 TO 3004+00 • R-14 – ROADWAY – CURB TIE PLAN – STA 3000+00 TO 3004+00 • R-15 – ROADWAY – PAVEMENT MARKING PLAN – STA 3000+00 TO 3004+00
D	• GR-2 – GENERAL ROADWAY – ROADWAY BASELINE PLAN • R-16 – ROADWAY – RESTORATION PLAN – STA 4000+00 TO 4002+58 • R-17 – ROADWAY – GRADING PLAN – STA 4000+00 TO 4002+58 • R-18 – ROADWAY – PROFILE – STA 4000+00 TO 4002+58 • R-19 – ROADWAY – CURB TIE PLAN – STA 4000+00 TO 4002+58 • R-20 – ROADWAY – PAVEMENT MARKING PLAN – STA 4000+00 TO 4002+58
E	• GR-2 – GENERAL ROADWAY – ROADWAY BASELINE PLAN • R-21 – ROADWAY – RESTORATION PLAN – STA 5000+00 TO 5004+42 • R-22 – ROADWAY – GRADING PLAN – STA 5000+00 TO 5004+42 • R-23 – ROADWAY – PROFILE – STA 5000+00 TO 5004+42 • R-24 – ROADWAY – CURB TIE PLAN – STA 5000+00 TO 5004+42 • R-25 – ROADWAY – PAVEMENT MARKING PLAN – STA 5000+00 TO 5004+42

NOTE

UTILITY KEY PLAN IS SHOWN ON SHEET GC-1

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DECEMBER 11, 2009

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JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
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Drawn by	TP
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Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL ROADWAY - ROADWAY KEY PLAN

Sheet: GR-1
23 OF 59

File No.

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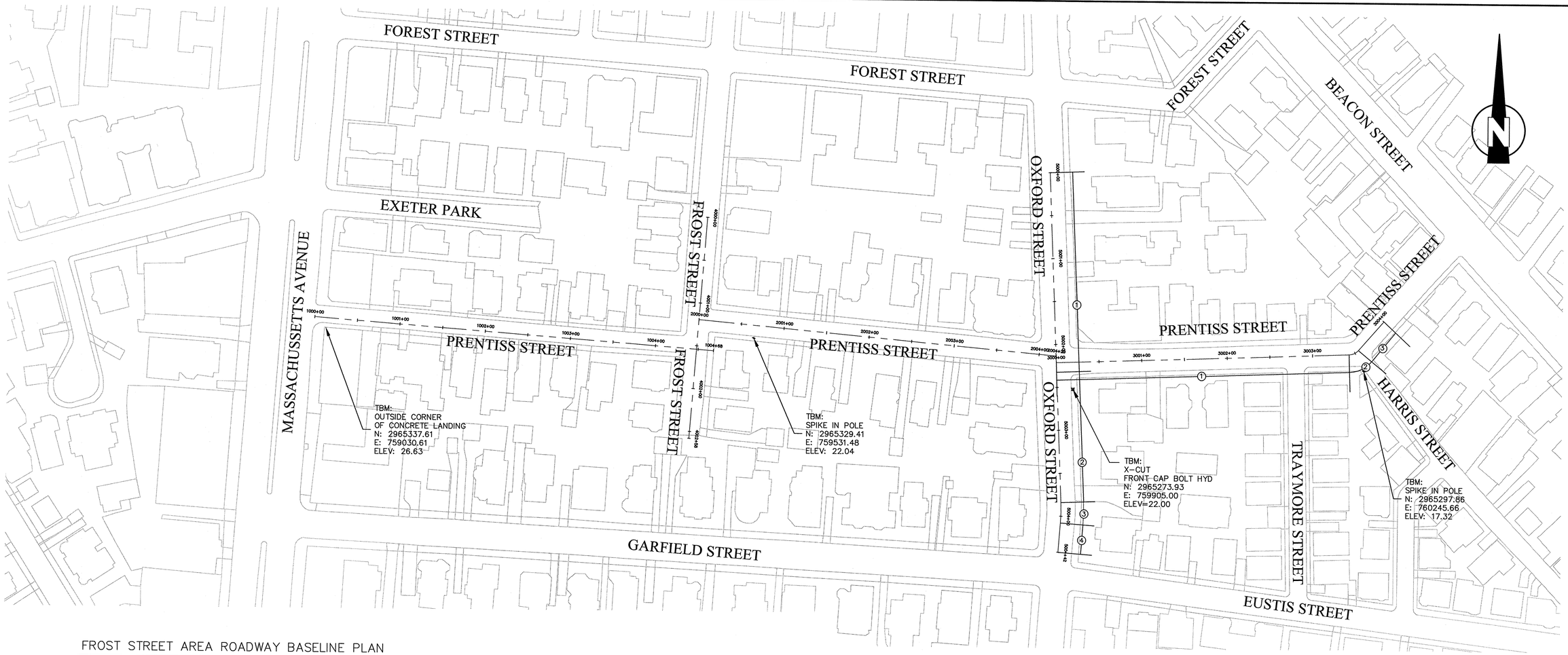

PLAN VIEW
SCALE:1"=60'

FROST STREET AREA ROADWAY BASELINE PLAN

BEGINNING ALIGNMENT	SEGMENT LABEL	AZIMUTH OR RADIUS	LENGTH	ENDING ALIGNMENT
PRENTISS STREET STA 1000+00 N: 2965349.79 E: 759017.92	--	S85°37'52"E	468.00'	PRENTISS STREET STA 1004+68 N: 2965314.14 E: 759484.55
PRENTISS STREET STA 2000+00 N: 2965350.22 E: 759467.32	--	S84°43'28"E	420.00'	PRENTISS STREET STA 2004+20 N: 2965311.61 E: 759885.44
PRENTISS STREET STA 3000+00 N: 2965303.99 E: 759885.76	1	N87°59'47"E	420.00'	PRENTISS STREET PC STA 3003+43 N: 2965315.98 E: 760228.38
PRENTISS STREET PC STA 3003+43 N: 2965315.98 E: 760228.38	2	R=15.00'	12.26'	PRENTISS STREET PT STA 3003+55 N: 2965321.09 E: 760239.15
PRENTISS STREET PT STA 3003+55 N: 2965321.09 E: 760239.15	3	N41°11'43"E	45.00'	PRENTISS STREET STA 3004+00 N: 2965354.88 E: 760268.73

BEGINNING ALIGNMENT	SEGMENT LABEL	AZIMUTH OR RADIUS	LENGTH	ENDING ALIGNMENT
FROST STREET STA 4000+00 N: 2965469.23 E: 759476.44	--	S04°22'52"W	258.00'	FROST STREET STA 4002+58 N: 2965211.98 E: 759456.73
OXFORD STREET STA 5000+00 N: 2965525.04 E: 759876.59	1	S02°22'28"E	232.00'	OXFORD STREET STA 5002+32 N: 2965292.85 E: 759886.22
OXFORD STREET STA 5002+32 N: 2965292.85 E: 759886.22	2	S02°25'58"E	152.00'	OXFORD STREET PC STA 5003+84 N: 2965141.15 E: 759892.67
OXFORD STREET PC STA 5003+84 N: 2965141.15 E: 759892.67	3	R=198.58'	23.65'	OXFORD STREET PT STA 5004+08 N: 2965117.51 E: 759892.26
OXFORD STREET PT STA 5004+08 N: 2965117.51 E: 759892.26	4	S04°23'27"W	34.00'	OXFORD STREET STA 5004+42 N: 2965083.30 E: 759889.64

NOTE

UTILITY BASELINE PLAN IS SHOWN ON SHEET GC-2

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JOHN J. STRUZZIERY
No. 30636
REGISTERED PROFESSIONAL ENGINEER
12/11/09

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Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL ROADWAY - ROADWAY BASELINE PLAN

Sheet: GR-2

File No.

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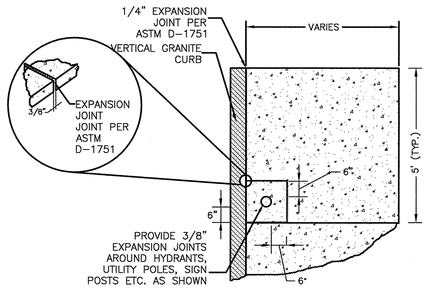
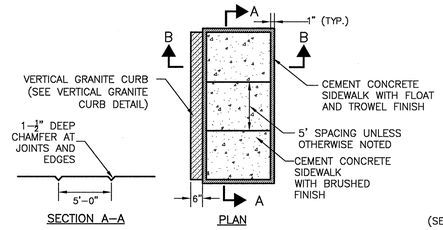
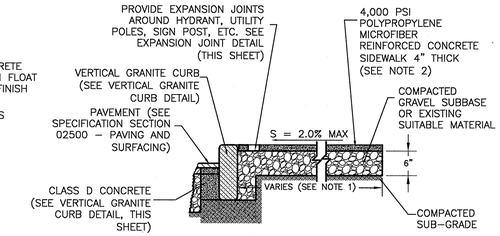


NOTES:

1. EXPANSION JOINTS SHALL BE INSTALLED AT BACK OF SIDEWALK STEPS, WALLS, BUILDINGS, AND OTHER STRUCTURES.
2. EXPANSION JOINTS AT BUILDINGS SHALL BE CAULKED.
3. EXPANSION JOINTS SHALL BE USED AT TRANSITIONS BETWEEN NEW AND EXISTING SIDEWALK JOINTS.
4. EXPANSION JOINTS OF 3/8-IN THICK FOAM SHALL BE PLACED EVERY 30 FEET PERPENDICULAR TO CURB ALIGNMENT EXTENDING THROUGH THE SIDEWALK DEPTH. SEE SECTION 02524-3.2C OF THE CONTRACT DOCUMENTS.

EXPANSION JOINT DETAIL

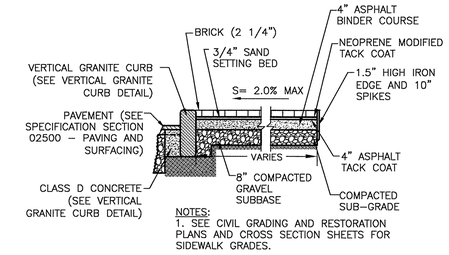




NOTES:

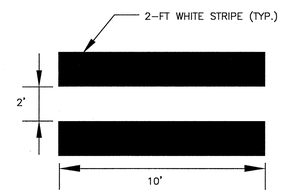
1. NEW SIDEWALK SHALL MATCH WIDTH OF EXISTING SIDEWALK UNLESS OTHERWISE NOTED.
2. SIDEWALK MATERIAL TO MATCH EXISTING SIDEWALK. FOR EXISTING ASPHALT SIDEWALK, SUBSTITUTE 4" CONCRETE.
3. AROUND HYDRANTS, UTILITY POLES SIGN POSTS ETC., SEE EXPANSION JOINT DETAIL (THIS SHEET).
4. SIDEWALKS TO BE BUILT ACCORDING TO ADA AND MA AAB REGULATIONS, 2.0% MAX (0% TOLERANCE) CROSS SLOPE.
5. SEE ROADWAY PLANS FOR SIDEWALK WIDTHS AND GRADES.

CONCRETE SIDEWALK DETAIL

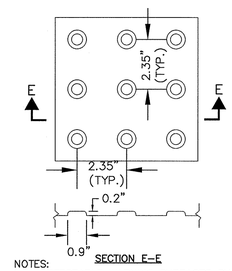


NOTES:
1. SEE CIVIL GRADING AND RESTORATION PLANS AND CROSS SECTION SHEETS FOR SIDEWALK GRADES.

BRICK SIDEWALK DETAIL

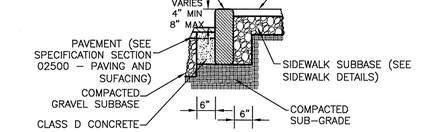


CROSSWALK PAVEMENT MARKING DETAIL

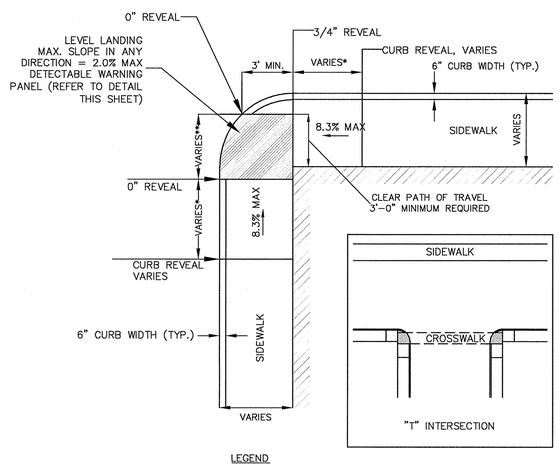


NOTES:
1. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.
2. DETECTABLE WARNING PANELS SHALL EXTEND A MIN. OF 2' IN RAMP.

DETECTABLE WARNING PANEL DETAIL



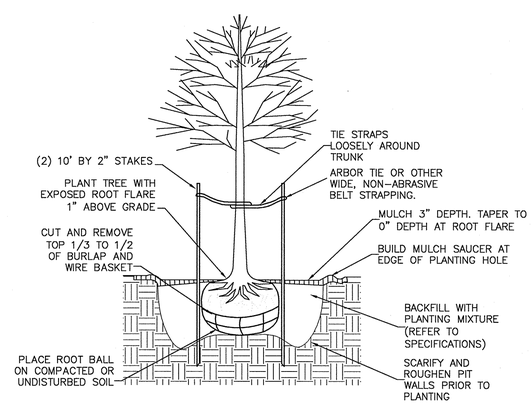
VERTICAL GRANITE CURB DETAIL



LEGEND

- BUILDING OR OTHER UNALTERABLE CONDITION
- * FOR CURB TRANSITION LENGTHS, REFER TO TRANSITION CHART ON CURB TIE PLANS
- ** = RAMP WIDTHS VARY 3'-0" - 5'-4". REFER TO CURB TIE PLANS FOR RAMP WIDTHS

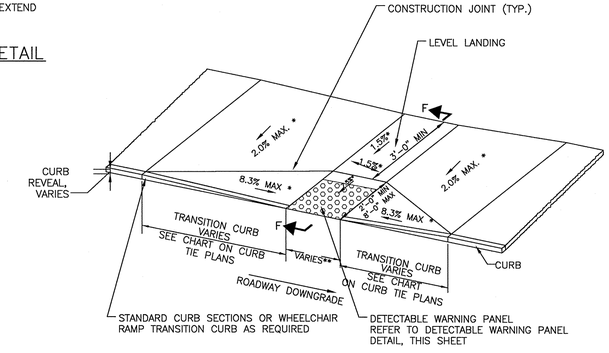
"T" INTERSECTION WHEELCHAIR RAMP DETAIL



DECIDUOUS TREE PLANTING

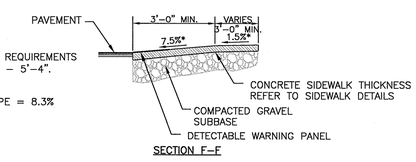
TRANSITION CHART

ROADWAY PROFILE GRADE	LENGHTH OF CURB
0.00	6'-6"
>0.00 TO 0.01	7'-8"
>0.01 TO 0.02	9'-0"
>0.02 TO 0.03	11'-0"
>0.03 TO 0.04	14'-0"
>0.04	15'-0" MAX.



NOTES:

* = CONTRACTOR TO MEET ADA REQUIREMENTS
** = RAMP WIDTHS VARY 3'-0" - 5'-4".
REFER TO CURB TIE PLANS
MAXIMUM CROSS SLOPE = 2.0%
MAXIMUM TRANSITION RAMP SLOPE = 8.3%



WHEELCHAIR RAMP DETAIL

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JOHN J. STRUZZIERI
No. 30436
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	N.T.S				
Date	12/11/2009				
Job No.	2007108.10-A				
Designed by	TP				
Drawn by	TP				
Checked by	MJH	No.	Description	Date	
Approved by	JJS		REVISIONS		

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL ROADWAY - CURB AND SIDEWALK DETAILS

Sheet: GR-3
25 OF 59

File No.

PLOT DATE=12/10/2009 6:38:40 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_CIVIL_DETAILS_SHEETS--ROAD.dwg

PAVEMENT NOTES

PROPOSED ROADWAY RECLAMATION (PULVERIZING)

DEPTH OF BLADE: 8"

SURFACE: 2" HOT MIX ASPHALT TOP COURSE
4" HOT MIX ASPHALT BASE COURSE

SUBBASE: 2" (MAX) PULVERIZED MATERIAL

COLD PLANE AND OVERLAY

COLD PLANE: 2"

OVERLAY: 2" HOT MIX ASPHALT TOP COURSE

TACKCOAT: BITUMEN FOR TACK COAT (RS-1) AT 1/20 GAL/SY OVER COLD PLANED SURFACE

PROPOSED CEMENT CONCRETE SIDEWALK & WHEELCHAIR RAMPS

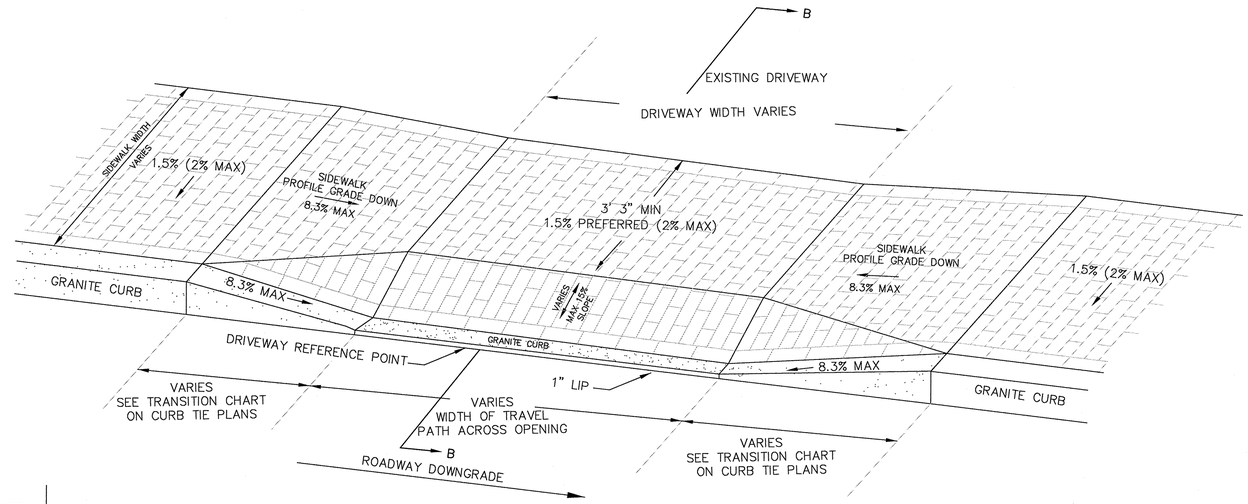
SURFACE: 4" AIR-ENTRAINED 4,000 PSI, 3/4", 610 CEMENT CONCRETE LAID IN ONE (1) LAYER

SUBBASE: 8" GRAVEL BORROW, TYPE C

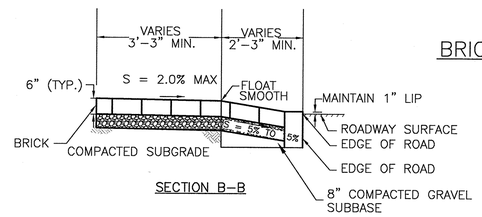
PROPOSED CEMENT CONCRETE DRIVEWAYS & CEMENT CONCRETE SIDEWALKS AT DRIVEWAYS

SURFACE: 6" AIR-ENTRAINED 4,000 PSI, 3/4", 610 CEMENT CONCRETE LAID IN ONE (1) LAYER

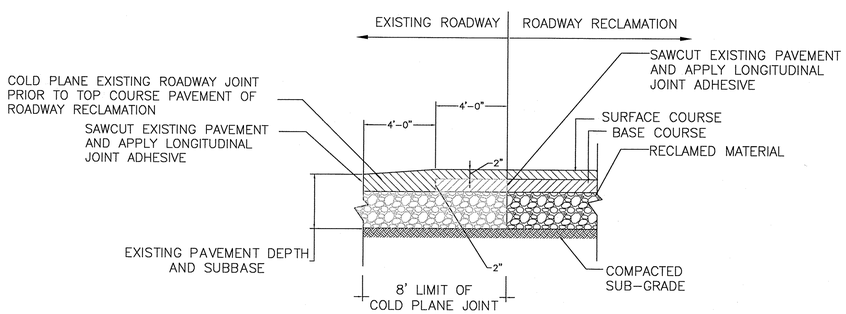
SUBBASE: 8" GRAVEL BORROW, TYPE C



BRICK DRIVEWAY DETAIL AT SIDEWALK

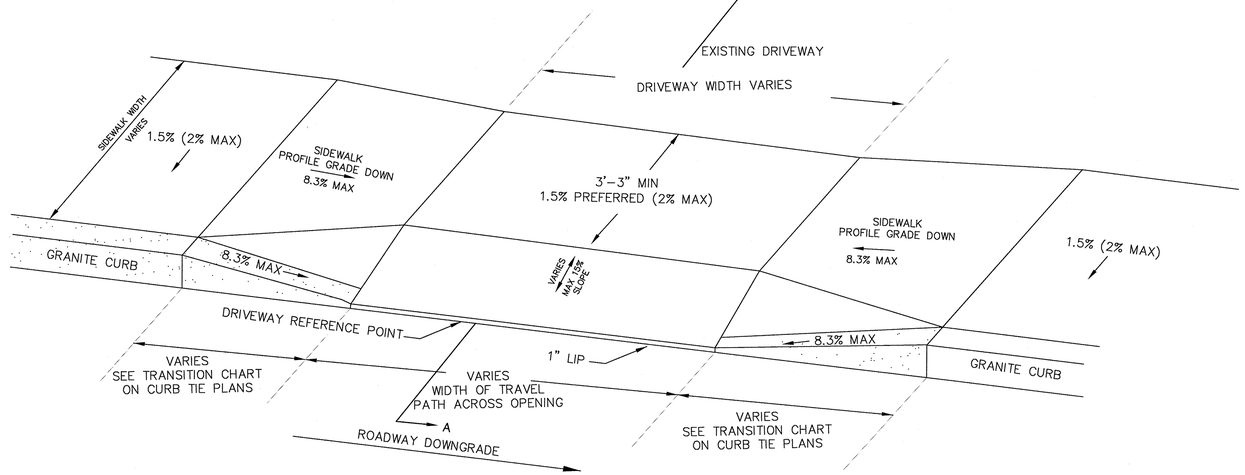


SECTION B-B

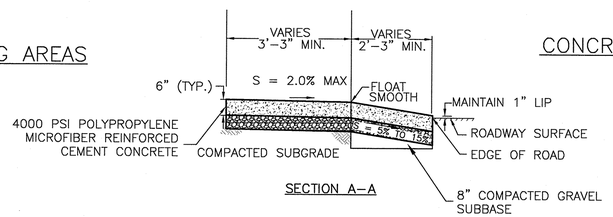


NOTES:
1. CLEAN ALL COLD PLANED SURFACES BEFORE APPLYING JOINT ADHESIVE AND FINAL PAVEMENT

PAVEMENT JOINT DETAIL IN PULVERIZING AREAS



CONCRETE DRIVEWAY DETAIL AT SIDEWALK



SECTION A-A

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERO
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date

REVISIONS

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

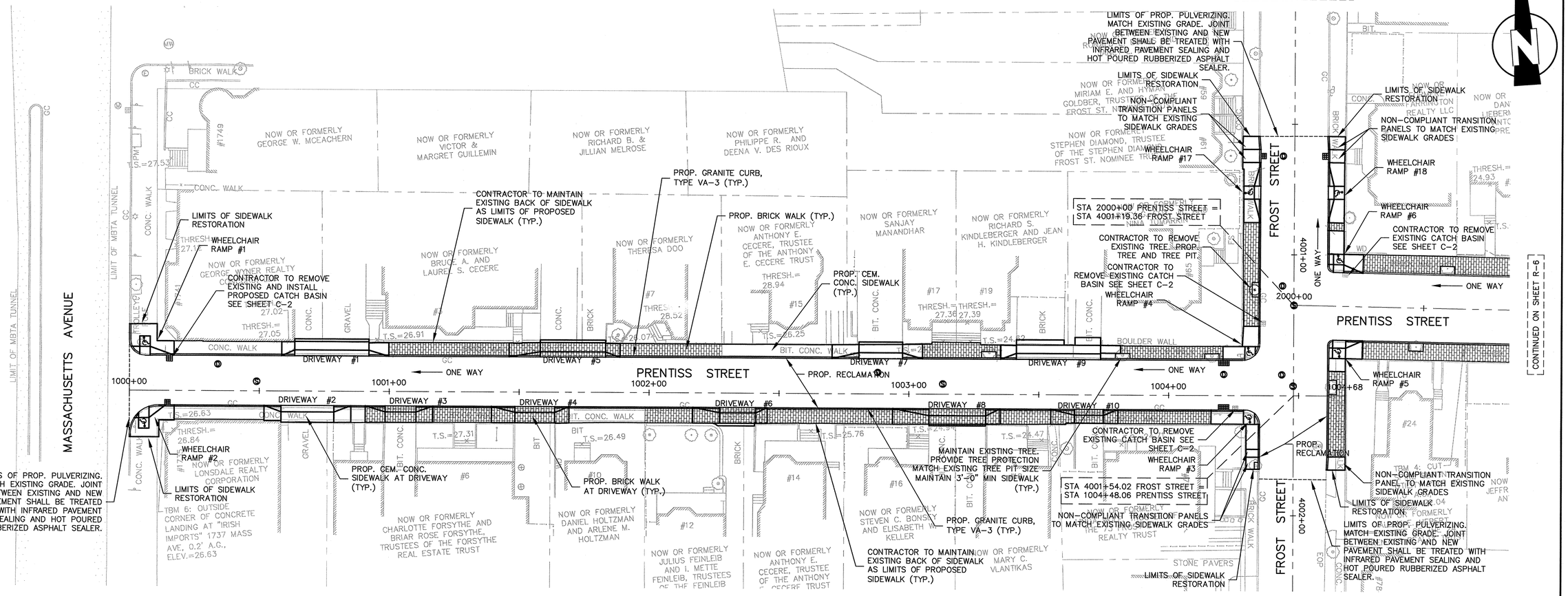
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: GENERAL ROADWAY - CURB AND SIDEWALK DETAILS

Sheet: GR-4

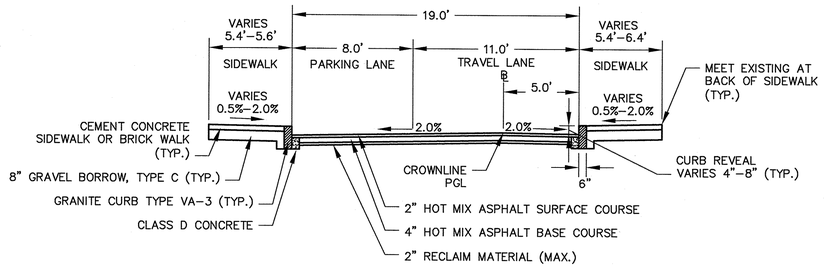
File No.

PLOT DATE=12/10/2009 6:39:06 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_CIVIL_DETAILS_SHEETS--ROAD.dwg



PLAN VIEW

SCALE:1"=20'



TYPICAL SECTION

PRENTISS STREET
STA 1000+10 TO 1004+28

SCALE: N.T.S.

LEGEND:

- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- REMOVE AND REPLACE TREE AND TREE PIT
- INSTALL TREE AND TREE PIT
- WHEELCHAIR RAMP
- PROPOSED COLD PLANE EXCAVATION AND OVERLAY

RESTORATION NOTES:

1. WORK IN PRENTISS STREET SHALL MEET THE REQUIREMENTS OF THE CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
2. SEE DETAIL SHEET GR-3 AND GR-4 FOR CURB INSTALLATION, WHEELCHAIR RAMP, AND SIDEWALK CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL ADJUST EXISTING UTILITY COVERS AND CASTINGS TO REGRADED SURFACES AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR GAS/TELECOM/CABLE/ELECTRIC.
4. ALL VERTICAL GRANITE CURBING WITHIN SIDEWALK, COLD PLANE, AND PULVERIZING LIMITS SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
5. EXISTING SIGNS LOCATED WITHIN PROPOSED WHEELCHAIR RAMPS SHALL BE RELOCATED OUTSIDE OF WHEELCHAIR RAMPS AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR TO ADJUST TREE PIT OPENING AS NECESSARY TO MAINTAIN A MINIMUM 3'-0" WIDE SIDEWALK BETWEEN TREE PIT AND BACK OF SIDEWALK. EXISTNIG TREE PITS THAT ARE LESS THAN 5 FEET IN LENGTH (PARALLEL TO CURB) SHALL BE ADJUSTED TO A MINIMUM LENGTH OF 5'-0".
7. EXISTING CURBING AT BACK OF SIDEWALK SHALL REMAIN IN PLACE UNLESS OTHERWISE NOTED. DAMAGES OR DISLODGIING OF CURBING AT BACK OF SIDEWALK SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO THE OWNER.

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS JOHN J. STRUZZIERY No. 30434 REGISTERED PROFESSIONAL ENGINEER 12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	SCP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - RESTORATION PLAN STA 1000+00 TO 1004+68

Sheet: R-1

27 OF 59

File No.

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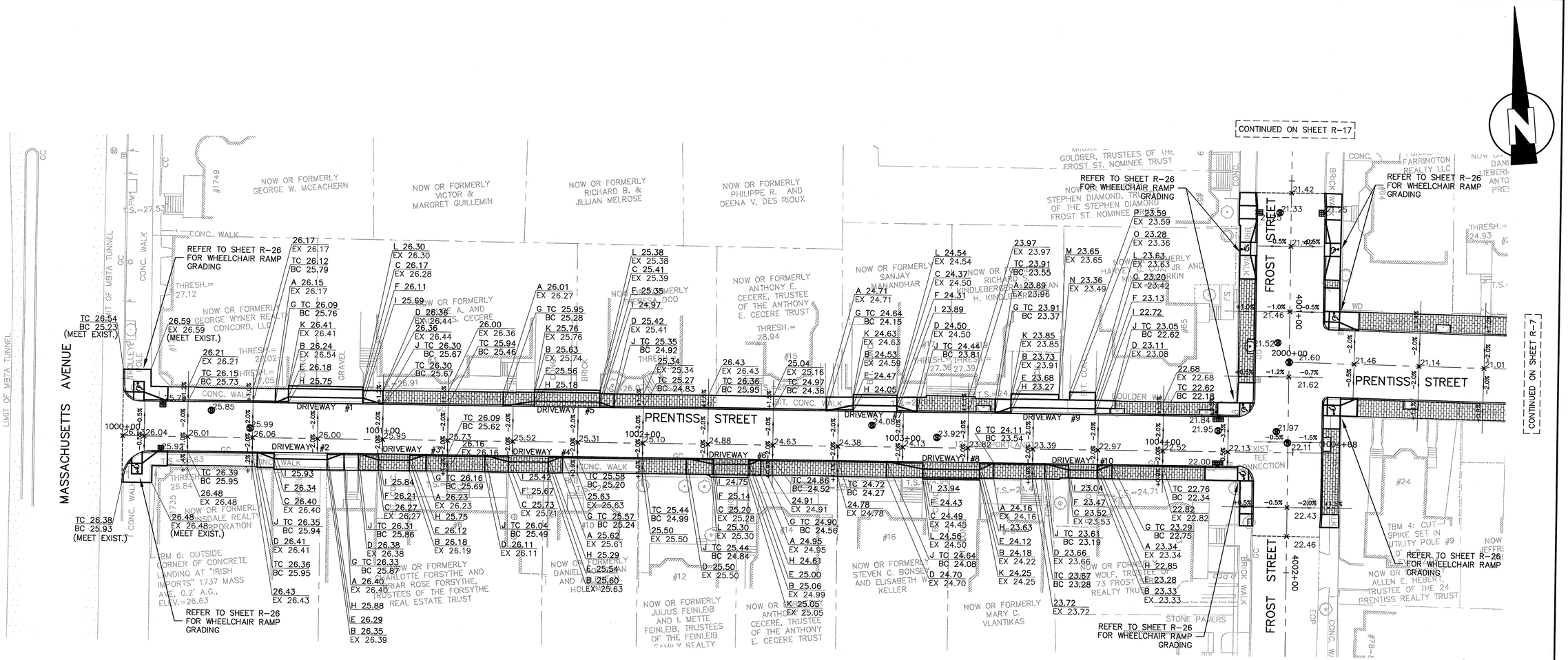
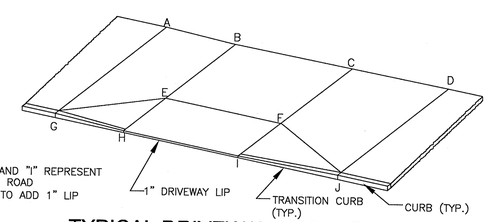


PLAN VIEW

SCALE:1"=20'



GENERAL NOTES:

1. GRADES "H" AND "I" REPRESENT THE EDGE OF ROAD CONTRACTOR TO ADD 1" LIP

TYPICAL DRIVEWAY LEGEND

SCALE: N.T.S.

LEGEND:

TC	TOP OF CURB
BC	BOTTOM OF CURB
EX	EXISTING
x33.44	PROPOSED SPOT GRADE
	WHEELCHAIR RAMP
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	SCP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

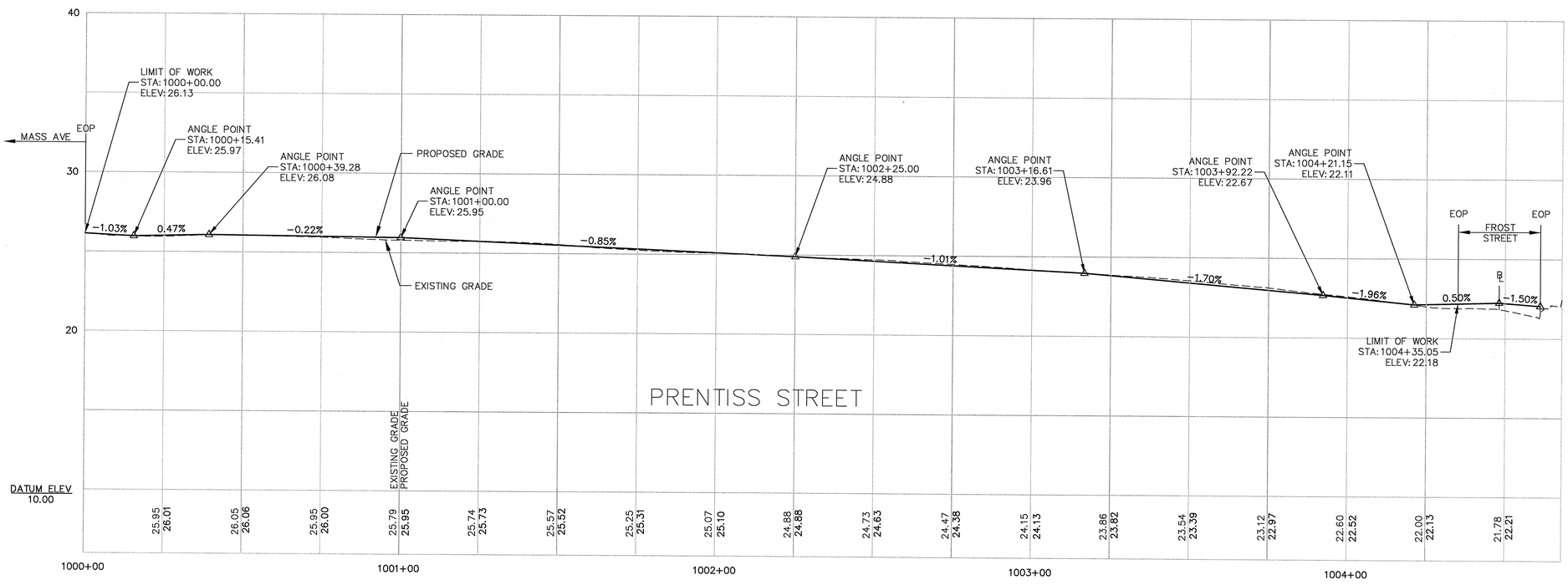
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - GRADING PLAN
STA 1000+00 TO 1004+68

Sheet: R-2
28 OF 59

File No.

PLOT DATE=12/10/2009 6:44:13 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

CONFORMED SET
DECEMBER 11, 2009

PLOT DATE=12/10/2009 6:44:37 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 20434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PROFILE
STA 1000+00 TO 1004+68

Sheet: R-3
29 OF 59

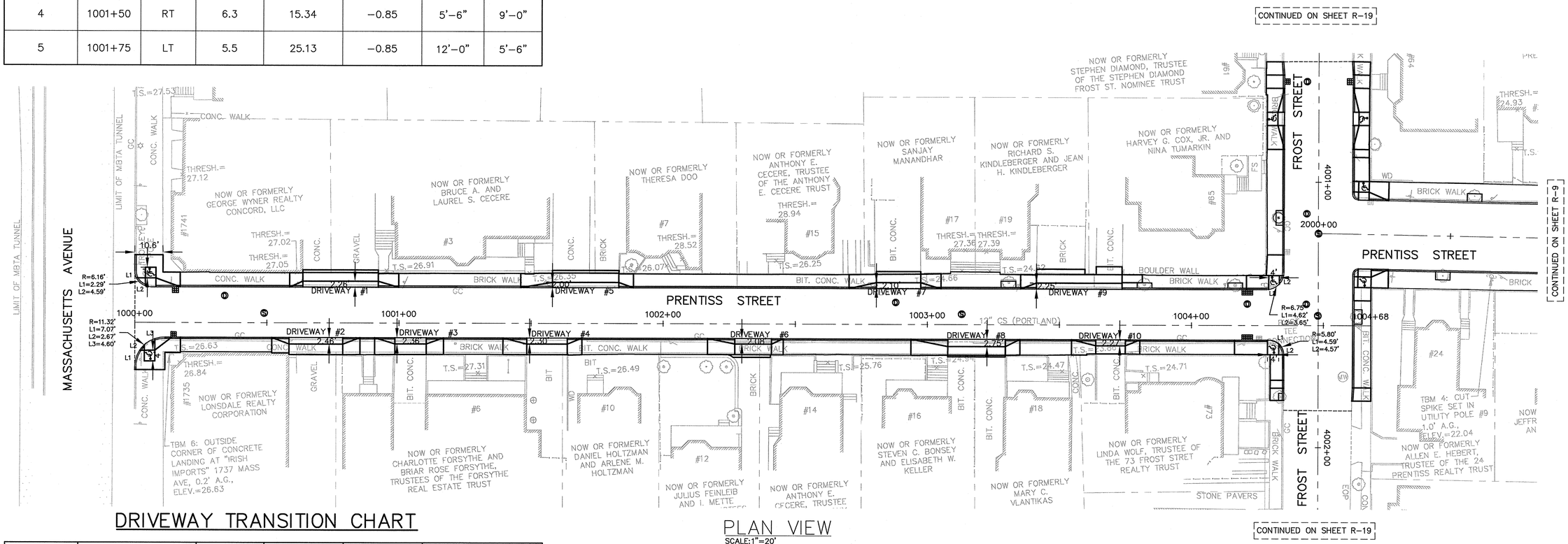
File No.

DRIVEWAY TRANSITION CHART

DW #	RAMP REFERENCE POINT		WIDTH OF SIDEWALK, W (FT)	WIDTH OF OPENING (FT)	ROADWAY GUTTER SLOPE (%)	TRANSITION LENGTH	
	STATION	OFFSET				LEFT SIDE	RIGHT SIDE
1	1000+75	LT	5.5	28.58	−0.22	5'−0"	7'−8"
2	1000+75	RT	6.5	20.36	−0.22	6'−6"	6'−6"
3	1001+00	RT	6.4	11.90	−0.85	6'−6"	7'−8"
4	1001+50	RT	6.3	15.34	−0.85	5'−6"	9'−0"
5	1001+75	LT	5.5	25.13	−0.85	12'−0"	5'−6"

NOTE:

1. LEFT AND RIGHT SIDES OF THE RAMP ARE DETERMINED BY LOOKING AT THE FRONT OF THE RAMP.



PLAN VIEW
SCALE:1"=20'

DRIVEWAY TRANSITION CHART

DW #	RAMP REFERENCE POINT		WIDTH OF SIDEWALK, W (FT)	WIDTH OF OPENING (FT)	ROADWAY GUTTER SLOPE (%)	TRANSITION LENGTH	
	STATION	OFFSET				LEFT SIDE	RIGHT SIDE
6	1002+33	RT	6.1	13.84	−1.01	4'−5"	10'−4"
7	1002+89	LT	5.5	16.80	−1.01	10'−4"	7'−8"
8	1003+25	RT	6.0	21.79	−1.70	5'−6"	14'−0"
9	1003+50	LT	5.5	32.39	−1.70	6'−0"	7'−8"
10	1003+69	RT	5.5	11.18	−1.70	5'−6"	9'−2"

NOTE:

1. LEFT AND RIGHT SIDES OF THE RAMP ARE DETERMINED BY LOOKING AT THE FRONT OF THE RAMP.

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERI
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	SCP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - CURB TIE PLAN
STA 1000+00 TO 1004+68

Sheet: R-4
30 OF 59

File No.

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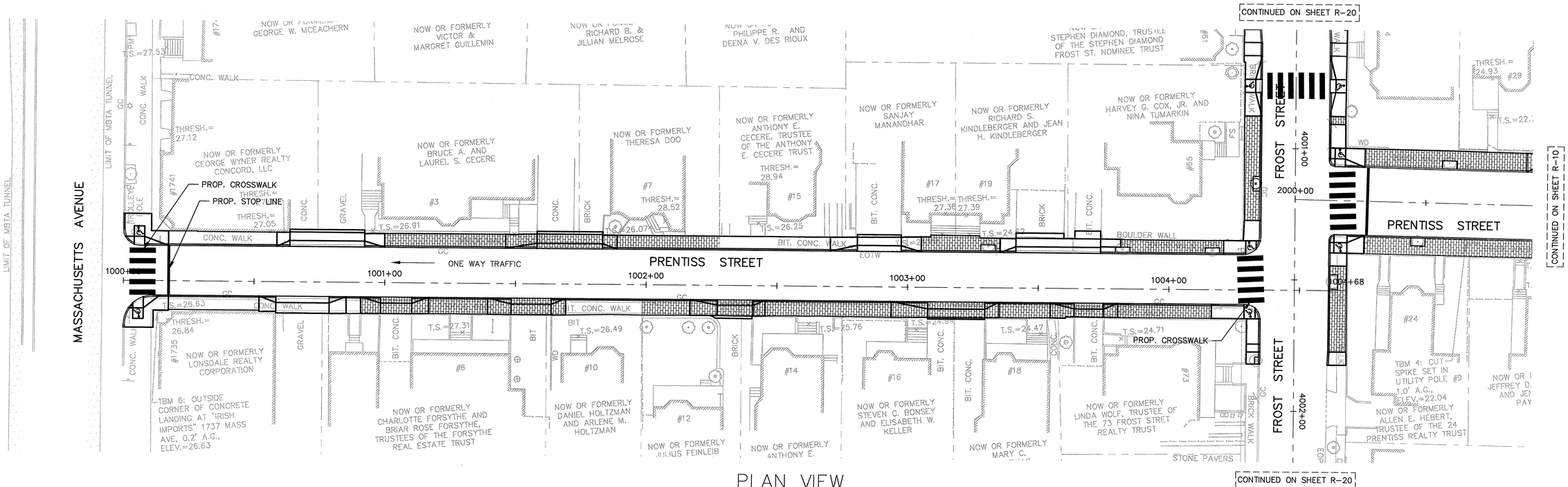


PLAN VIEW
SCALE:1"=20'

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERI
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

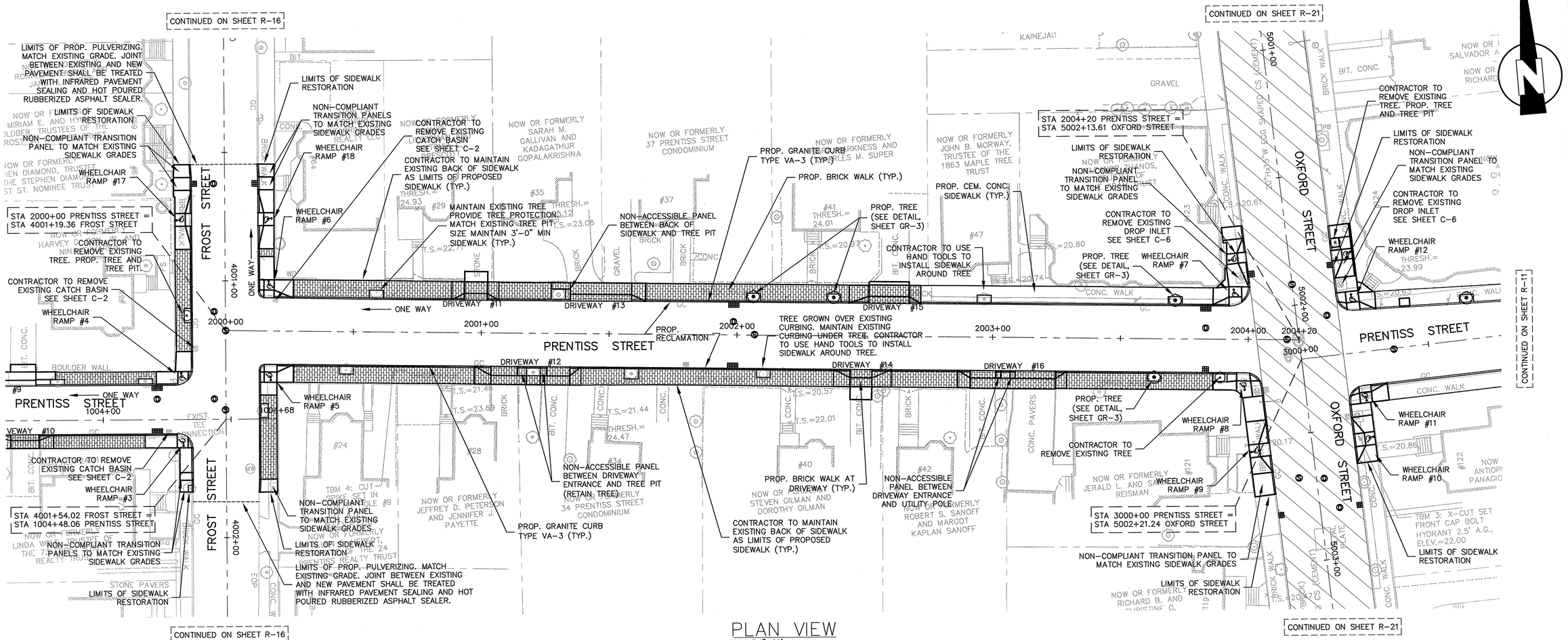
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PAVEMENT MARKING PLAN
STA 1000+00 TO 1004+68

Sheet: R-5
31 OF 59

File No.

PLOT DATE=12/10/2009 6:46:23 PM USER=TODD PERREAULT FILENAME=G:\ clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg

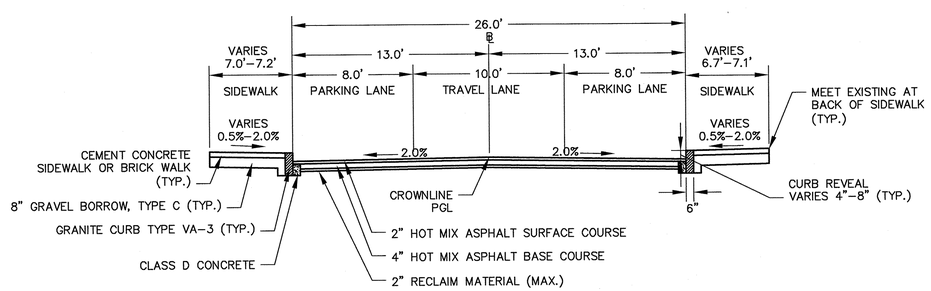


PLAN VIEW

SCALE:1"=20'

LEGEND:

- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- REMOVE AND REPLACE TREE AND TREE PIT
- INSTALL TREE AND TREE PIT
- WHEELCHAIR RAMP
- PROPOSED COLD PLANE EXCAVATION AND OVERLAY



TYPICAL SECTION

PRENTISS STREET
STA 2000+20 TO 2004+03
SCALE: N.T.S.

RESTORATION NOTES:

1. WORK IN PRENTISS STREET SHALL MEET THE REQUIREMENTS OF THE CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
2. SEE DETAIL SHEET GR-3 AND GR-4 FOR CURB INSTALLATION, WHEELCHAIR RAMP, AND SIDEWALK CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL ADJUST EXISTING UTILITY COVERS AND CASTINGS TO REGRADED SURFACES AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR GAS/TELECOM/CABLE/ELECTRIC.
4. ALL VERTICAL GRANITE CURBING WITHIN SIDEWALK, COLD PLANE, AND PULVERIZING LIMITS SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
5. EXISTING SIGNS LOCATED WITHIN PROPOSED WHEELCHAIR RAMPS SHALL BE RELOCATED OUTSIDE OF WHEELCHAIR RAMPS AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR TO ADJUST TREE PIT OPENING AS NECESSARY TO MAINTAIN A MINIMUM 3'-0" WIDE SIDEWALK BETWEEN TREE PIT AND BACK OF SIDEWALK. EXISTNIG TREE PITS THAT ARE LESS THAN 5 FEET IN LENGTH (PARALLEL TO CURB) SHALL BE ADJUSTED TO A MINIMUM LENGTH OF 5'-0".
7. EXISTING CURBING AT BACK OF SIDEWALK SHALL REMAIN IN PLACE UNLESS OTHERWISE NOTED. DAMAGES OR DISLODGIING OF CURBING AT BACK OF SIDEWALK SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO THE OWNER.

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS — JOHN J. STRUZZIERI, No. 30436 — REGISTERED PROFESSIONAL ENGINEER — 12/11/2009

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	SCP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

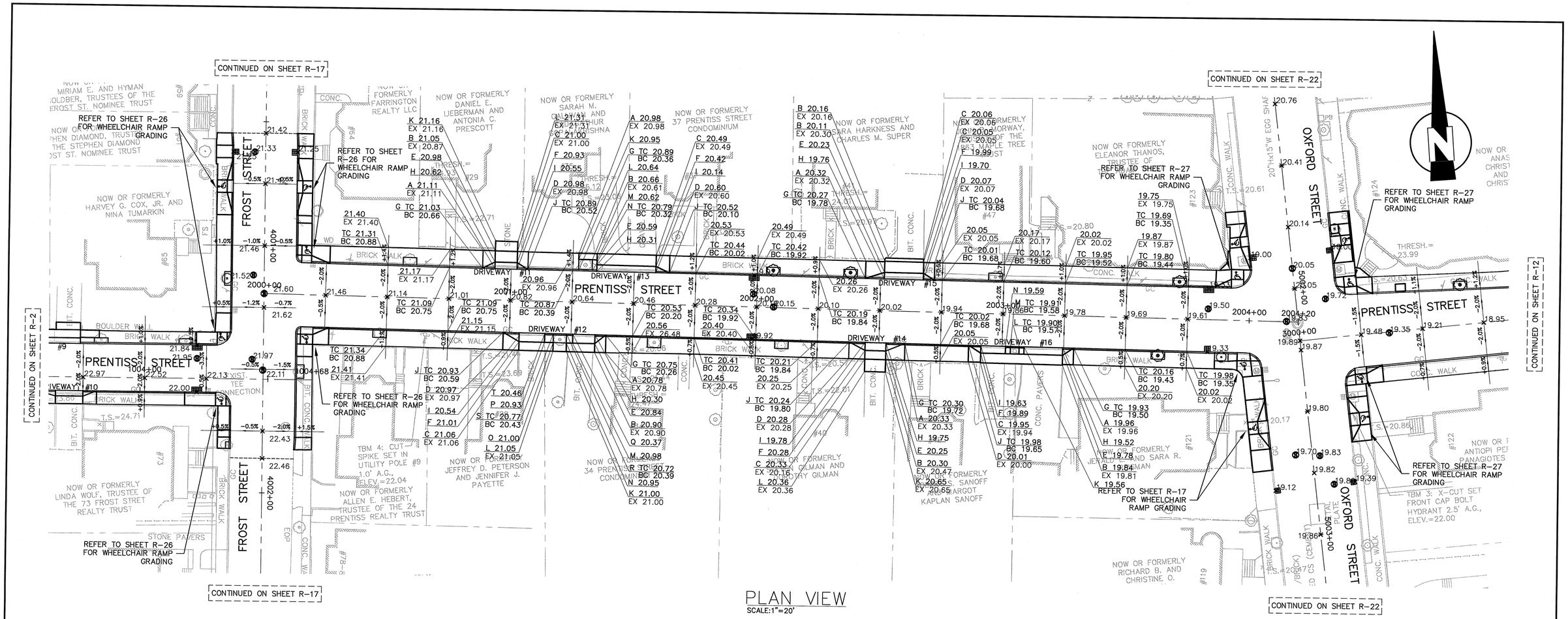
Drawing: ROADWAY - RESTORATION PLAN STA 2000+00 TO 2004+20

Sheet: R-6

32 OF 59

File No.

PLOT DATE=12/10/2009 6:48:59 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



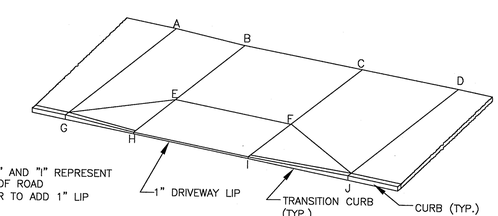
PLAN VIEW
SCALE:1"=20'

LEGEND:

TC	TOP OF CURB
BC	BOTTOM OF CURB
EX	EXISTING
x33.44	PROPOSED SPOT GRADE
	WHEELCHAIR RAMP
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE

GENERAL NOTES:

1. GRADES "H" AND "I" REPRESENT THE EDGE OF ROAD CONTRACTOR TO ADD 1" LIP



TYPICAL DRIVEWAY LEGEND
SCALE: N.T.S.

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

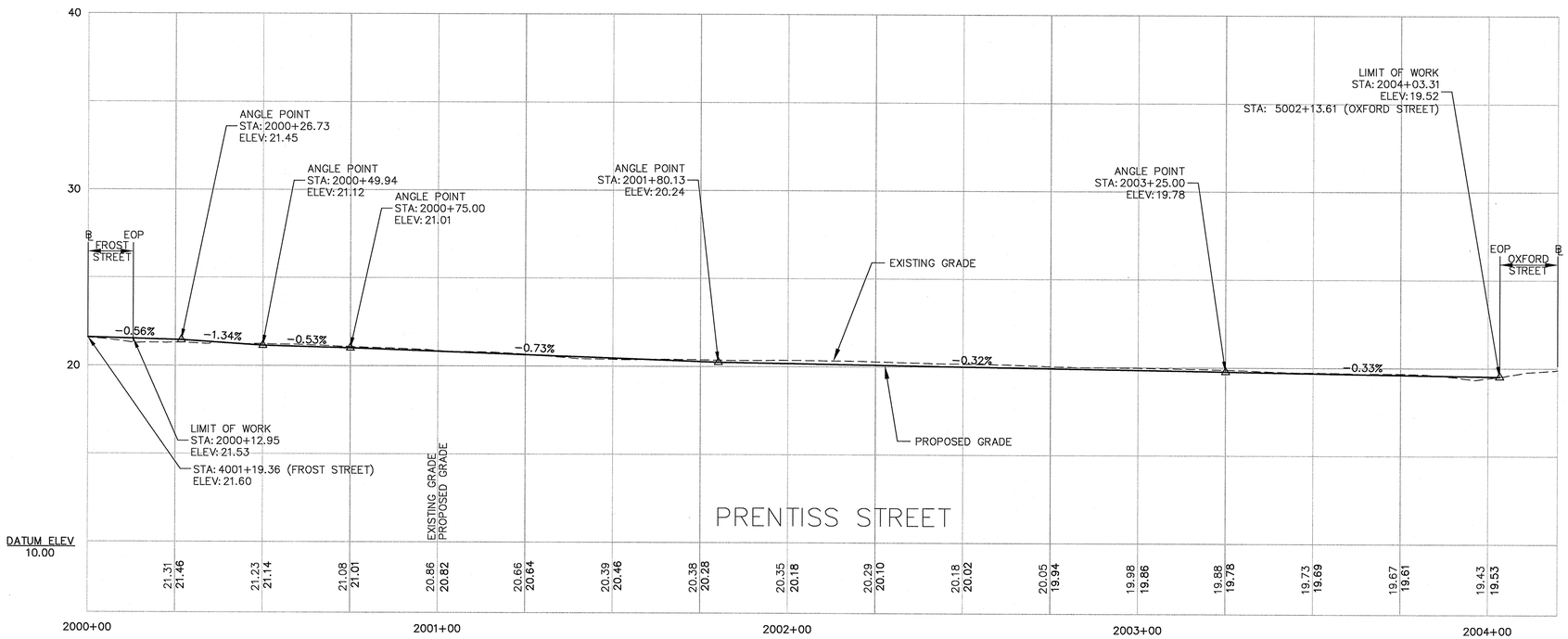
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - GRADING PLAN
STA 2000+00 TO 2004+20

Sheet: R-7
33 OF 59

File No.

PLOT DATE=12/10/2009 6:49:33 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERI
No. 30430
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

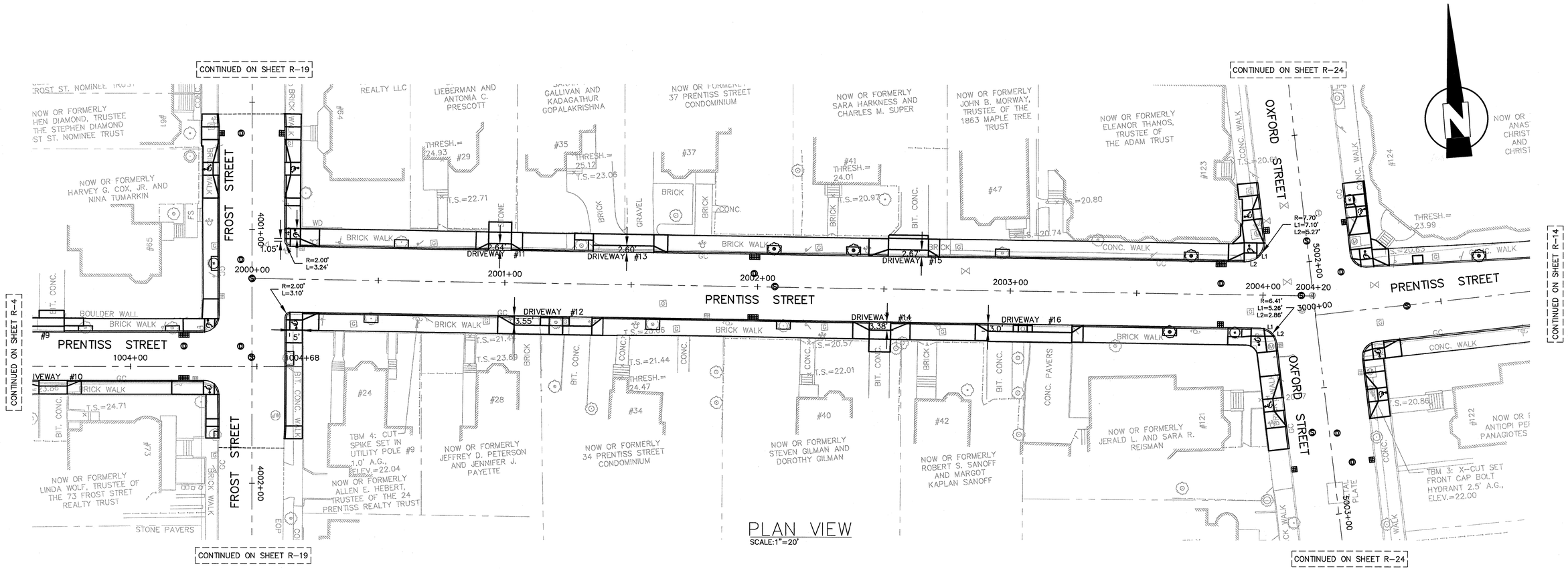
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PROFILE PLAN
STA 2000+00 TO 2004+20

Sheet: R-8
34 OF 59

File No.

PLOT DATE=12/10/2009 6:50:00 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW
SCALE:1"=20'

DW #	RAMP REFERENCE POINT		WIDTH OF SIDEWALK, W (FT)	WIDTH OF OPENING (FT)	ROADWAY GUTTER SLOPE (%)	TRANSITION LENGTH	
	STATION	OFFSET				LEFT SIDE	RIGHT SIDE
11	2001+00	LT	7.1	9.00	−0.73	5'−0"	4'−5"
12	2001+08	RT	7.1	30.77	−0.73	4'−5"	6'−6"
13	2001+50	LT	7.1	24.00	−0.73	7'−4"	5'−6"
14	2002+50	RT	6.8	8.46	−0.32	7'−8"	6'−6"
15	2002+59	LT	7.2	15.87	−0.32	7'−8"	4'−5"
16	2003+00	RT	7.0	33.22	−0.32	4'−5"	5'−0"

NOTE:

1. LEFT AND RIGHT SIDES OF THE RAMP ARE DETERMINED BY LOOKING AT THE FRONT OF THE RAMP.

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERI
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	SCP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

Client: CITY OF CAMBRIDGE, MA

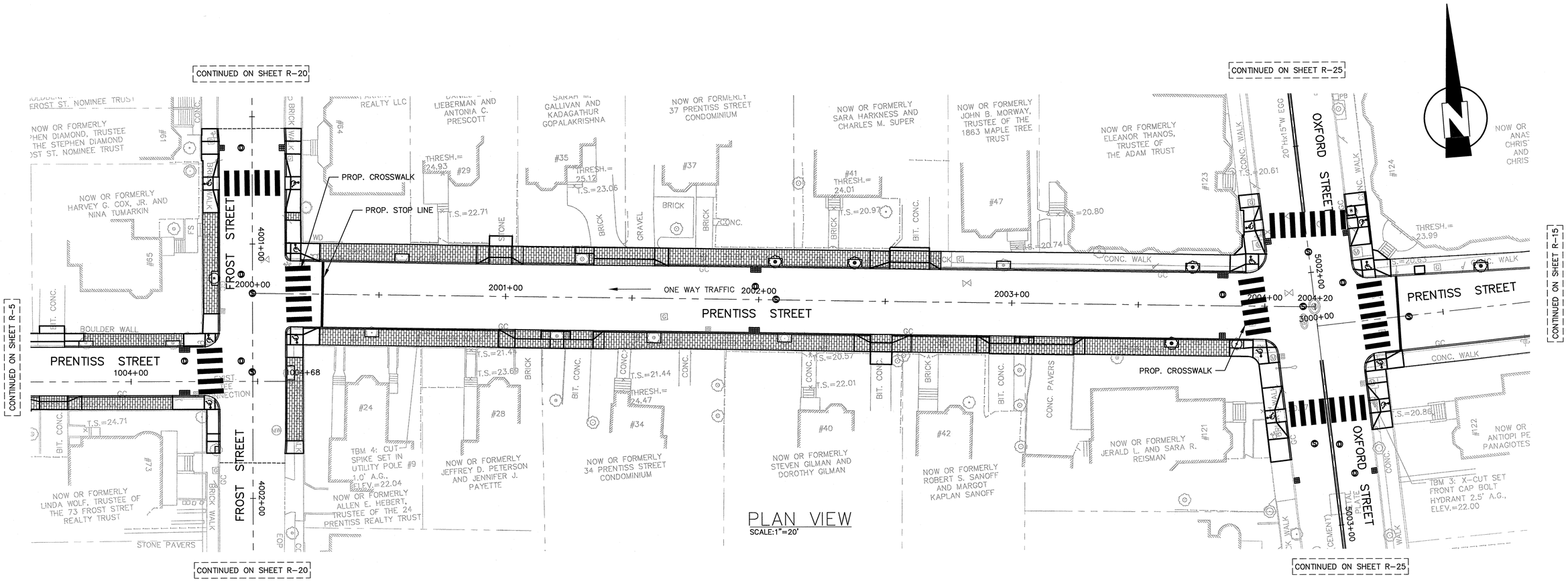
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - CURB TIE PLAN
STA 2000+00 TO 2004+20

Sheet: R-9
35 OF 59

File No.

PLOT DATE=12/10/2009 6:50:28 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
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MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

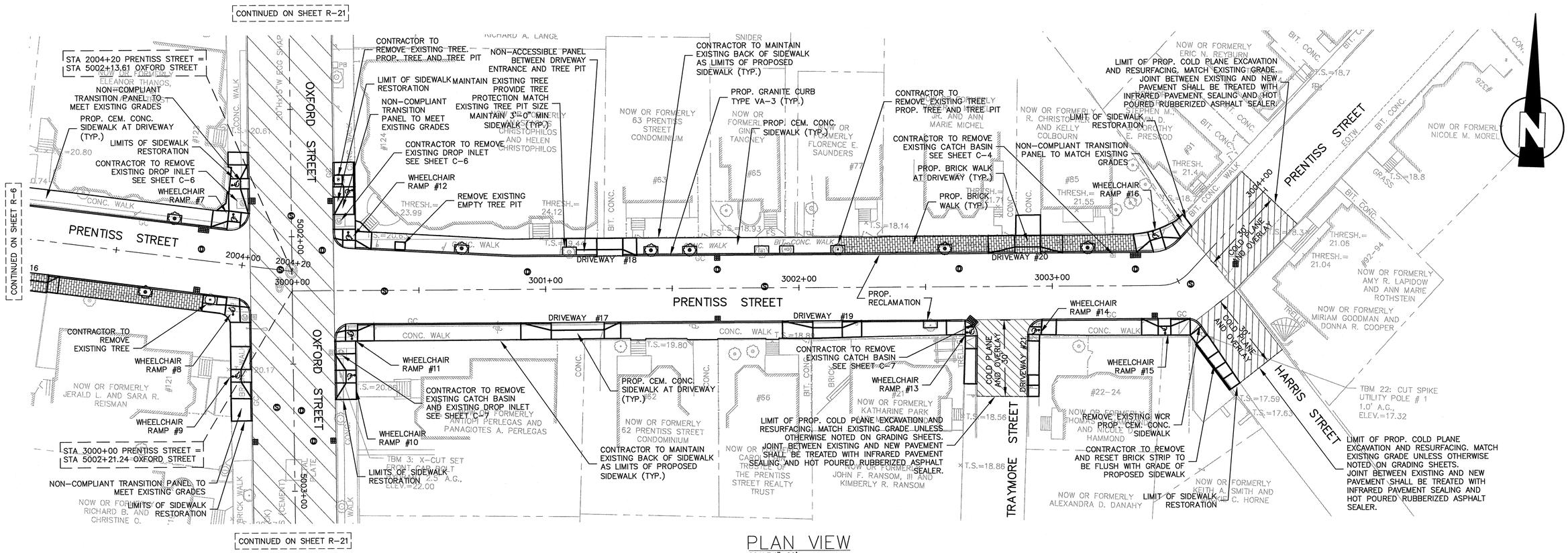
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PAVEMENT MARKING PLAN
STA 2000+00 TO 2004+20

Sheet: R-10
36 OF 59

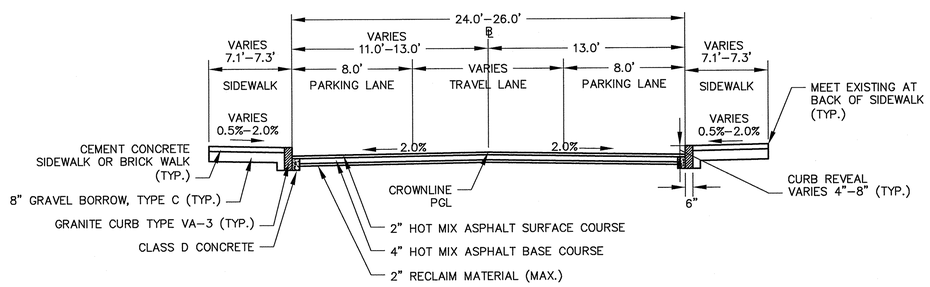
File No.

PLOT DATE=12/10/2009 6:50:53 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



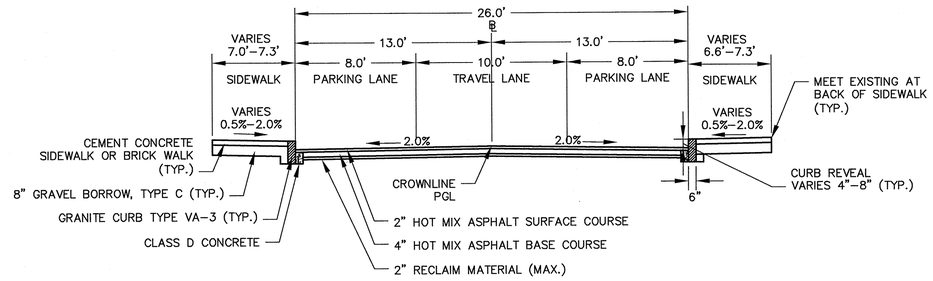
PLAN VIEW

SCALE:1"=20'



TYPICAL SECTION

PRENTISS STREET
STA 3000+17 TO 3000+88
SCALE: N.T.S.



TYPICAL SECTION

PRENTISS STREET
STA 3000+88 TO 3003+68
SCALE: N.T.S.

LEGEND:

- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- REMOVE AND REPLACE TREE AND TREE PIT
- INSTALL TREE AND TREE PIT
- WHEELCHAIR RAMP
- PROPOSED COLD PLANE EXCAVATION AND OVERLAY

RESTORATION NOTES:

1. WORK IN PRENTISS STREET SHALL MEET THE REQUIREMENTS OF THE CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
2. SEE DETAIL SHEET GR-3 AND GR-4 FOR CURB INSTALLATION, WHEELCHAIR RAMP, AND SIDEWALK CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL ADJUST EXISTING UTILITY COVERS AND CASTINGS TO REGRADED SURFACES AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR GAS/TELECOM/CABLE/ELECTRIC.
4. ALL VERTICAL GRANITE CURBING WITHIN SIDEWALK, COLD PLANE, AND PULVERIZING LIMITS SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
5. EXISTING SIGNS LOCATED WITHIN PROPOSED WHEELCHAIR RAMPS SHALL BE RELOCATED OUTSIDE OF WHEELCHAIR RAMPS AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR TO ADJUST TREE PIT OPENING AS NECESSARY TO MAINTAIN A MINIMUM 3'-0" WIDE SIDEWALK BETWEEN TREE PIT AND BACK OF SIDEWALK. EXISTNIG TREE PITS THAT ARE LESS THAN 5 FEET IN LENGTH (PARALLEL TO CURB) SHALL BE ADJUSTED TO A MINIMUM LENGTH OF 5'-0".
7. EXISTING CURBING AT BACK OF SIDEWALK SHALL REMAIN IN PLACE UNLESS OTHERWISE NOTED. DAMAGES OR DISLODGIING OF CURBING AT BACK OF SIDEWALK SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO THE OWNER.

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS — JOHN J. STRUZZIERY No. 30434 — REGISTERED PROFESSIONAL ENGINEER — 12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	SCP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

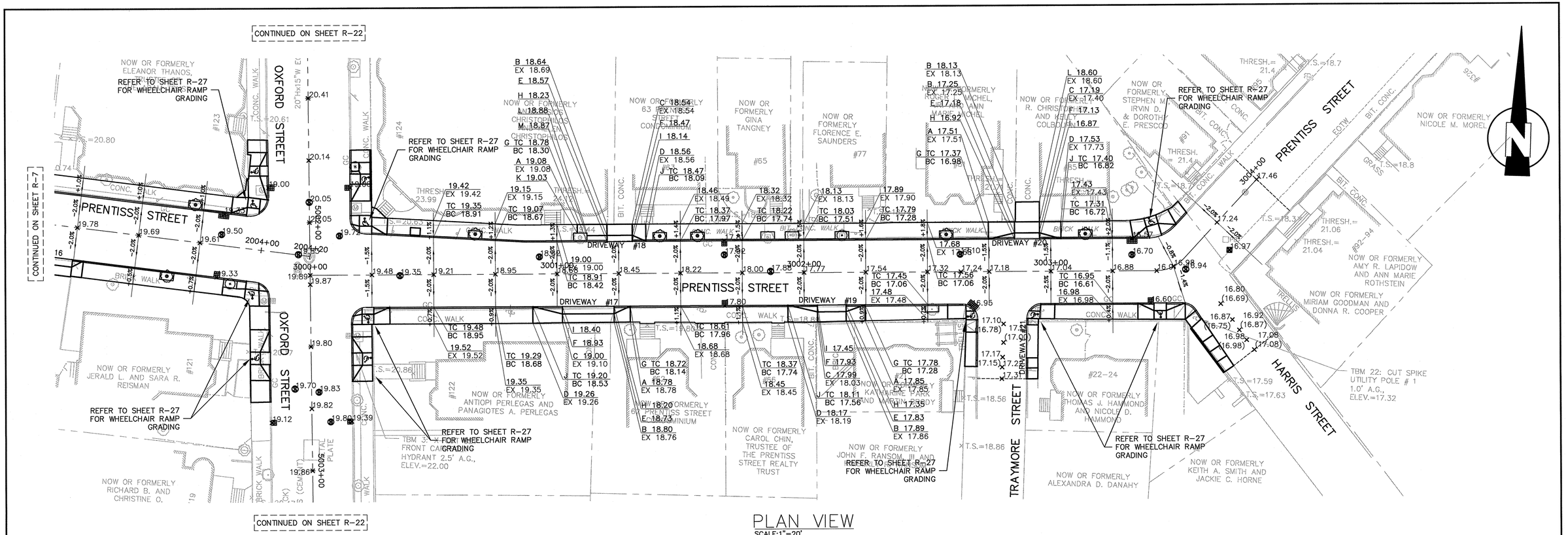
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - RESTORATION PLAN STA 3000+00 TO 3004+00

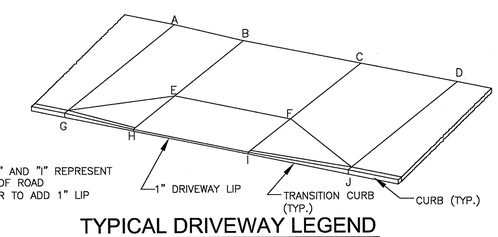
Sheet: R-11
37 OF 59

File No.

PLOT DATE=12/10/2009 6:53:36 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW
SCALE:1"=20'



GENERAL NOTES:

1. GRADES "H" AND "I" REPRESENT THE EDGE OF ROAD CONTRACTOR TO ADD 1" LIP

TYPICAL DRIVEWAY LEGEND
SCALE: N.T.S.

LEGEND:

TC	TOP OF CURB
BC	BOTTOM OF CURB
EX	EXISTING
x33.44	PROPOSED SPOT GRADE
	WHEELCHAIR RAMP
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

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MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

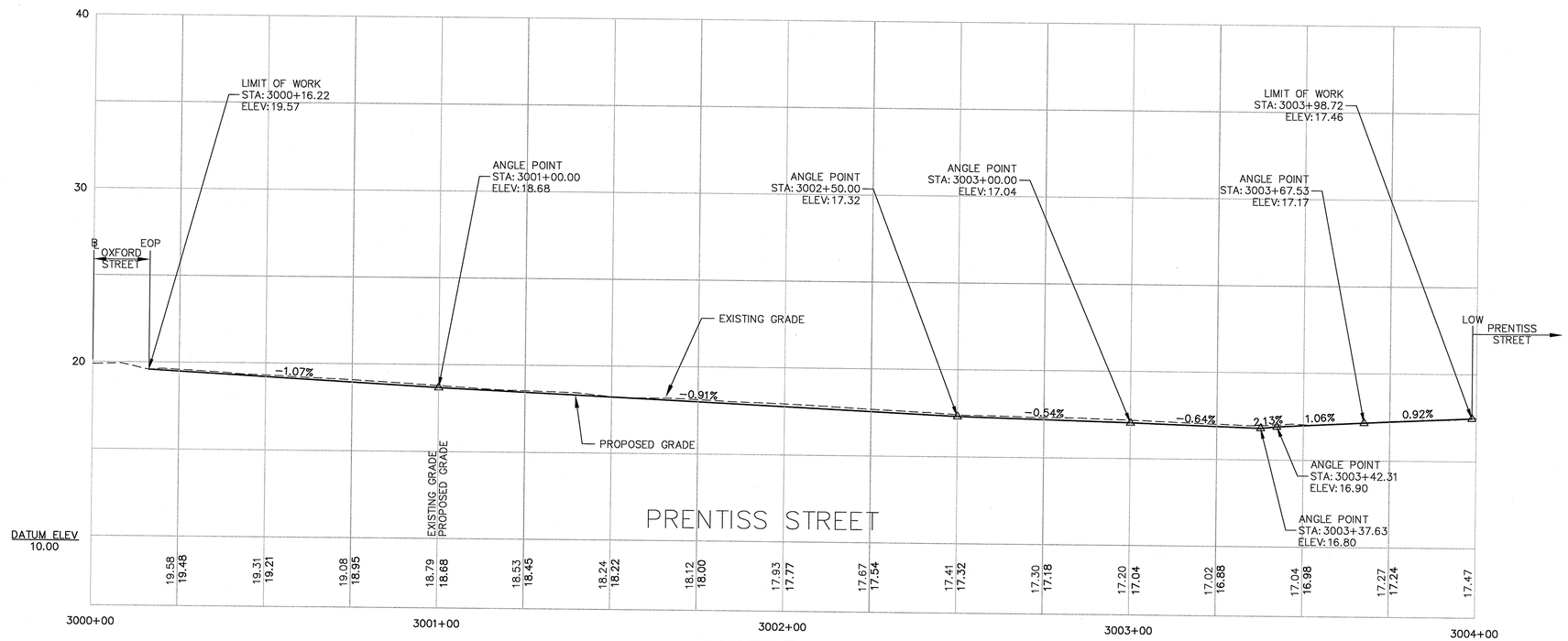
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - GRADING PLAN
STA 3000+00 TO 3004+00

Sheet: R-12
38 OF 59

File No.

PLOT DATE=12/10/2009 6:55:01 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

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BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

Client: CITY OF CAMBRIDGE, MA

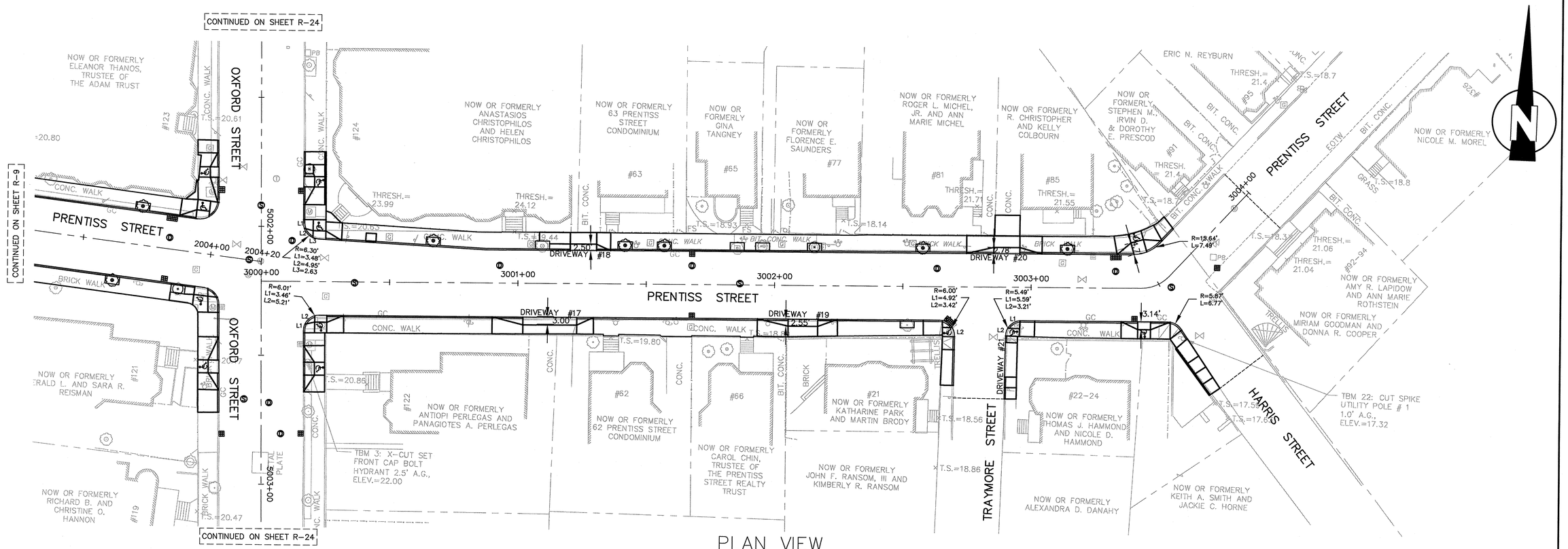
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PROFILE
STA 3000+00 TO 3004+00

Sheet: R-13
39 OF 59

File No.

PLOT DATE=12/10/2009 6:55:33 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW
SCALE:1"=20'

DW #	RAMP REFERENCE POINT		WIDTH OF SIDEWALK, W (FT)	WIDTH OF OPENING (FT)	ROADWAY GUTTER SLOPE (%)	TRANSITION LENGTH	
	STATION	OFFSET				LEFT SIDE	RIGHT SIDE
17	3001+12	RT	6.5	20.98	−0.91	6'−6"	12'−0"
18	3001+25	LT	7.0	10.23	−0.91	12'−0"	5'−6"
19	3002+09	RT	6.7	11.54	−0.91	7'−8"	12−0"
20	3002+90	LT	6.9	10.13	−0.54	10'−7"	8'−8"
21	3002+90	RT 28'	4.6	13.41	+1.00	--	--

NOTE:

1. LEFT AND RIGHT SIDES OF THE RAMP ARE DETERMINED BY LOOKING AT THE FRONT OF THE RAMP.

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
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CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	SCP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

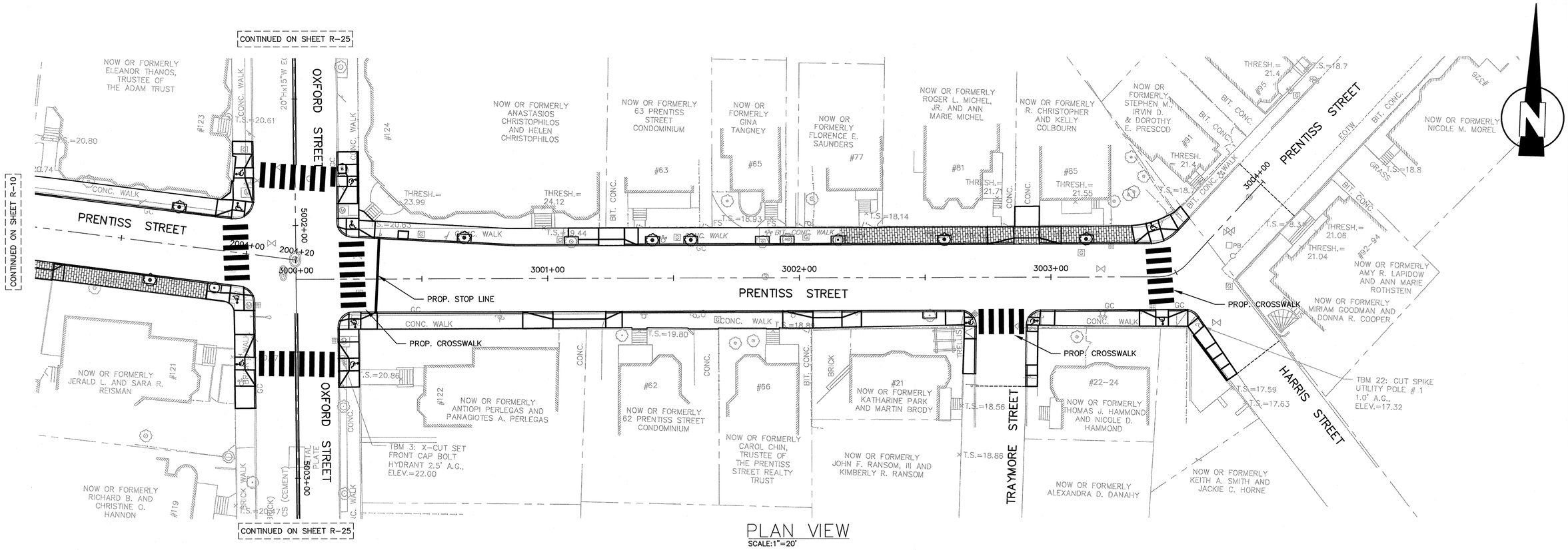
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - CURB TIE PLAN
STA 3000+00 TO 3004+00

Sheet: R-14
40 OF 59

File No.

PLOT DATE=12/10/2009 6:56:56 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEET-3.dwg



PLAN VIEW
SCALE:1"=20'

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

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BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

Client: CITY OF CAMBRIDGE, MA

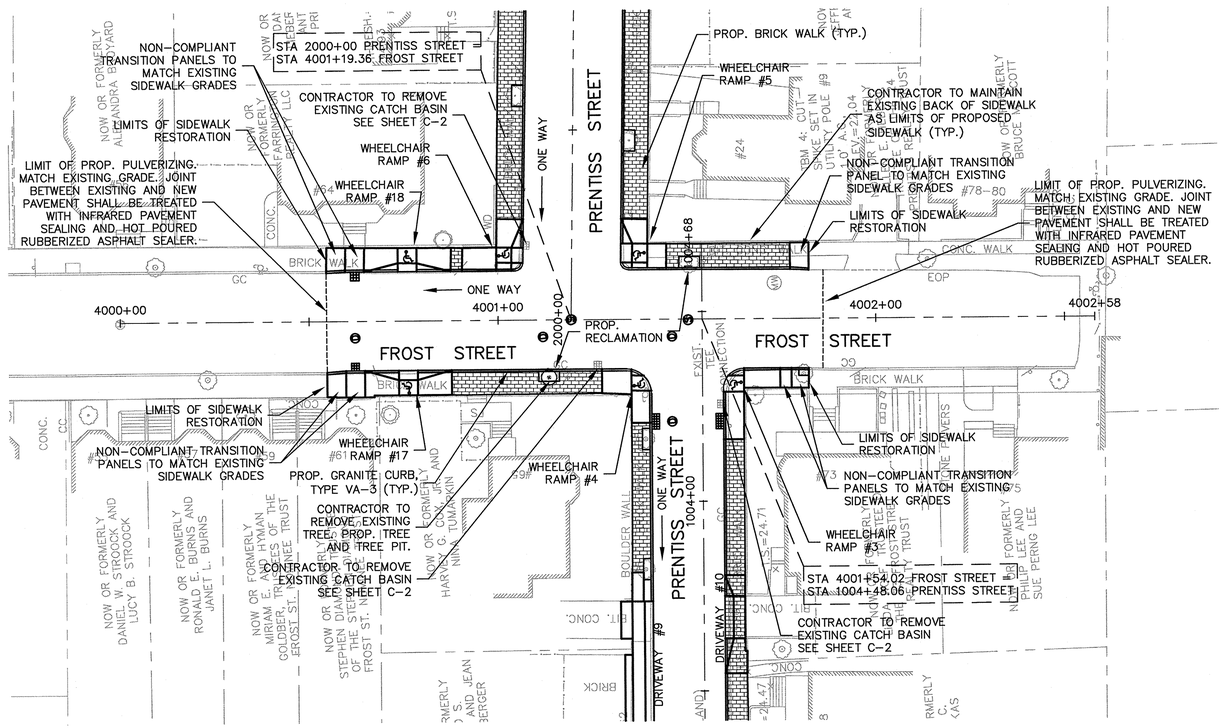
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PAVEMENT MARKING PLAN
STA 3000+00 TO 3004+00

Sheet: R-15
41 OF 59

File No.

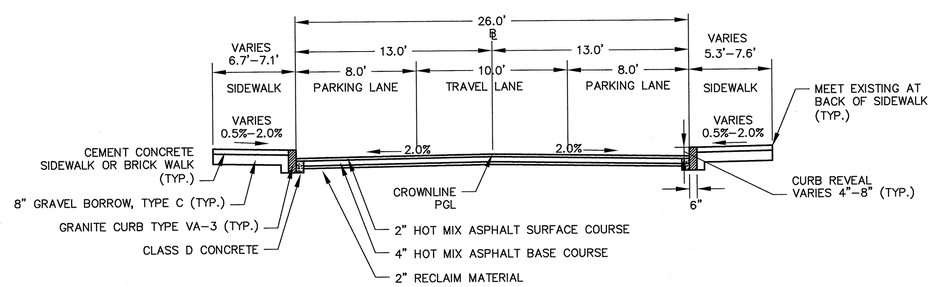
PLOT DATE=12/10/2009 6:57:20 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW

SCALE:1"=20'

CONTINUED ON SHEET R-1



TYPICAL SECTION

PRENTISS STREET
STA 4000+45 TO 4002+53

SCALE: N.T.S.

LEGEND:

- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- REMOVE AND REPLACE TREE AND TREE PIT
- INSTALL TREE AND TREE PIT
- WHEELCHAIR RAMP
- PROPOSED COLD PLANE EXCAVATION AND OVERLAY

RESTORATION NOTES:

1. WORK IN FROST STREET SHALL MEET THE REQUIREMENTS OF THE CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
2. SEE DETAIL SHEET GR-3 AND GR-4 FOR CURB INSTALLATION, WHEELCHAIR RAMP, AND SIDEWALK CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL ADJUST EXISTING UTILITY COVERS AND CASTINGS TO REGRADED SURFACES AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR GAS/TELECOM/CABLE/ELECTRIC.
4. ALL VERTICAL GRANITE CURBING WITHIN SIDEWALK, COLD PLANE, AND PULVERIZING LIMITS SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
5. EXISTING SIGNS LOCATED WITHIN PROPOSED WHEELCHAIR RAMPS SHALL BE RELOCATED OUTSIDE OF WHEELCHAIR RAMPS AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR TO ADJUST TREE PIT OPENING AS NECESSARY TO MAINTAIN A MINIMUM 3'-0" WIDE SIDEWALK BETWEEN TREE PIT AND BACK OF SIDEWALK. EXISTNIG TREE PITS THAT ARE LESS THAN 5 FEET IN LENGTH (PARALLEL TO CURB) SHALL BE ADJUSTED TO A MINIMUM LENGTH OF 5'-0".
7. EXISTING CURBING AT BACK OF SIDEWALK SHALL REMAIN IN PLACE UNLESS OTHERWISE NOTED. DAMAGES OR DISLODGIING OF CURBING AT BACK OF SIDEWALK SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO THE OWNER.

CONFORMED SET
DECEMBER 11, 2009

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

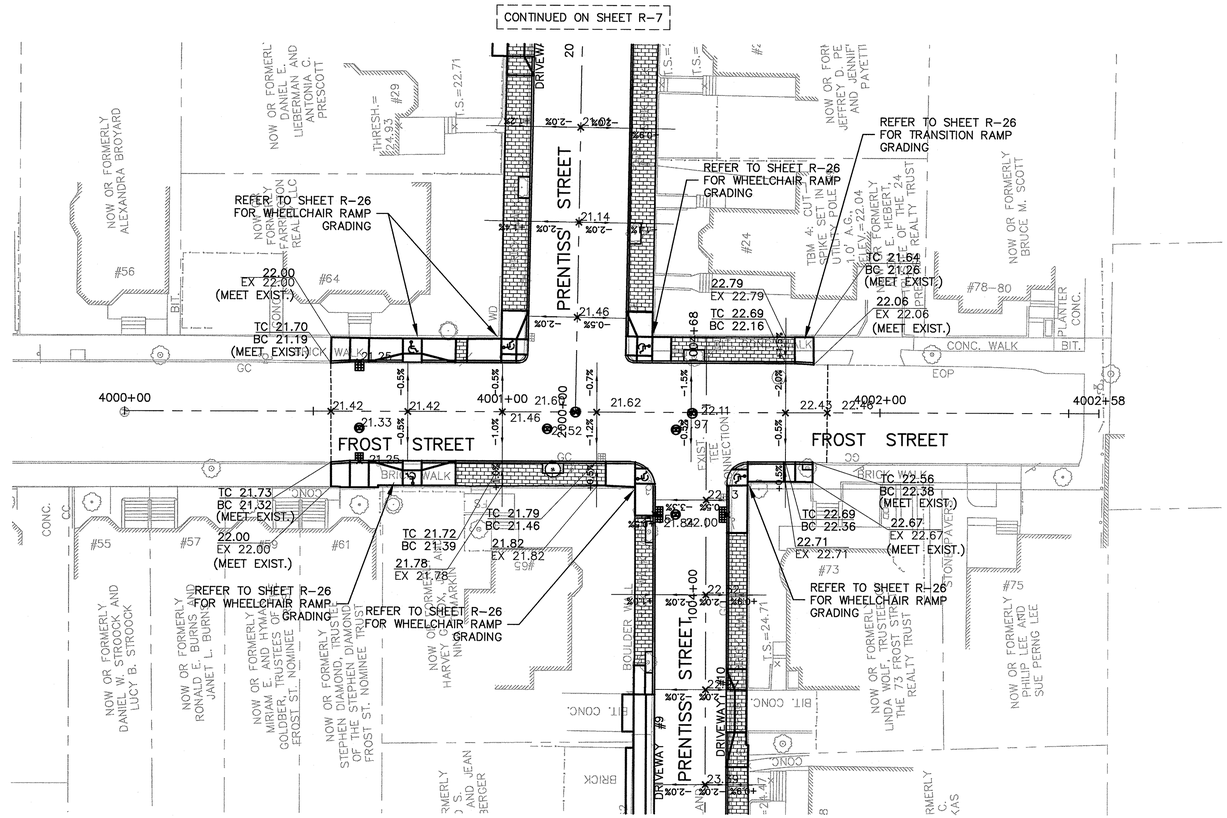
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - RESTORATION PLAN
STA 4000+00 TO 4002+58

Sheet: R-16
42 OF 59

File No.

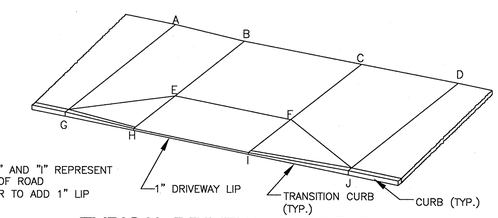
PLOT DATE=12/10/2009 6:57:52 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW

SCALE:1"=20'

CONTINUED ON SHEET R-2



GENERAL NOTES:

1. GRADES "H" AND "I" REPRESENT THE EDGE OF ROAD CONTRACTOR TO ADD 1" LIP

TYPICAL DRIVEWAY LEGEND

SCALE: N.T.S.

LEGEND:

TC	TOP OF CURB
BC	BOTTOM OF CURB
EX	EXISTING
x33.44	PROPOSED SPOT GRADE
	WHEELCHAIR RAMP
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE

CONFORMED SET
DECEMBER 11, 2009

SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
ROCKY HILL, CONNECTICUT AUGUSTA, MAINE
FRAMINGHAM, MASSACHUSETTS

MWH
BOSTON MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
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No.	Description	Date
	REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

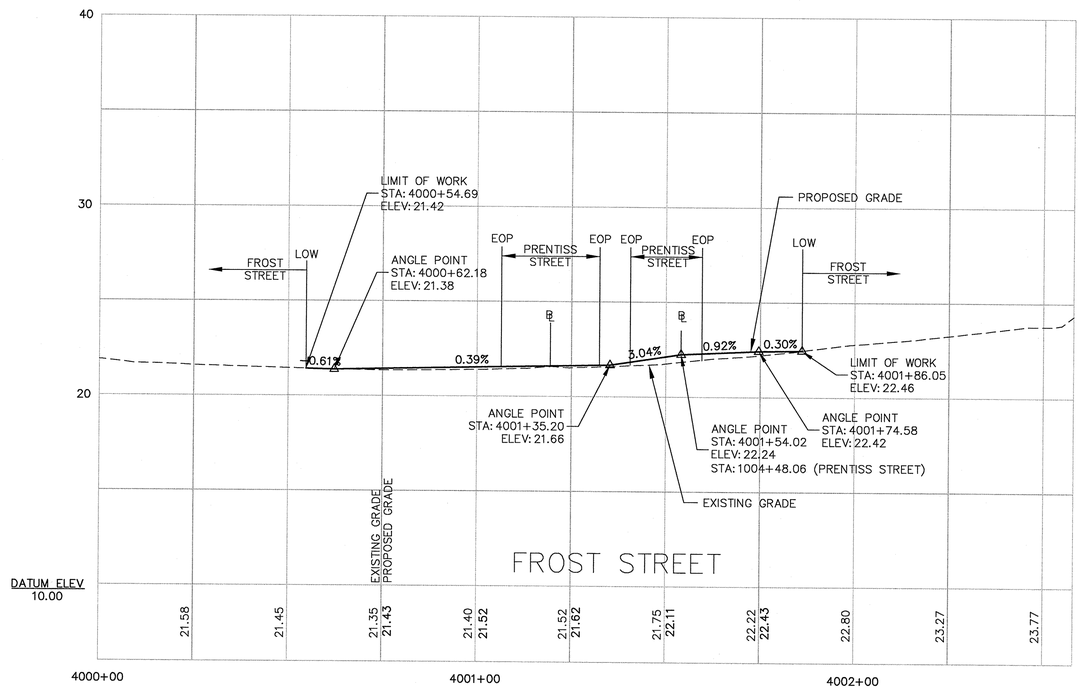
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - GRADING PLAN
STA 4000+00 TO 4002+58

Sheet: R-17
43 OF 59

File No.

PLOT DATE=12/10/2009 6:58:18 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

CONFORMED SET
DECEMBER 11, 2009

PLOT DATE=12/10/2009 6:58:44 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg

SEA
SEA CONSULTANTS INC.
Scientists/Engineers/Architects
CAMBRIDGE, MASSACHUSETTS CONCORD, NEW HAMPSHIRE
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BOSTON
MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	TP			
Drawn by	TP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

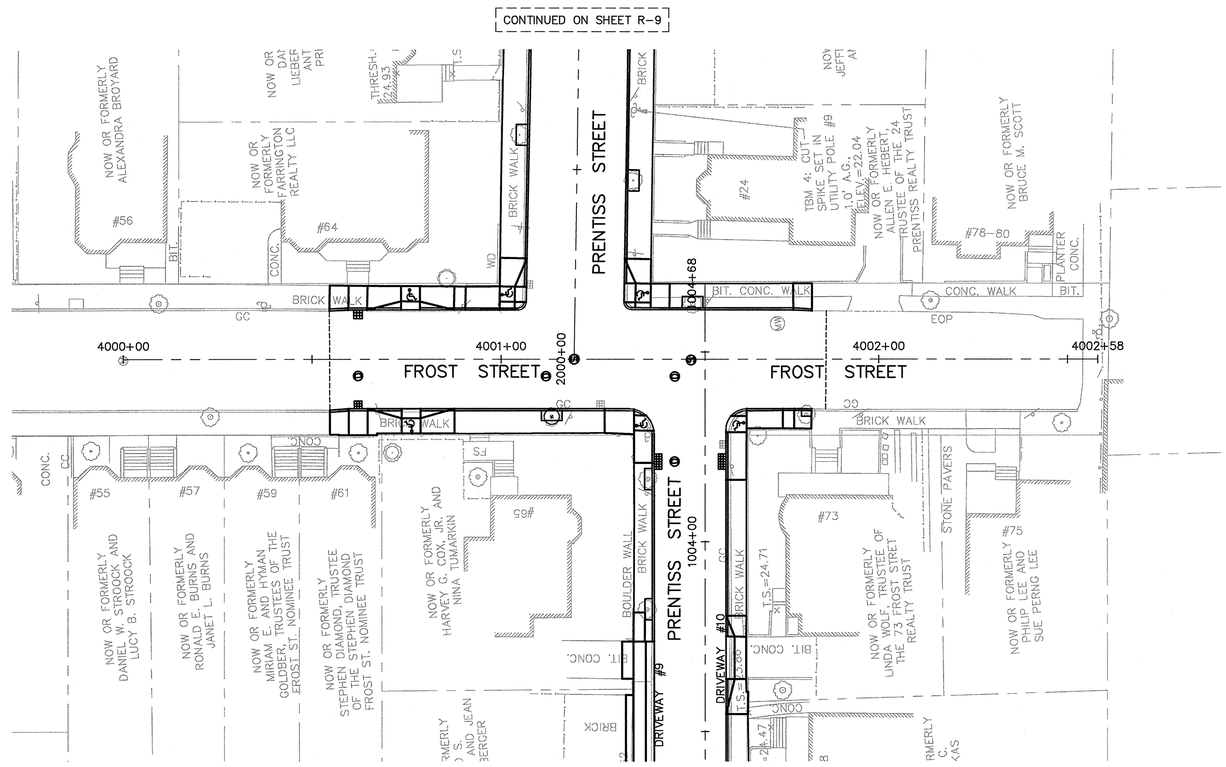
Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PROFILE
STA 4000+00 TO 4002+58

Sheet: R-18
44 OF 59

File No.



PLAN VIEW

SCALE:1"=20'

CONTINUED ON SHEET R-4

CONFORMED SET
DECEMBER 11, 2009

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BOSTON
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COMMONWEALTH OF MASSACHUSETTS
JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED				
Date	12/11/2009				
Job No.	2007108.10-A				
Designed by	TP				
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Checked by	MJH	No.	Description	Date	
Approved by	JJS		REVISIONS		

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

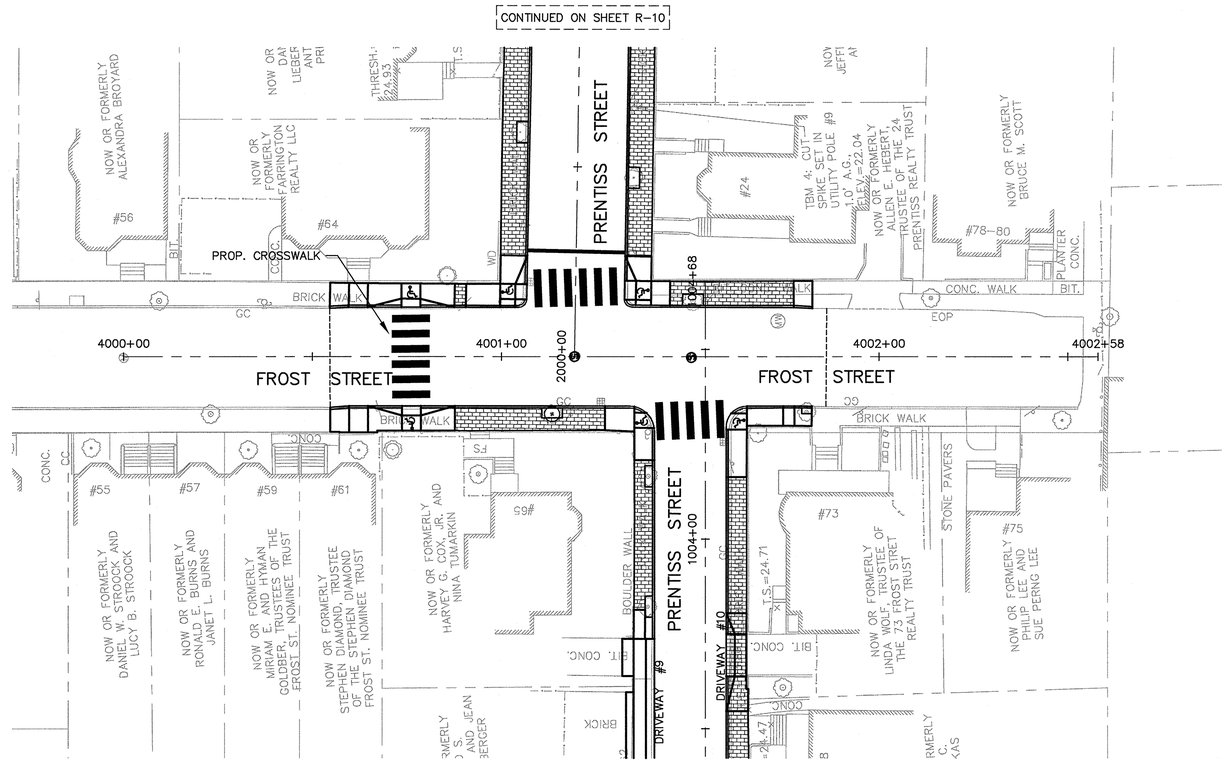
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - CURB TIE PLAN
STA 4000+00 TO 4002+58

Sheet: R-19
45 OF 59

File No.

PLOT DATE=12/10/2009 6:59:16 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW

SCALE:1"=20'

CONTINUED ON SHEET R-5

CONFORMED SET
DECEMBER 11, 2009

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No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

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THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

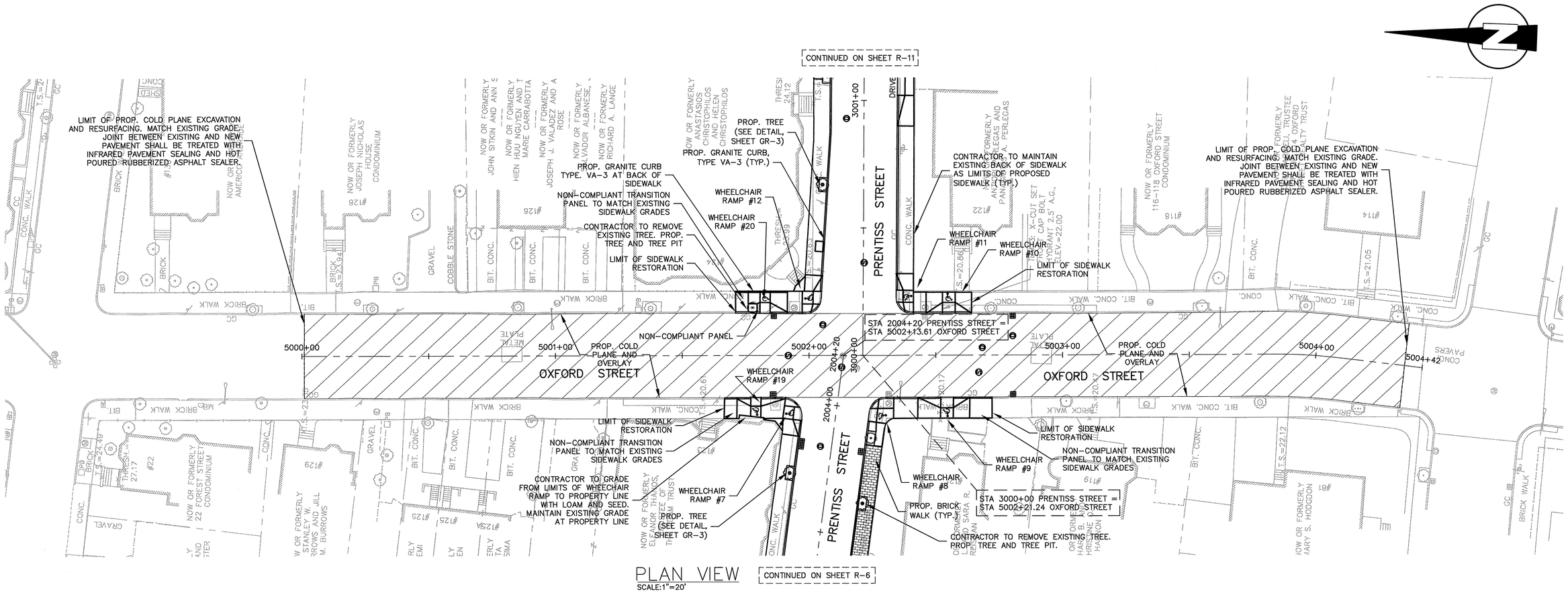
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PAVEMENT MARKING PLAN
STA 4000+00 TO 4002+58

Sheet: R-20
46 OF 59

File No.

PLOT DATE=12/10/2009 6:59:50 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



PLAN VIEW
SCALE:1"=20'

RESTORATION NOTES:

1. WORK IN OXFORD STREET SHALL MEET THE REQUIREMENTS OF THE CITY OF CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
2. SEE DETAIL SHEET GR-3 AND GR-4 FOR CURB INSTALLATION, WHEELCHAIR RAMP, AND SIDEWALK CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL ADJUST EXISTING UTILITY COVERS AND CASTINGS TO REGRADED SURFACES AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR GAS/TELECOM/CABLE/ELECTRIC.
4. ALL VERTICAL GRANITE CURBING WITHIN SIDEWALK, COLD PLANE, AND PULVERIZING LIMITS SHALL BE REMOVED AND RESET UNLESS OTHERWISE NOTED.
5. EXISTING SIGNS LOCATED WITHIN PROPOSED WHEELCHAIR RAMPS SHALL BE RELOCATED OUTSIDE OF WHEELCHAIR RAMPS AT NO ADDITIONAL COST TO THE OWNER.
6. CONTRACTOR TO ADJUST TREE PIT OPENING AS NECESSARY TO MAINTAIN A MINIMUM 3'-0" WIDE SIDEWALK BETWEEN TREE PIT AND BACK OF SIDEWALK. EXISTNIG TREE PITS THAT ARE LESS THAN 5 FEET IN LENGTH (PARALLEL TO CURB) SHALL BE ADJUSTED TO A MINIMUM LENGTH OF 5'-0".
7. EXISTING CURBING AT BACK OF SIDEWALK SHALL REMAIN IN PLACE UNLESS OTHERWISE NOTED. DAMAGES OR DISLODGIING OF CURBING AT BACK OF SIDEWALK SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST TO THE OWNER.

LEGEND:

- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- PROPOSED SEWER MANHOLE
- REMOVE AND REPLACE TREE AND TREE PIT
- INSTALL TREE AND TREE PIT
- WHEELCHAIR RAMP
- PROPOSED COLD PLANE EXCAVATION AND OVERLAY

CONFORMED SET
DECEMBER 11, 2009

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JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED				
Date	12/11/2009				
Job No.	2007108.10-A				
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Approved by	JJS		REVISIONS		

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - RESTORATION PLAN
STA 5000+00 TO 5004+42

Sheet: R-21
47 OF 59

File No.

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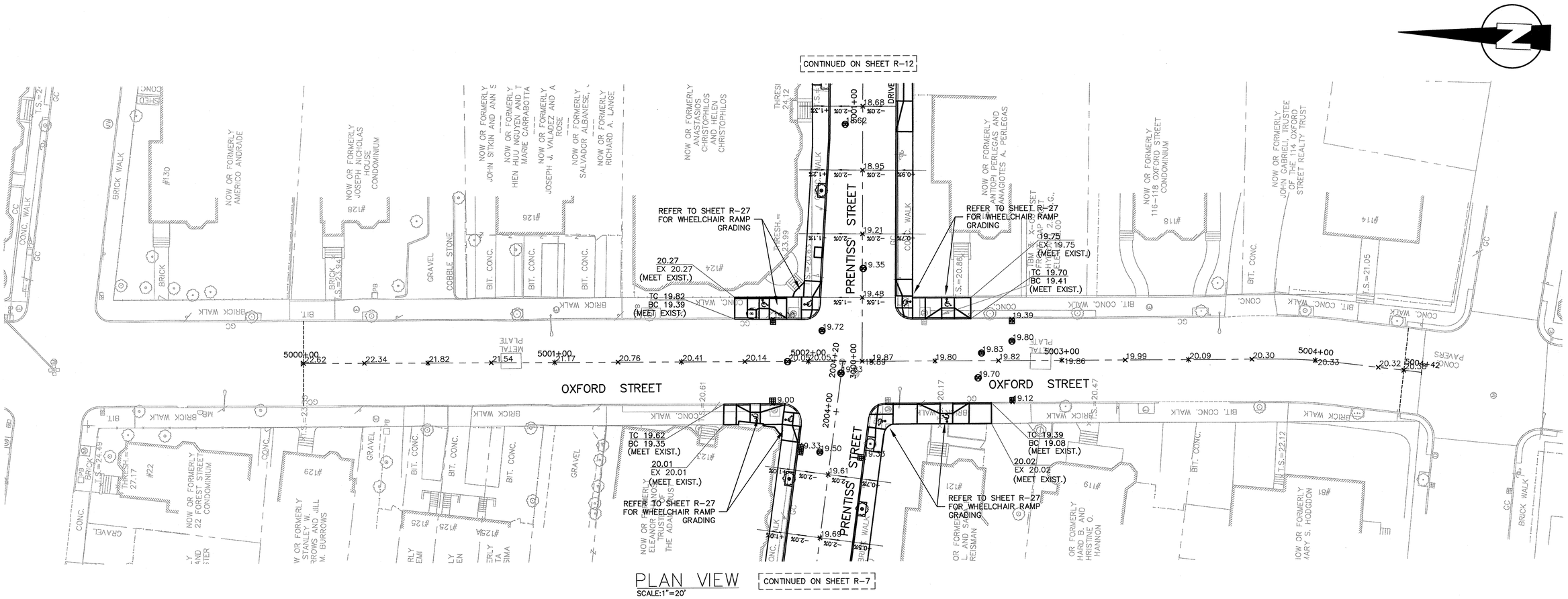

PLAN VIEW

SCALE:1"=20'

CONTINUED ON SHEET R-7

LEGEND:

TC	TOP OF CURB
BC	BOTTOM OF CURB
EX	EXISTING
x33.44	PROPOSED SPOT GRADE
	WHEELCHAIR RAMP
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE

CONFORMED SET
DECEMBER 11, 2009

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JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
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Job No.	2007108.10-A
Designed by	TP
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Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - GRADING PLAN
STA 5000+00 TO 5004+42

Sheet: R-22
48 OF 59

File No.

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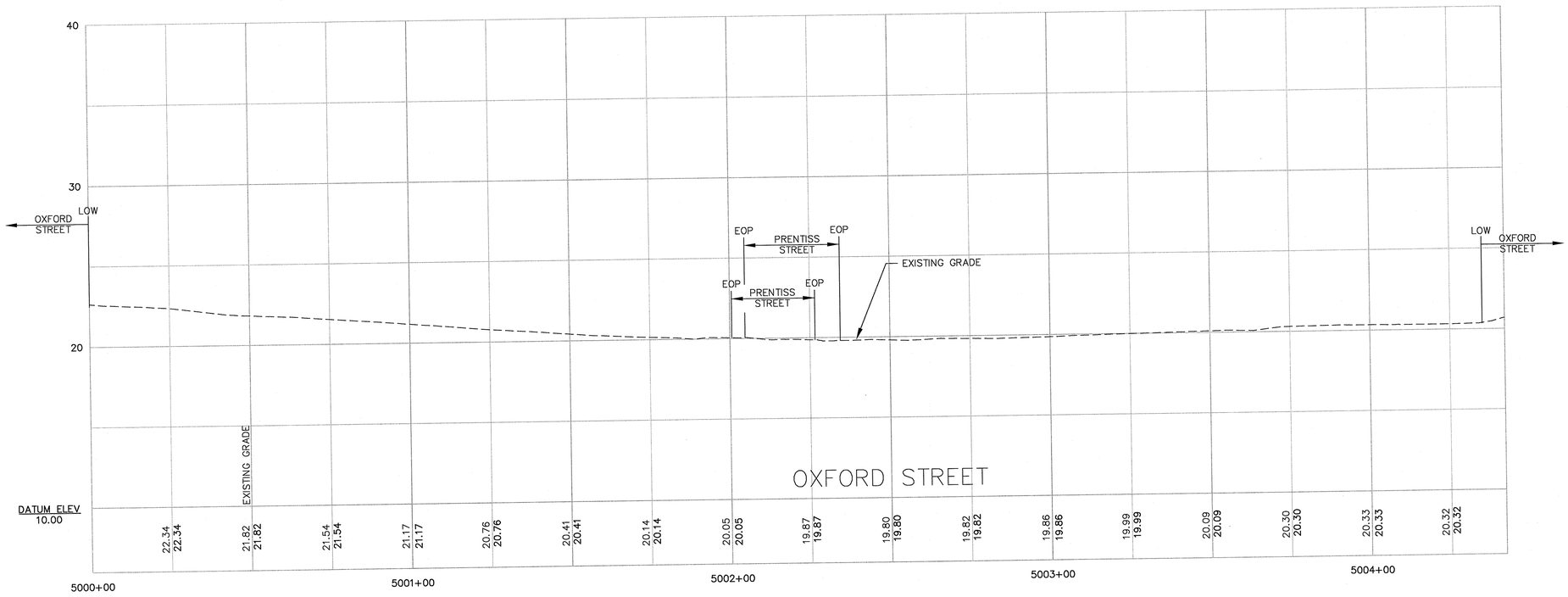

PROFILE VIEW

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=4'

NOTE: EXISTING PROFILE ALONG OXFORD STREET SHALL BE MAINTAINED

CONFORMED SET
DECEMBER 11, 2009

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JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PROFILE
STA 5000+00 TO 5004+42

Sheet: R-23
49 OF 59

File No.

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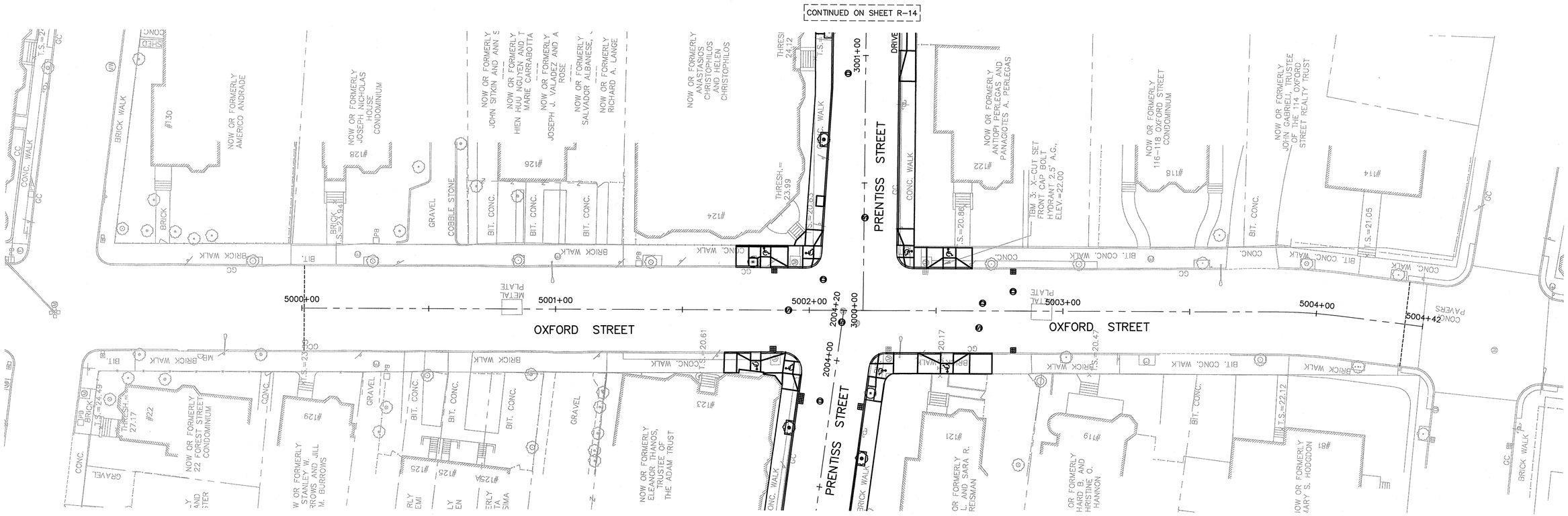

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DECEMBER 11, 2009

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JOHN J. STRUZZIERY
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REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
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No.	Description	Date

REVISIONS

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - CURB TIE PLAN
STA 5000+00 TO 5004+42

Sheet: R-24
50 OF 59

File No.

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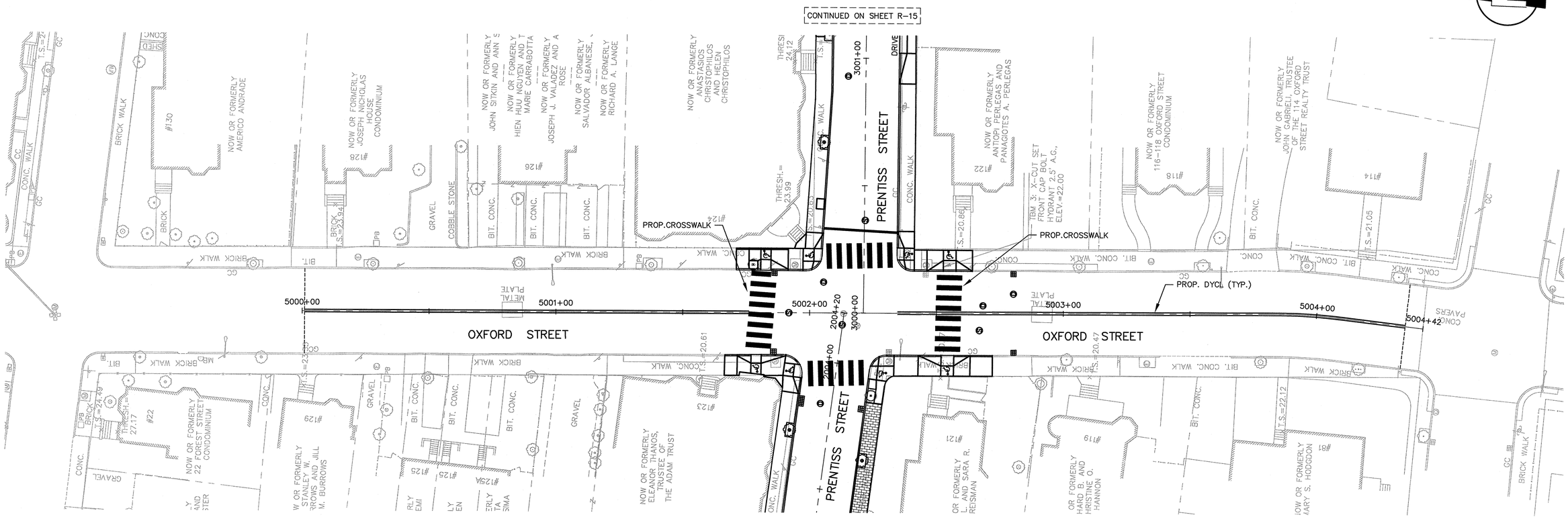

PLAN VIEW
SCALE:1"=20'

NOTE:

1. PROPOSED PAVEMENT MARKINGS AT LIMIT OF WORK SHALL MATCH INTO EXISTING PAVEMENT MARKINGS.

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No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	TP
Drawn by	TP
Checked by	MJH
Approved by	JJS

No.	Description	Date
	REVISIONS	

THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

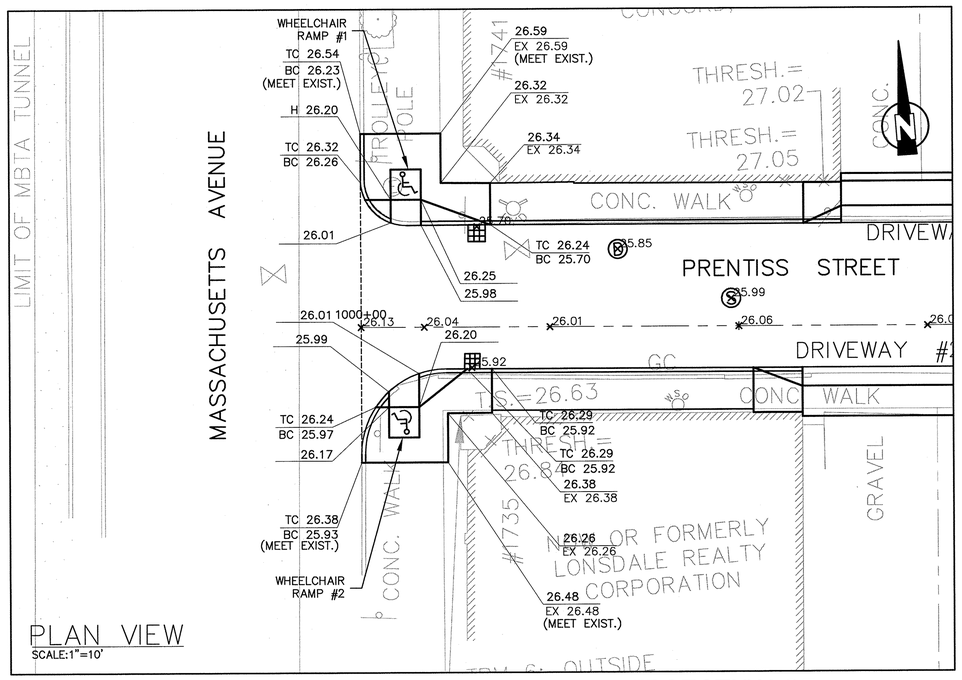
Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - PAVEMENT MARKING PLAN
STA 5000+00 TO 5004+42

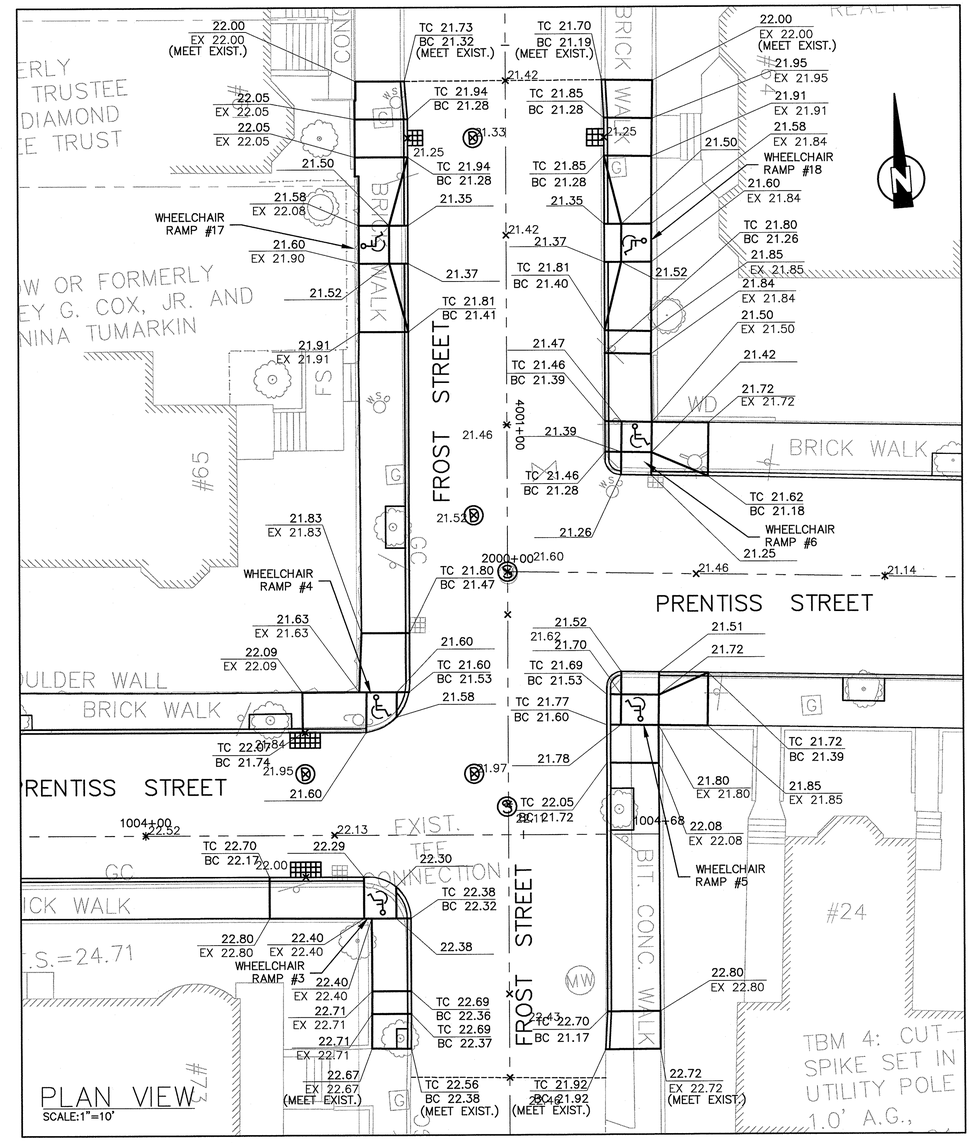
Sheet: R-25
51 OF 59

File No.

PLOT DATE=12/10/2009 7:04:21 PM USER=TODD PERREAULT FILENAME=G:_clients\Cambridge MA\2007108.10-A - Frost Street Sewer Separation_PRENTISS--CONFORMED_SET\Conformed_Set\2007108.10_ROADWAY_SHEETS.dwg



WHEELCHAIR RAMPS #1 AND #2 AT INTERSECTION OF PRENTISS STREET AND MASSACHUSETTS AVENUE



WHEELCHAIR RAMPS #3, #4, #5, #6, #17, AND #18 AT INTERSECTION OF PRENTISS STREET AND FROST STREET

LEGEND:

TC	TOP OF CURB
BC	BOTTOM OF CURB
EX	EXISTING
x33.44	PROPOSED SPOT GRADE
	WHEELCHAIR RAMP
	PROPOSED CATCH BASIN
	PROPOSED DRAIN MANHOLE
	PROPOSED SEWER MANHOLE

CONFORMED SET
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JOHN J. STRUZZIERY
No. 30434
REGISTERED PROFESSIONAL ENGINEER
12/11/09

Scale	AS NOTED
Date	12/11/2009
Job No.	2007108.10-A
Designed by	SCP
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THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - WHEELCHAIR RAMP PLAN

Sheet: R-26
52 OF 59

File No.

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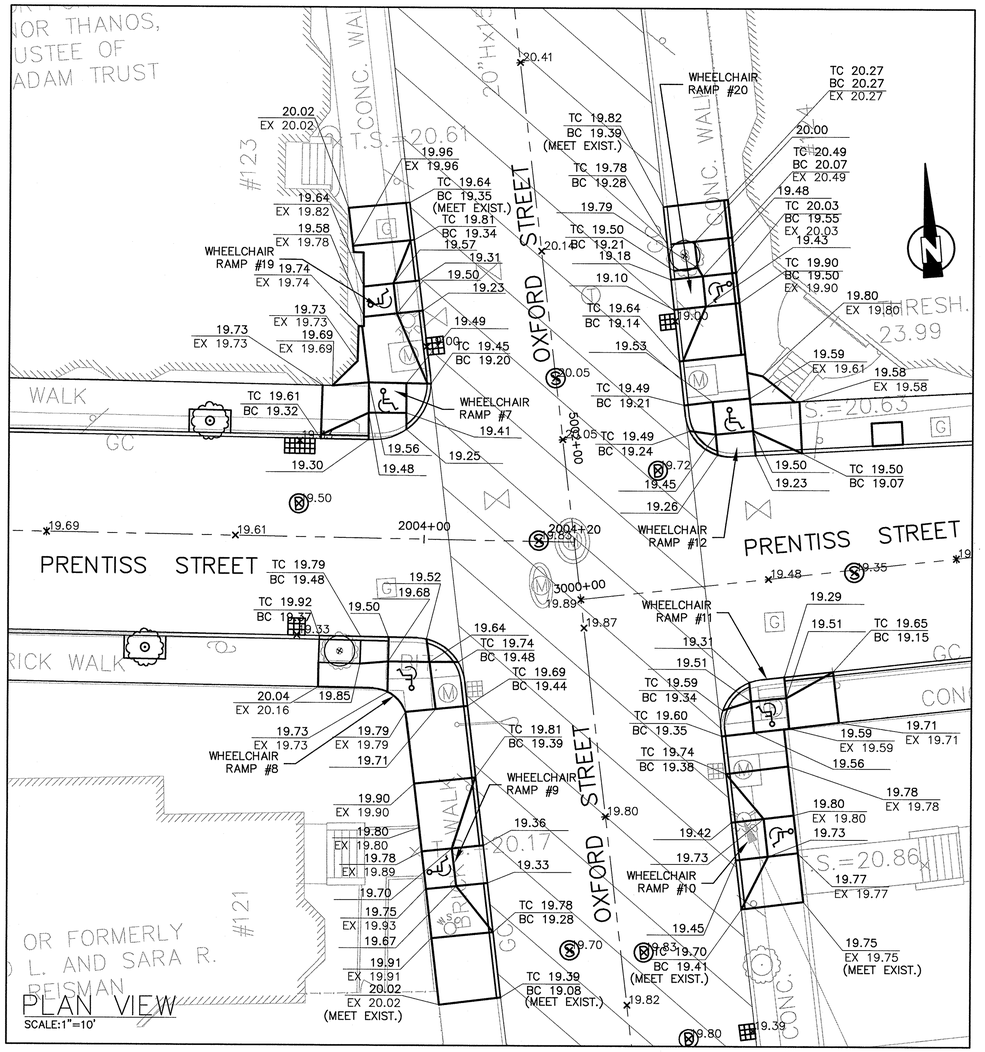
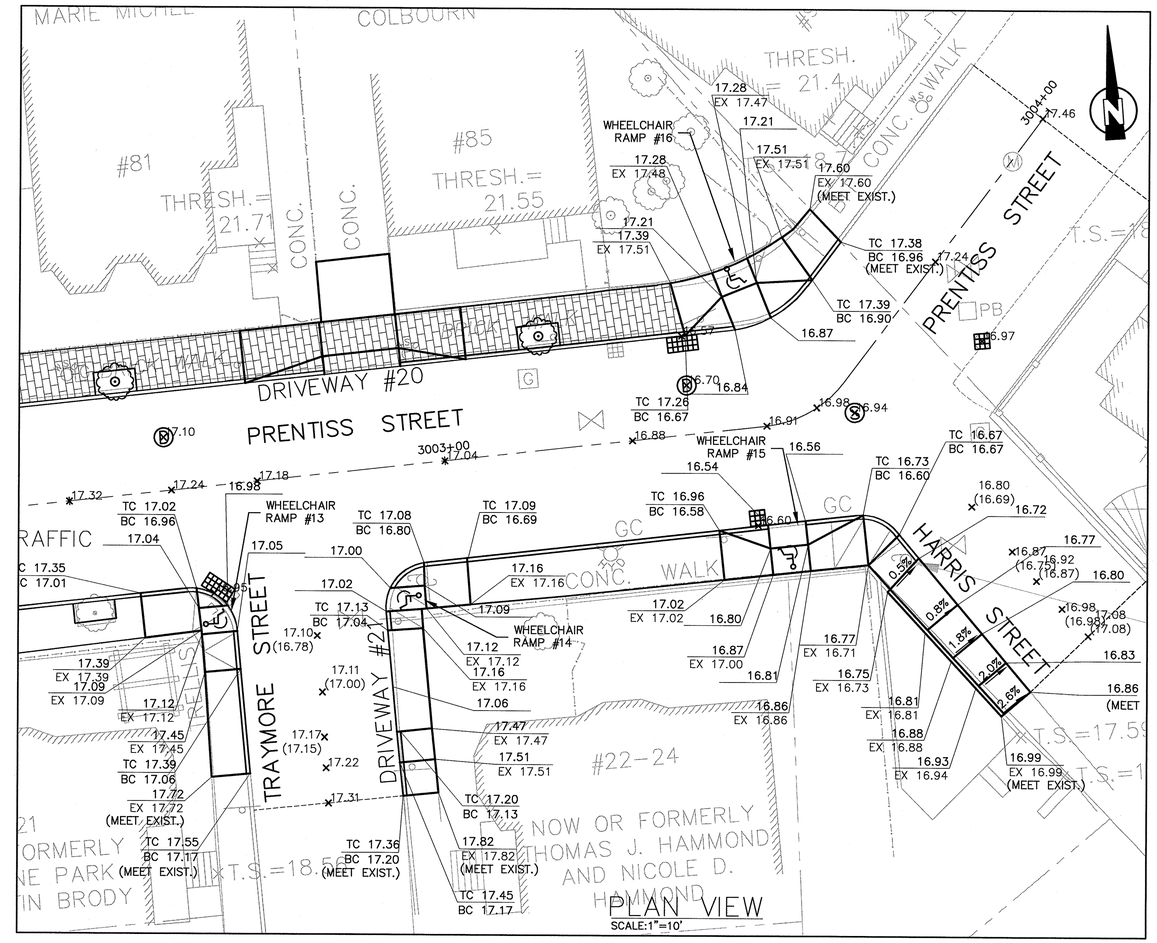


WHEELCHAIR RAMPS #7, #8, #9,#10, #11, #12 , #19, AND #20 AT INTERSECTION OF PRENTISS STREET AND OXFORD STREET



WHEELCHAIR RAMPS #13, #14, #15 AND #16 AT INTERSECTION OF TRAYMORE STREET, HARRIS STREET AND PRENTISS STREET

LEGEND:

- *TC* — *TOP OF CURB*
- *BC* — *BOTTOM OF CURB*
- *EX* — *EXISTING*
- *33.44* — *PROPOSED SPOT GRADE*
- *WHEELCHAIR RAMP*
- *PROPOSED CATCH BASIN*
- *PROPOSED DRAIN MANHOLE*
- *PROPOSED SEWER MANHOLE*

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DECEMBER 11, 2009

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JOHN J. STRUZZIERY
No. 30434
CIVIL
12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	SCP			
Drawn by	SCP			
Checked by	MJH	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS — CAMBRIDGE DEPARTMENT OF PUBLIC WORKS

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: ROADWAY - WHEELCHAIR RAMP PLAN

Sheet: R-27
53 OF 59

File No.

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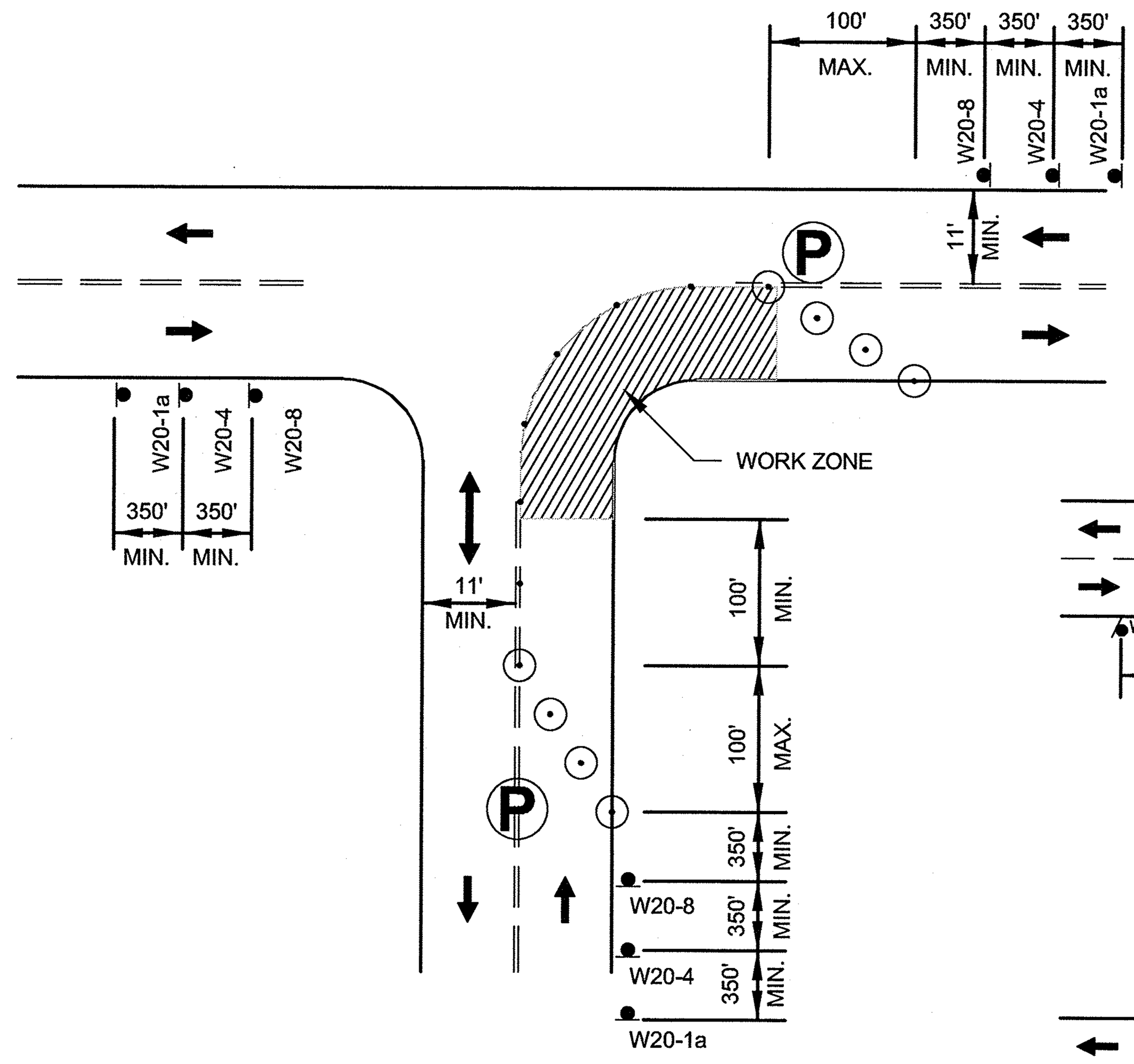
GENERAL NOTES

PROPOSED WORK AREA	(hatched area)
SINGLE LANE UNIDIRECTIONAL TRAFFIC	→
SINGLE LANE BIDIRECTIONAL TRAFFIC	↔
TRAFFIC BARREL/DRUM	⊙
CONE	•
LANE DELINEATOR	▲
TRAFFIC MANAGEMENT SIGN DURING CONSTRUCTION	(sign symbol)
	Ⓟ

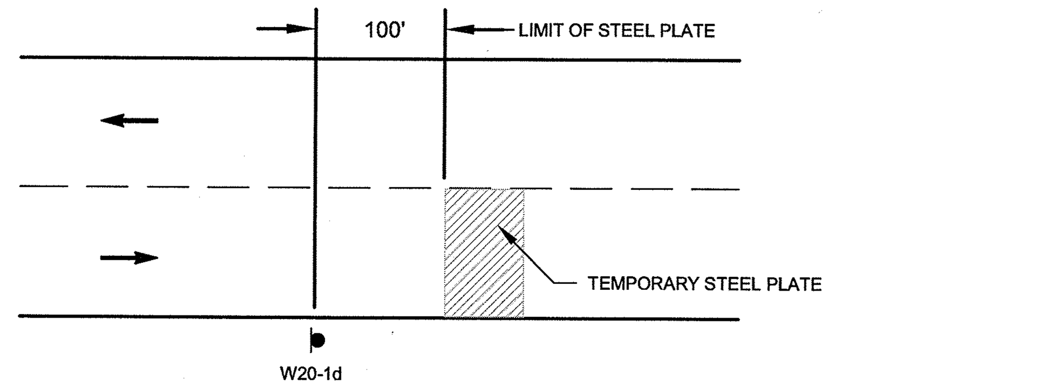
1. ALL CONSTRUCTION SIGNING, DRUMS, BARRICADES AND OTHER DEVICES SHALL CONFORM WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AS AMENDED.
2. ALL DRUMS SHALL BE SET @ 20' O.C. MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
3. ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
4. THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, PARKING RESTRICTIONS, AND SIMILAR OPERATIONS.
5. DURING WORK IN INTERSECTIONS A MINIMUM OF ONE LANE OF ALTERNATING TRAFFIC SHALL BE ALLOWED TO PASS AT ALL TIMES. PLEASE REFER TO DETAIL ON THIS SHEET.
6. GRADE SEPARATIONS IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF DRUMS.
7. EXCAVATION EDGES IN EXCESS OF 4" DEEP SHALL BE PROTECTED DURING NON-WORKING HOURS BY BACKFILLING WITH A WEDGE OF GRAVEL OR SOIL TO COMPACTED 4:1 SLOPE.
8. 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED AT ALL TIMES.
9. EXCAVATIONS SHALL BE PROTECTED DURING NON WORK HOURS BY STEEL PLATES PINNED WITH EDGES PAVED OR BARRICADES AS APPROVED BY THE ENGINEER.
10. ADVISORY SPEED PLATES (W13-1) SHALL BE USED IF APPROPRIATE AND AS REQUIRED BY THE ENGINEER.
11. ALL SIGN LOCATIONS ARE SHOWN SCHEMATICALLY. FINAL LOCATIONS SHALL BE DETERMINED BASED ON ACTUAL FIELD CONDITIONS AND ENGINEER APPROVAL. PERMISSION AND RELATED PERMITS FOR THE LOCATION OF SIGNS AND VMB'S (VARIABLE MESSAGE BOARDS) ARE THE CONTRACTOR'S RESPONSIBILITY.
12. THE CONTRACTOR IS REQUIRED TO USE POLICE DETAILS TO MAINTAIN SAFETY OF PEDESTRIAN AND VEHICULAR TRAFFIC.
13. THE CONTRACTOR SHALL COVER OR REMOVE SIGNAGE AT THE END OF WORK HOURS OR WORK PHASES AS APPROPRIATE.
14. WORK HOURS ARE FROM 7 AM TO 4 PM.
15. THE CONTRACTOR SHALL PROTECT ALL TRAVEL WAYS FROM DUST AND CONSTRUCTION DEBRIS AT ALL TIMES.
16. CONSTRUCTION SIGNING SHALL BE ORANGE BACKGROUND WITH BLACK LEGEND AND BLACK BORDER UNLESS OTHERWISE NOTED.
17. TRAFFIC MANAGEMENT PLANS SHOW MINIMUM REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC SAFETY.
18. PARKING SHALL BE RESTRICTED WITHIN WORK ZONES, AND BUFFER AND TAPER LENGTHS CONTRACTOR TO COORDINATE NO PARKING RESTRICTIONS WITH THE CITY OF CAMBRIDGE.



NOTE:
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.

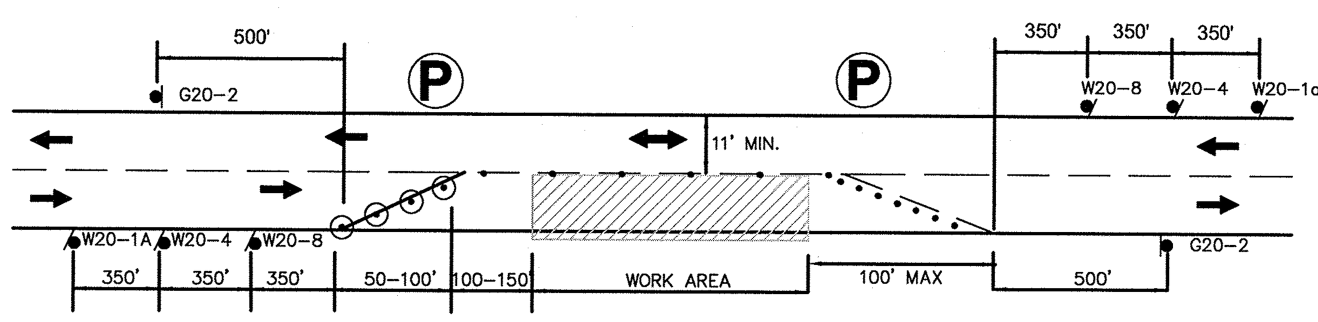
ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS

N.T.S.



TRENCH PLATE SIGNING DETAIL

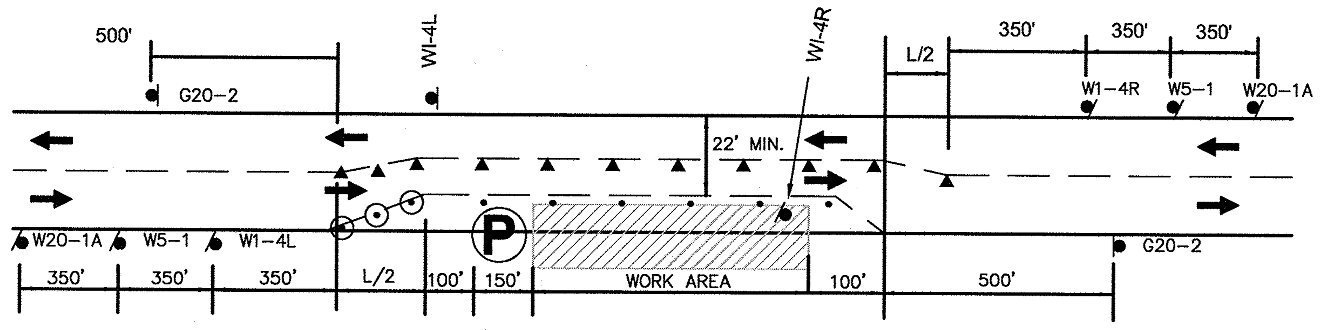
N.T.S.



TYPICAL TWO WAY ALTERNATING TRAFFIC

N.T.S. MHD

NOTE: THIS DETAIL SHOWS A RIGHT LANE CLOSURE THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN PLACEMENT REVERSED AS APPROPRIATE.



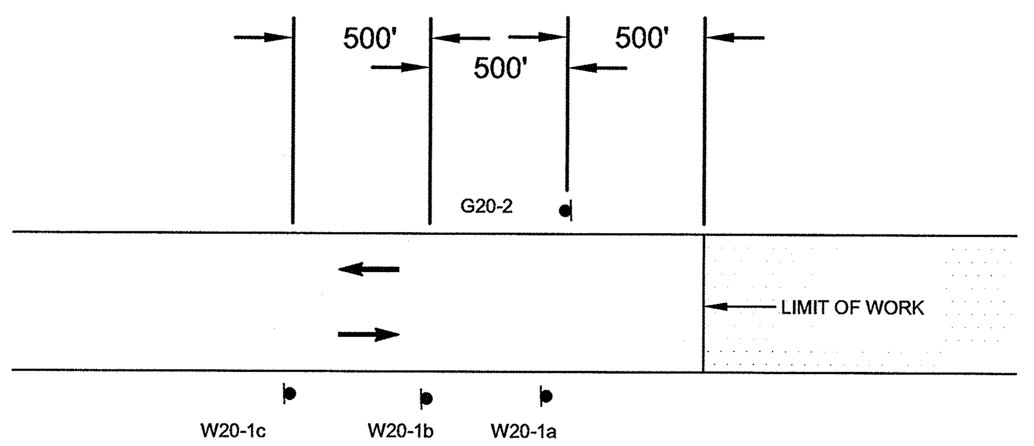
TYPICAL TWO WAY STREET LANE SHIFT

N.T.S. MHD

NOTE: THIS DETAIL SHOWS A RIGHT LANE CLOSURE THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN PLACEMENT REVERSED AS APPROPRIATE.

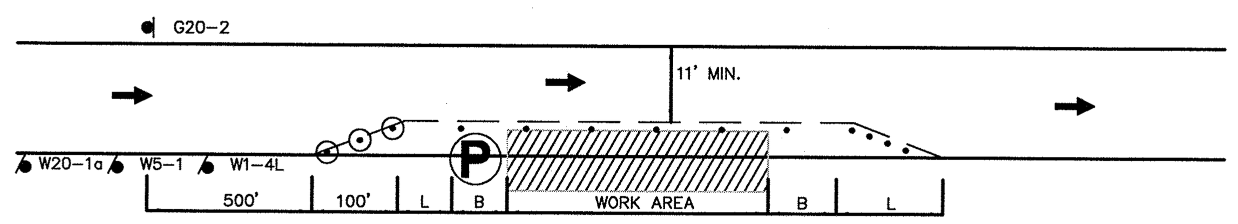
$L=WS^2$ FOR 40 MPH OR LESS
L=WS FOR 45 MPH OR MORE

W=WIDTH OF OFFSET (FT)
S= POSTED SPEED LIMIT (MPH)



ADVANCE SIGNING DETAIL

N.T.S.



TYPICAL ONE WAY STREET LANE SHIFT

N.T.S.

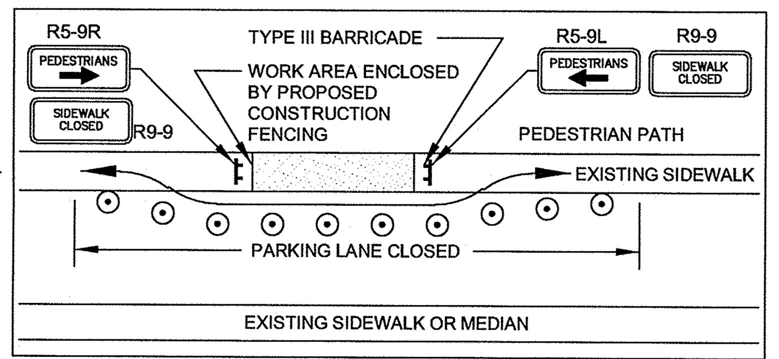
NOTE: THIS DETAIL SHOWS A RIGHT LANE CLOSURE THIS DETAIL CAN ALSO BE USED FOR LEFT LANE CLOSURES, WITH THE SIGN PLACEMENT REVERSED AS APPROPRIATE.
$L= WS^2$ FOR 40 MPH OR LESS
L= WS FOR 45 MPH OR MORE
B= BUFFER ZONE

OPERATIONAL SIGNING

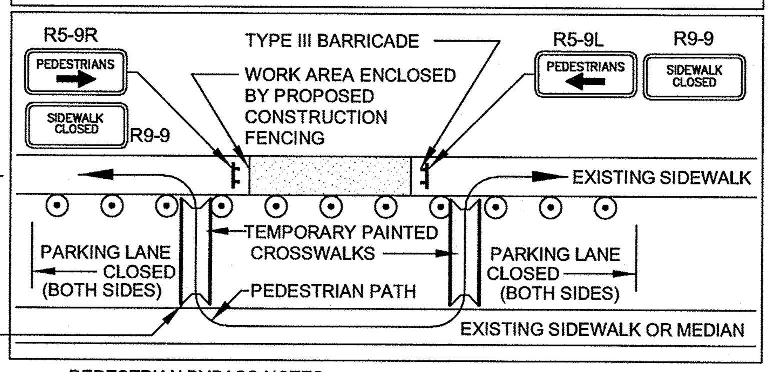
ALL DRUMS AND SIGNS ARE SHOWN AS THEY SHOULD APPEAR DURING THE WORKING DAY, OR WHILE OPERATING IN THE WORK ZONE.

TO BE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING AND AS DIRECTED BY THE CITY.

TYPE I
N.T.S.



TYPE II
N.T.S.



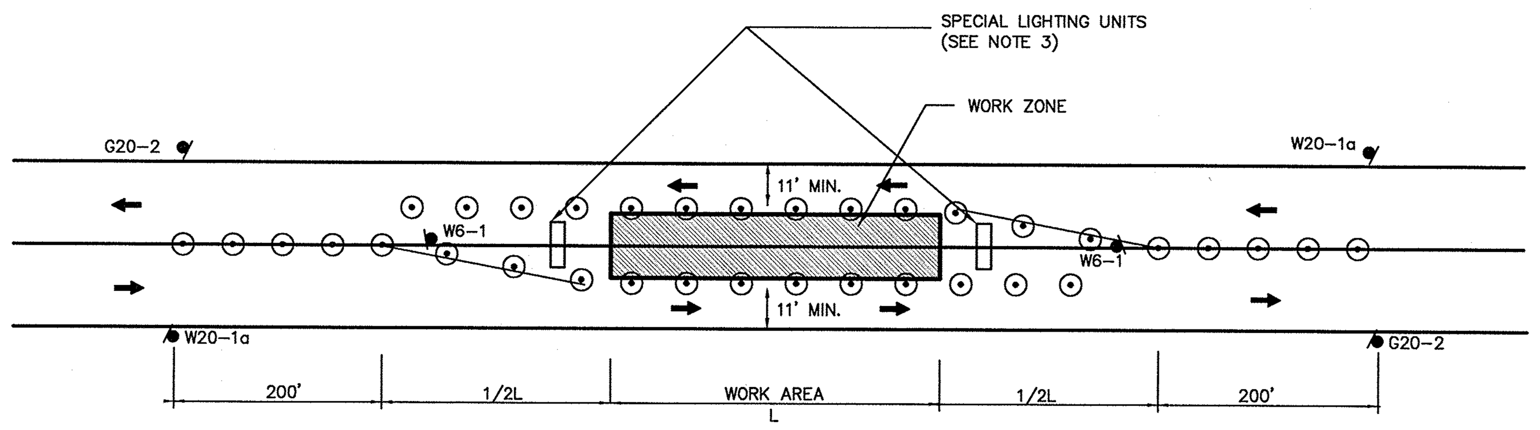
TEMPORARY ASPHALT WHEEL CHAIR RAMP. WIDTH AND LENGTH PER ADA REQUIREMENTS BUT SHALL NOT INTRUDE INTO TRAVEL WAY

PEDESTRIAN BYPASS NOTES:

1. ADDITIONAL ADVANCE WARNING MAY BE REQUIRED BY THE CITY.
2. CONTROLS FOR PEDESTRIAN TRAFFIC ONLY ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS DETAILED ELSEWHERE.
3. STREET LIGHTING SHALL BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. EXISTING WHEELCHAIR RAMPS SHALL BE CONSIDERED WHEN LOCATING TEMPORARY PAINTED CROSSWALKS.
5. ←——→ DIRECTION OF PEDESTRIAN TRAVEL.
6. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT AS SHOWN IN PEDESTRIAN BYPASS TYPE I, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHALL BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS TYPE II, AND AS REQUIRED BY THE ENGINEER.

PEDESTRIAN BYPASS DETAIL

N.T.S.



NOTES:
1. L=AREA OF 1/2 DAY OF WORK (PER MUTCD MANUAL)
2. SPECIAL LIGHTING UNITS (ARROW BOARDS) TO BE ADDED ON BOTH SIDES OF WORKZONE WHERE SPEED LIMIT MEETS OR EXCEEDS 35 M.P.H.

TYPICAL INTERIOR LANE CLOSURE

N.T.S.

CONSTRUCTION SIGN LEGEND

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	HEIGHT	TEXT	TEXT DIMENSIONS LETTER HEIGHT	VERTICAL SPACING	ARROW	COLOR BACK-GROUND	LEGEND	BORDER
W6-3	48"	48"	(two-way arrows)	MUTCD STANDARD DETAIL			MUTCD STANDARD DETAIL		
W6-5	24"	18"	TWO WAY TRAFFIC						
W20-2	48"	48"	DETOUR AHEAD						
W20-4	48"	48"	ONE LANE ROAD AHEAD						
W20-7b	36"	36"	BE PREPARED TO STOP						
W20-8	36"	36"	POLICE OFFICER AHEAD						
W20-1a	48"	48"	ROAD WORK AHEAD						
W20-1b	48"	48"	ROAD WORK 500 FT						
W20-1c	48"	48"	ROAD WORK 1000 FT						
W20-1d	48"	48"	STEEL PLATES 100 FT						
G20-2	36"	18"	END ROAD WORK						
W5-1	48"	48"	ROAD NARROWS						
W8-8	36"	36"	ROUGH ROAD						
M4-9L	30"	24"	DETOUR ←						
M4-9R	30"	24"	DETOUR →						
M4-9V	30"	24"	DETOUR ↑						
M4-8A	24"	18"	END DETOUR						
W11-1/W16-1	24"/18"	24"/24"	(bicycle) SHARE THE ROAD						
	60"	30"	CONSTRUCTION VEHICLE DO NOT FOLLOW				ORANGE/BLACK		
W6-1	36"	36"	(divided highway ends)						
W1-4L	30"	30"	(reverse curve)						
W1-4R	30"	30"	(reverse curve)						
W4-2R	36"	36"	(lane ends)						
W4-2L	36"	36"	(lane ends)						
R11-4	60"	30"	ROAD CLOSED TO THRU TRAFFIC						
R5-9L	30"	24"	PEDESTRIANS ←						
R5-9R	30"	24"	PEDESTRIANS →						
R9-9	48"	24"	SIDEWALK CLOSED				WHITE/BLACK/BLUE		
	36"	36"	CAUTION-RAISED CASTINGS AHEAD						
D3-1	12"	24"	PRENTISS ST CLOSED LOCAL TRAFFIC ONLY						
D3-2	12"	24"	DETOUR TO MASSACHUSETTS AVE						
D3-3	12"	24"	PRENTISS ST CLOSED BETWEEN OXFORD ST AND FROST ST						
D3-4	12"	24"	PRENTISS ST CLOSED BETWEEN HARRIS ST AND OXFORD ST						
D3-5	12"	18"	LOCAL TRAFFIC ONLY	MUTCD STANDARD DETAIL			MUTCD STANDARD DETAIL		

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DECEMBER 11, 2009

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FRAMINGHAM, MASSACHUSETTS

MWH BOSTON MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS JOHN J. STRUZZIERY No. 30434 REGISTERED PROFESSIONAL ENGINEER 12/11/09

Scale	AS NOTED			
Date	12/11/2009			
Job No.	2007108.10-A			
Designed by	CMC			
Drawn by	CMC			
Checked by	TJR	No.	Description	Date
Approved by	JJS		REVISIONS	

THE WORKS CAMBRIDGE DEPARTMENT OF PUBLIC

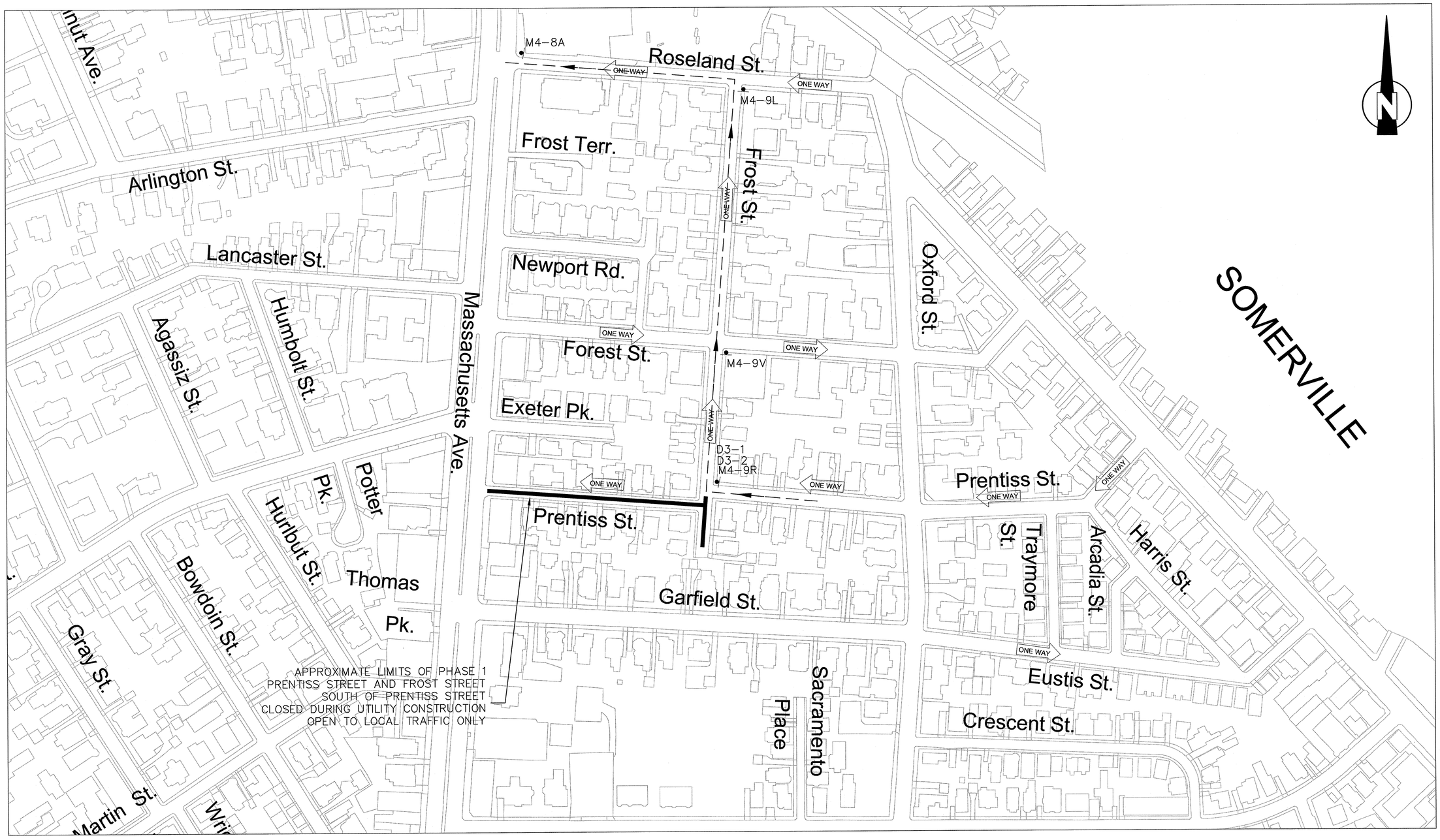
Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: TRAFFIC MANAGEMENT - GENERAL NOTES AND DETAILS

Sheet: TMP-1

File No.



PLAN

SCALE: 1"=100'

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DECEMBER 11, 2009

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THE WORKS
CAMBRIDGE DEPARTMENT OF PUBLIC

Client: CITY OF CAMBRIDGE, MA

Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: TRAFFIC MANAGEMENT - PRENTISS STREET DETOUR PLAN

Sheet: TMP-2

55 OF 59

File No.

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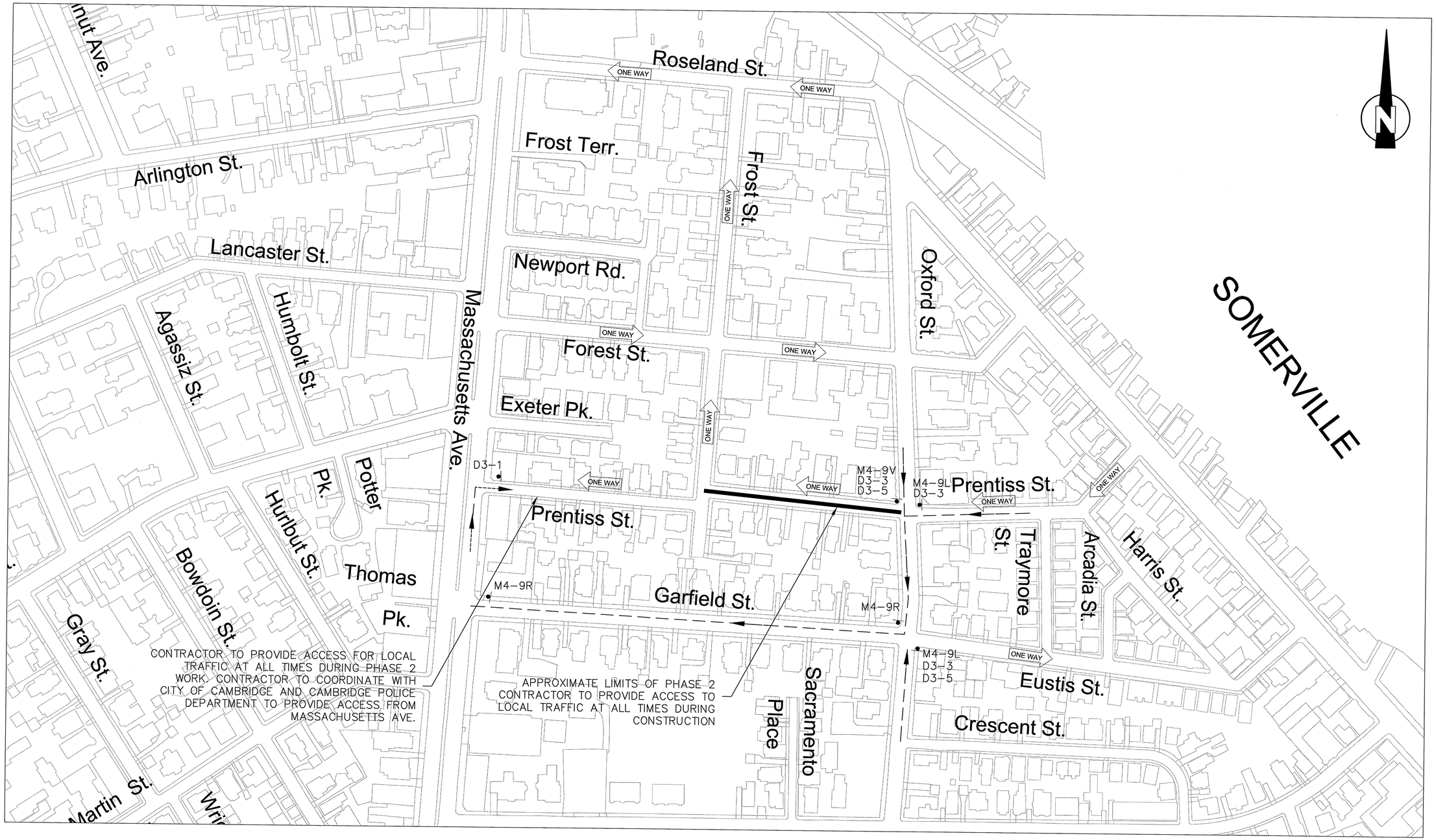

PLAN

SCALE: 1"=100'

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Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: TRAFFIC MANAGEMENT PLAN - PRENTISS STREET DETOUR PLAN

Sheet: TMP-3

File No.

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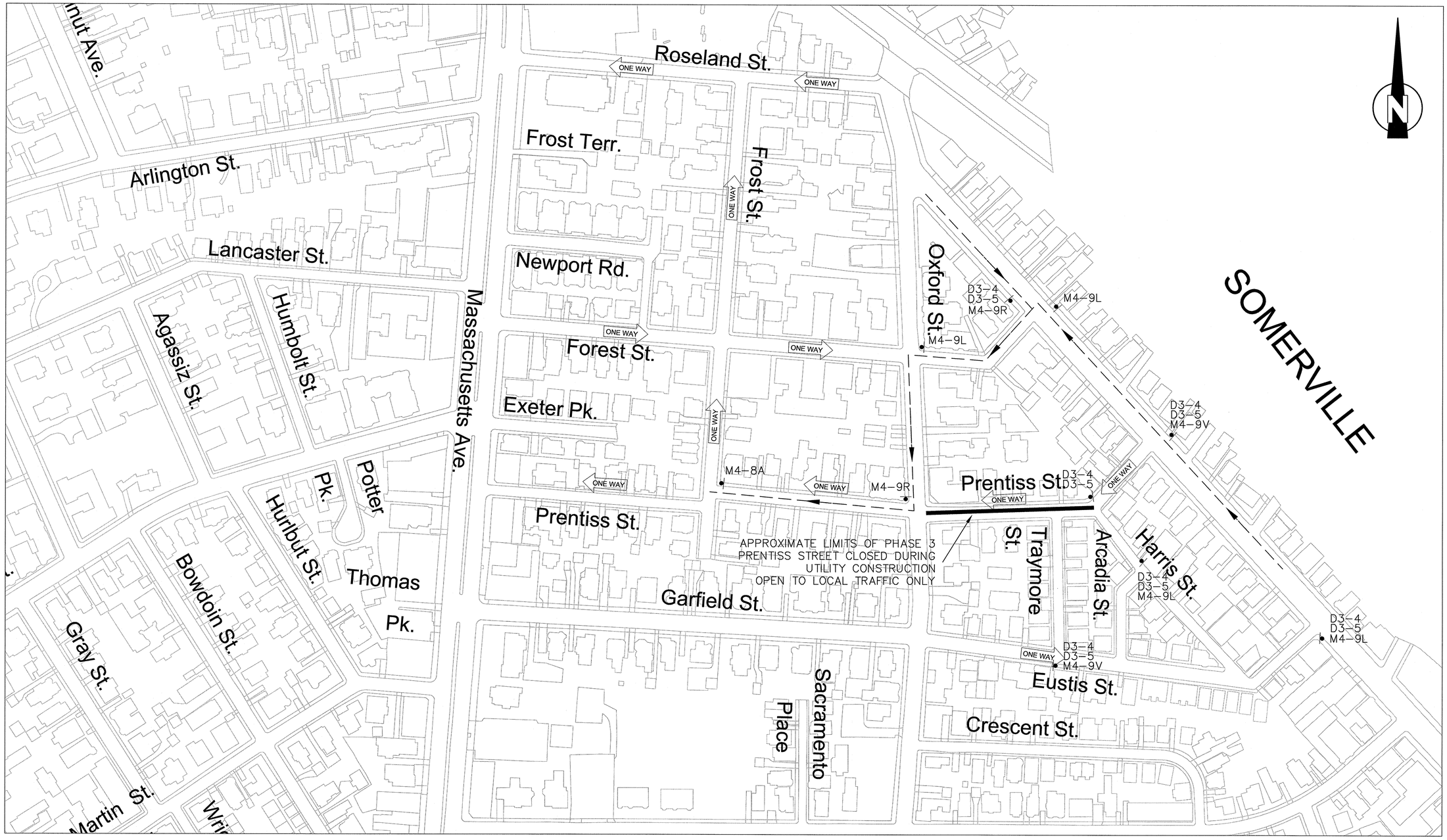

PLAN

SCALE: 1"=100'

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Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: TRAFFIC MANAGEMENT PLAN - PRENTISS STREET DETOUR PLAN

Sheet: TMP-4

57 OF 59

File No.

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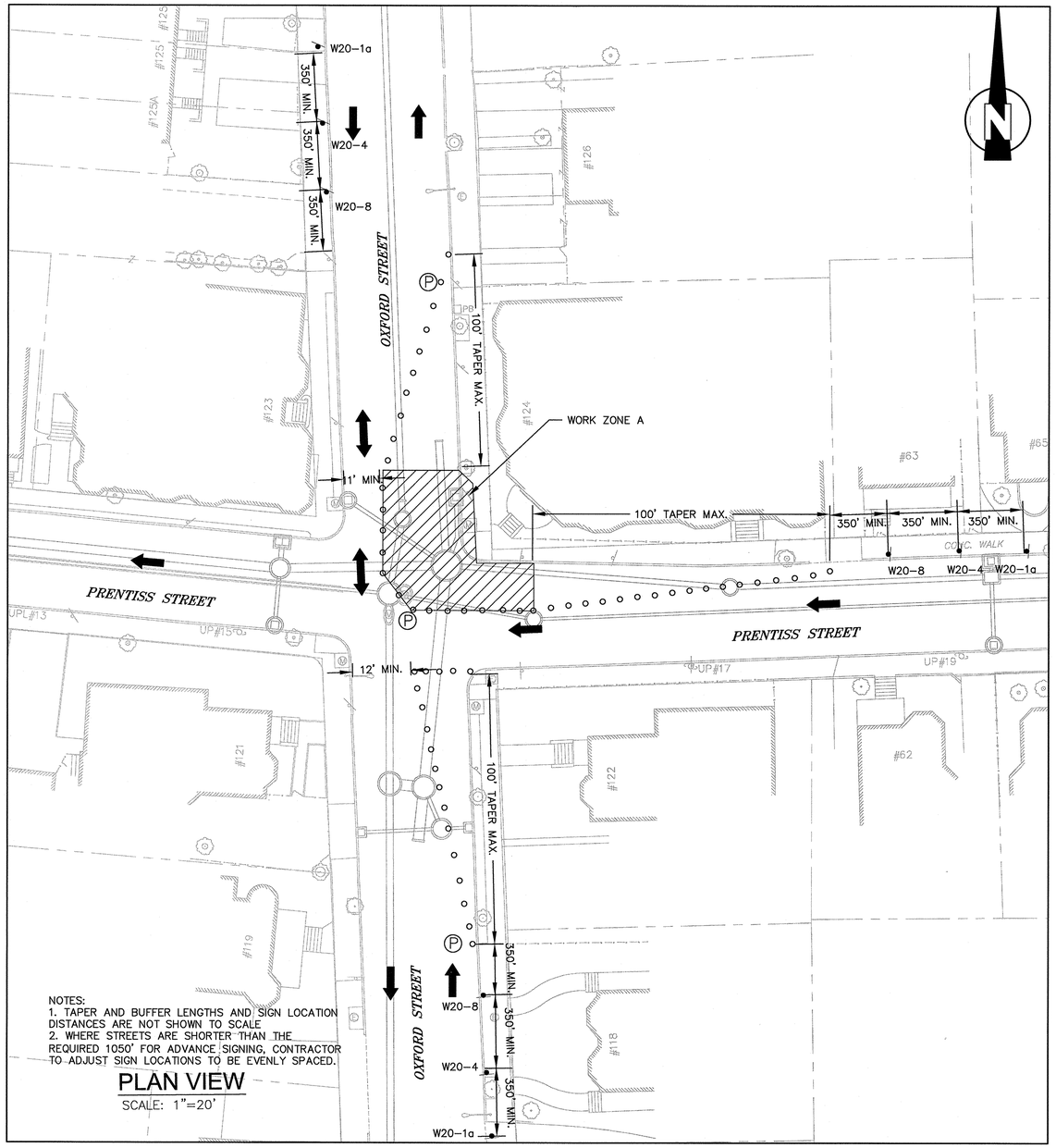
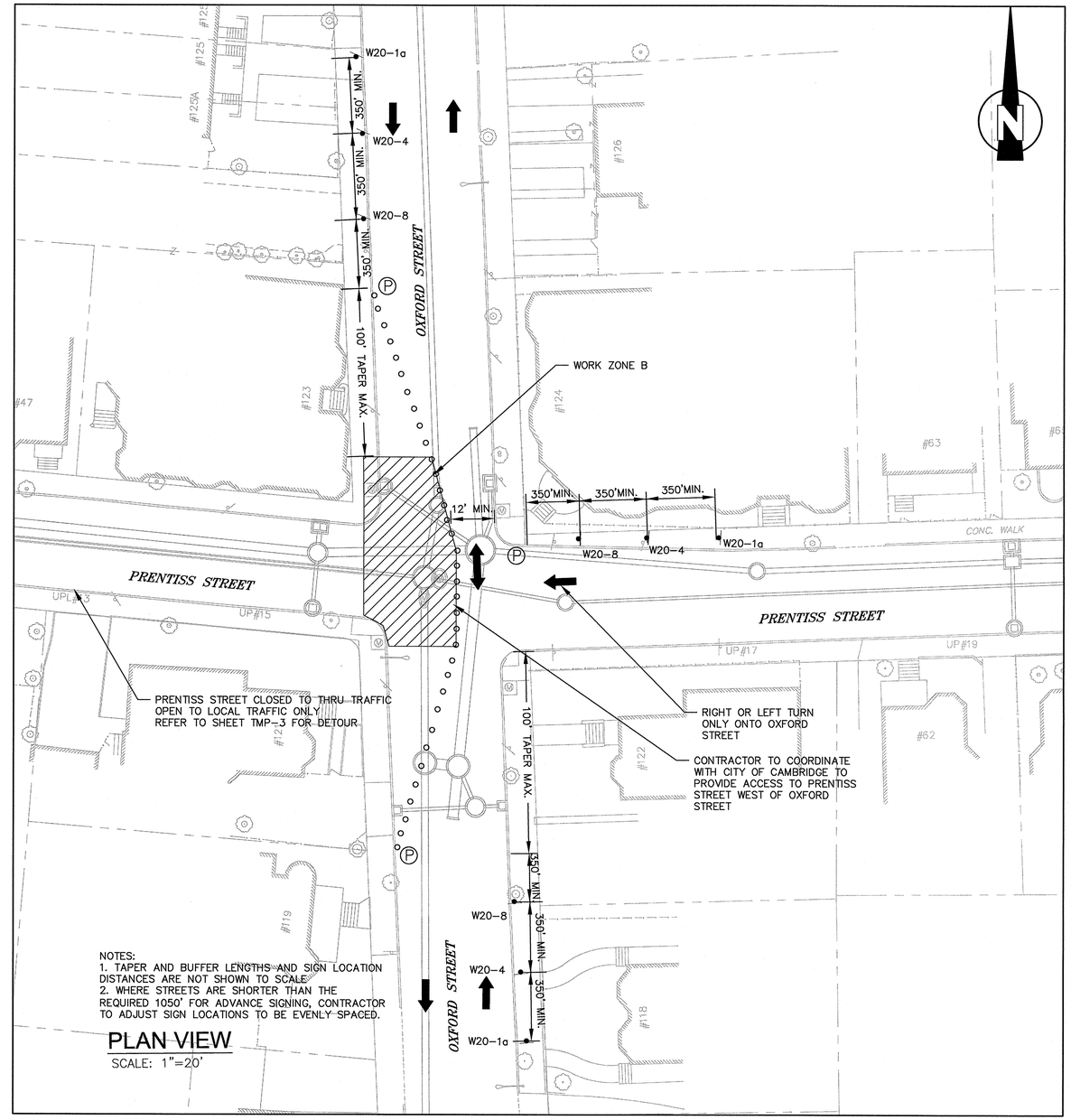


INTERSECTION OF OXFORD STREET AND PRENTISS STREET WORK ZONE A



INTERSECTION OF OXFORD STREET AND PRENTISS STREET WORK ZONE B

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Project: FROST STREET AREA SEWER SEPARATION AND SURFACE IMPROVEMENTS PROJECT -- PRENTISS STREET

Drawing: TRAFFIC MANAGEMENT PLAN - OXFORD STREET WORK ZONES FOR UTILITY WORK

Sheet: TMP-5
58 OF 59

File No.

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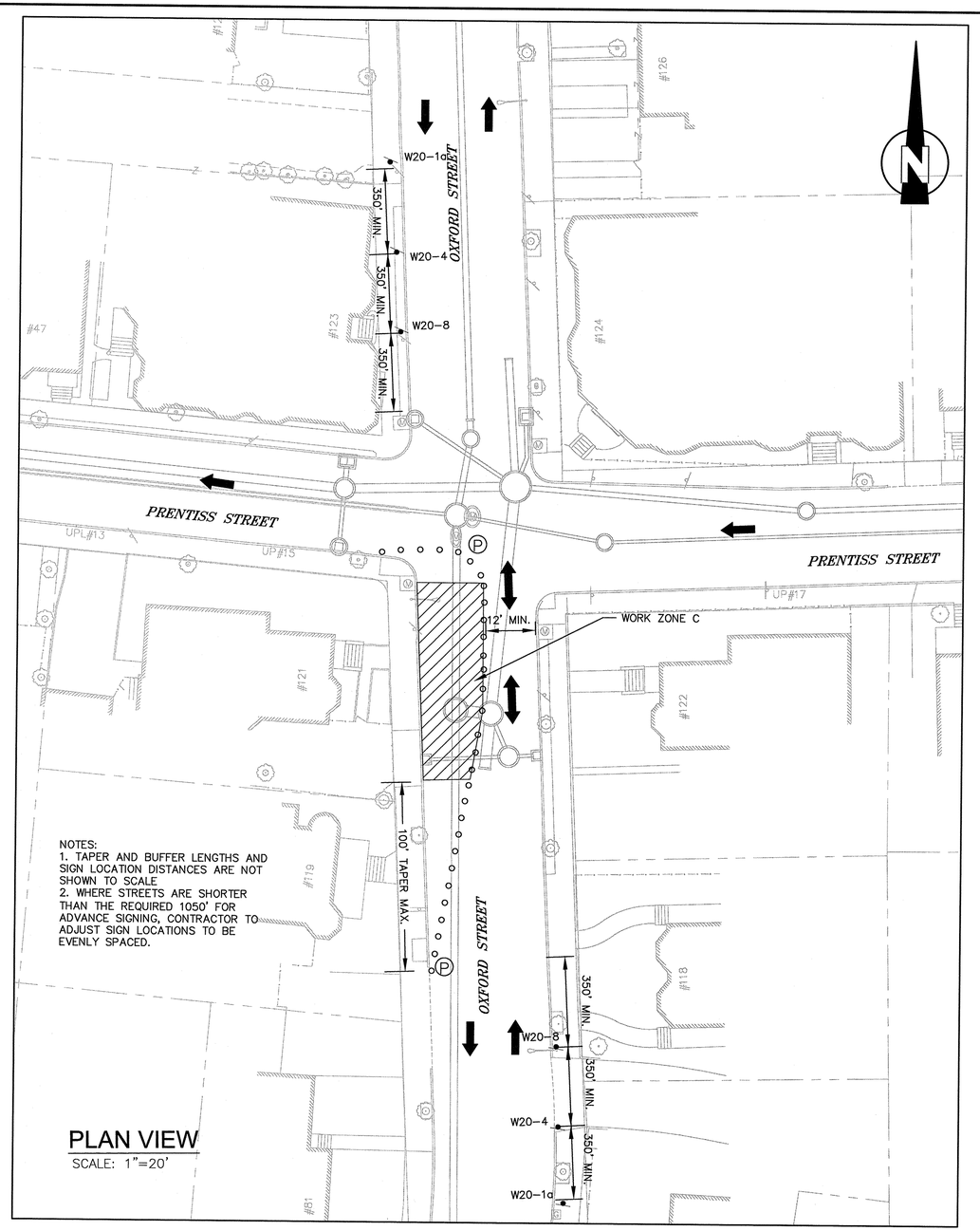
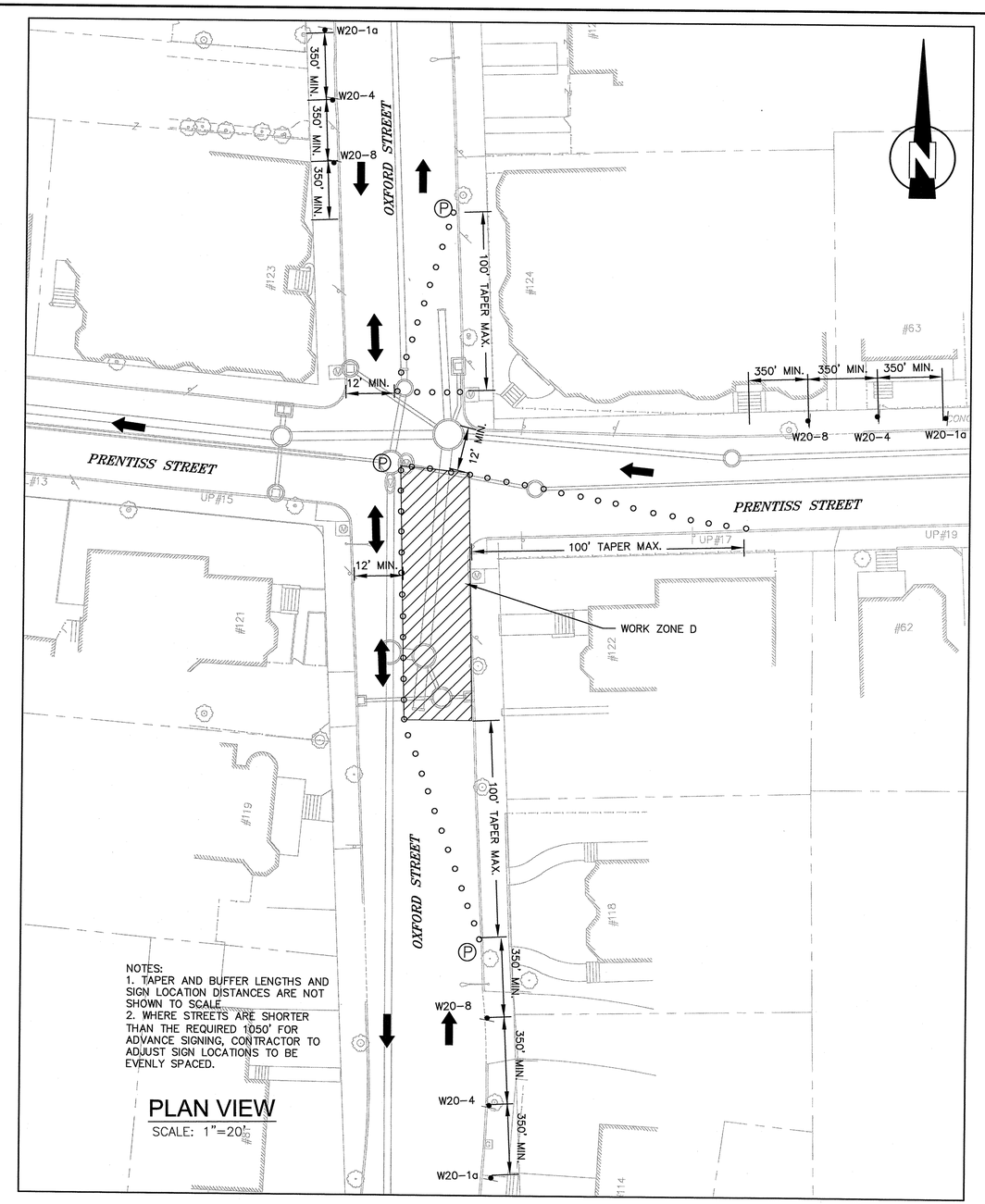


NOTES:
1. TAPER AND BUFFER LENGTHS AND SIGN LOCATION DISTANCES ARE NOT SHOWN TO SCALE
2. WHERE STREETS ARE SHORTER THAN THE REQUIRED 1050' FOR ADVANCE SIGNING, CONTRACTOR TO ADJUST SIGN LOCATIONS TO BE EVENLY SPACED.

PLAN VIEW
SCALE: 1"=20'

INTERSECTION OF OXFORD STREET AND PRENTISS STREET WORK ZONE C



NOTES:
1. TAPER AND BUFFER LENGTHS AND SIGN LOCATION DISTANCES ARE NOT SHOWN TO SCALE
2. WHERE STREETS ARE SHORTER THAN THE REQUIRED 1050' FOR ADVANCE SIGNING, CONTRACTOR TO ADJUST SIGN LOCATIONS TO BE EVENLY SPACED.

PLAN VIEW
SCALE: 1"=20'

INTERSECTION OF OXFORD STREET AND PRENTISS STREET WORK ZONE D

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REGISTERED PROFESSIONAL ENGINEER
12/11/09

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THE WORKS
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Drawing: TRAFFIC MANAGEMENT PLAN - OXFORD STREET WORK ZONES FOR UTILITY WORK

Sheet: TMP-6
59 OF 59

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