THE CONSTRUCTION PLANS
FOR
2013 WATER MAIN REPLACEMENT PROJECT

BOROUGH OF MADISON
MORRIS COUNTY, NEW JERSEY

SCALE AS INDICATED

MARCH, 2013

UTILITY COMPANIES	
GAS – PUBLIC SERVICE ELECTRIC & GAS	(908) 522–7411
SEWER – BOROUGH OF MADISON	(973) 593–3088
ELECTRIC – BOROUGH OF MADISON	(973) 593–3091
WATER – BOROUGH OF MADISON	(973) 593–3092
TELE – VERIZON	(800) 427–9977
CABLE – CABLEVISION	(973) 884–2293
NEW JERSEY ONE–CALL	(800) 272–1000 or 811

NOTE:

LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND FIELD OBSERVATIONS BY THE BOROUGH ENGINEERING DEPARTMENT AND ARE NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION AND DEPTH OF ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS AS AN AID IN DETERMINING EXACT UTILITY LOCATIONS.

BOROUGH COUNCIL

ROBERT H. CONLEY, Mayor
CARMELA VITALE, Council President
JEANNIE TSUKAMOTO, Council Member
ROBERT G. CATALANELLO, Council Member
ROBERT LANDRIGAN, Council Member
ASTRI J. BAILLIE, Council Member
BENJAMIN WOLKOWITZ, Council Member

BOROUGH ADMINISTRATOR
RAYMOND M. CODEY

BOROUGH ENGINEER
ROBERT A. VOGEL, P.E., C.M.E.

BOROUGH ATTORNEY
MATTHEW J. GIACOBBE, ESQ.

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THE UNDERSIGNED CERTIFIES THAT HE/SHE HAS REVIEWED THE PLANS AND SPECIFICATIONS FOR THE PUBLIC BID SCHEDULED FOR THIS PROJECT AND HAS NO FURTHER COMMENT:

DEPARTMENT of PUBLIC WORKS

SUPERINTENDENT DAVID MAINES DATE:

ELECTRIC DEPARTMENT

SUPERINTENDENT MIKE PIANO DATE:

WATER DEPARTMENT

SUPERINTENDENT SAL DeBIASSE DATE:

POLICE TRAFFIC SAFETY DIVISION

SGT. JOHN KEYMER DATE:

HARTLEY DODGE MEMORIAL
BOROUGH OF MADISON
MADISON, NEW JERSEY 07940

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593–3060

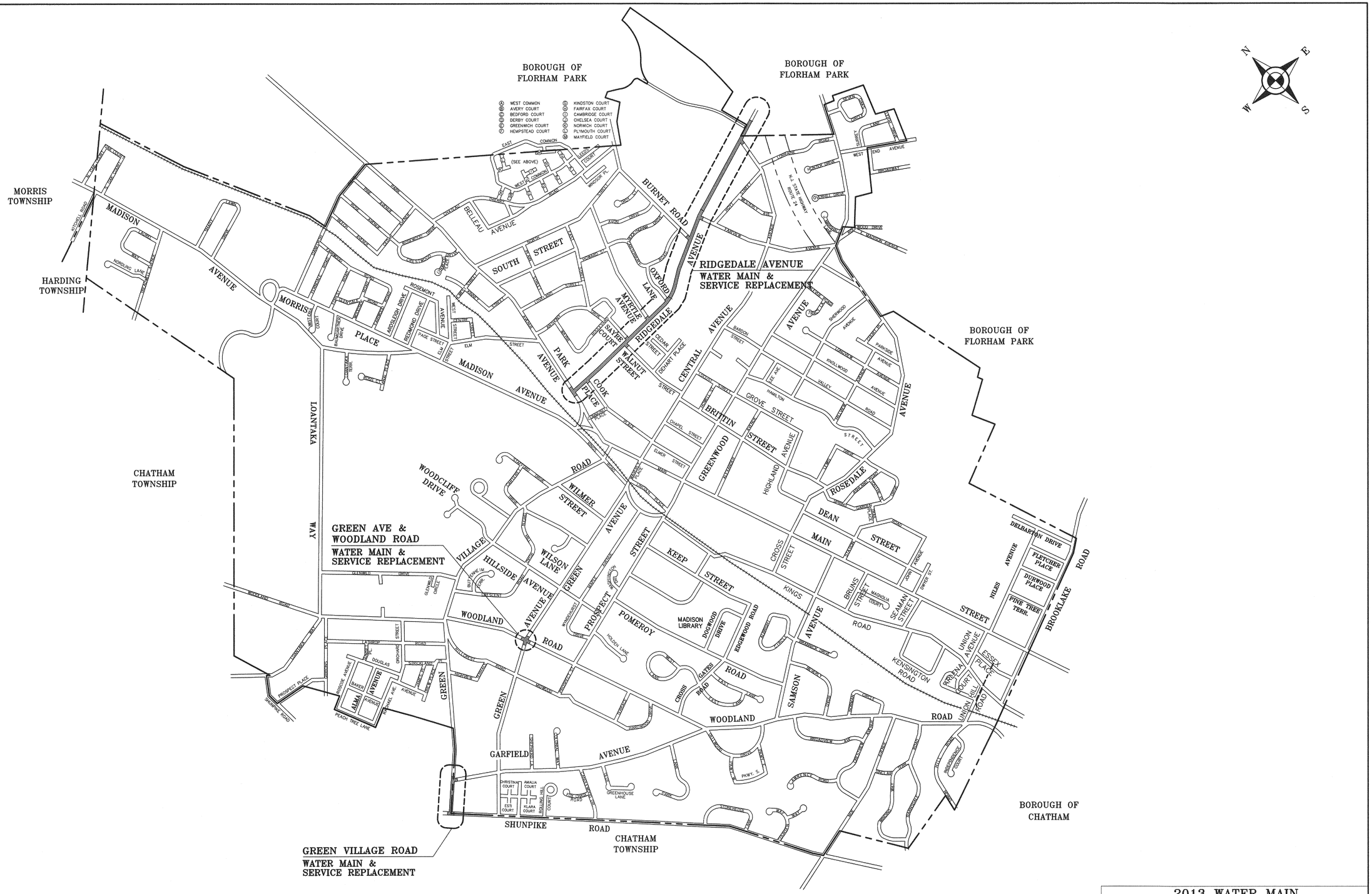
DATE

ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

2007 STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
CURRENT NJDOT SUPPLEMENTAL SPECIFICATIONS

NO.	REVISIONS	DATE	BY	CHK.	APPR

2013 FINAL RIDGEDALE TITLE 4-1-13.DWG



NO.	REVISIONS	DATE	BY	CHK.	APPR

2013 WATER MAIN REPLACEMENT PROJECT

PROJECT LOCATION PLAN

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

DATE

ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	1" = 800'±
DATE:	4-1-13
DR. BY:	D. Buck
CHK. BY:	R.A.V.
DWG. NO.	2 of 12

2013 FINAL RIDGEDALE LOCO & DETOUR.DWG 4-2-13

GENERAL NOTES

1) THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 EDITION, AS PUBLISHED BY THE NEW JERSEY STATE HIGHWAY DEPARTMENT, THE PLANS, TECHNICAL SPECIFICATIONS, ADVERTISEMENT, CONTRACTOR'S PROPOSAL AND INCLUDING BUT NOT LIMITED TO THE AMENDMENTS CONTAINED HEREINAFTER SHALL COMPRISE THE CONTRACT.

2) THE CONTRACTOR IS TO REFER TO THE SUPPLEMENTAL SPECIFICATION, WHICH INDICATES WHEN THE STANDARD SPECIFICATIONS, AND/OR THE AMENDMENTS THAT FOLLOW SHOULD APPLY.

3) THE CONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES, ORDERS AND REGULATIONS RELATING TO THE PERFORMANCE OF THE WORK, THE PROTECTION OF ADJACENT PROPERTY AND THE MAINTENANCE OF PASSAGEWAYS.

4) NO CONSTRUCTION, MAINTENANCE OR UTILITY WORK ON, UNDER OR ABOVE THE PROJECT ROAD THAT WILL OBSTRUCT, INTERFERE WITH AND/OR DETOUR TRAFFIC ON THE ROAD, SHALL BE PERFORMED BEFORE THE HOUR OF 7:00 OR AFTER 5:00 PM. THE CONTRACTOR'S WORK HOURS SHALL CONFORM TO LOCAL ORDINANCE. THE CONTRACTOR SHALL NOT DEVIATE FROM THE ABOVE WORK HOURS WITHOUT OBTAINING WRITTEN PERMISSION FROM THE CHIEF OF POLICE PRIOR TO THE START OF CONSTRUCTION.

5) EACH AND EVERY PROVISION OF LAW AND CLAUSE REQUIRED BY LAW TO BE INSERTED IN THIS CONTRACT SHALL BE READ AND ENFORCED AS THOUGH IT WERE INCLUDED HEREIN, WHERE SUCH APPLICABLE LAW IS NOT SPECIFICALLY CITED. THE CONTRACT SHALL BE PHYSICALLY AMENDED TO MAKE SUCH INSERTION OR CORRECTION.

6) THE CONTRACTOR WILL BE FURNISHED WITH FIVE (5) SETS OF PLANS AND SPECIFICATIONS. ONE (1) COPY OF THE PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR MUST BE KEPT CONSTANTLY ON THE PROJECT SITE. ANYTHING SHOWN ON THE PLANS AND NOT MENTIONED IN THE SPECIFICATIONS, OR MENTIONED IN THE SPECIFICATIONS AND NOT SHOWN ON THE PLANS, AND ALL WORK AND MATERIALS NECESSARY FOR THE COMPLETION OF THE WORK ACCORDING TO THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS, SHALL BE FURNISHED, PERFORMED AND DONE, AS IF THE SAME WERE BOTH MENTIONED IN THE SPECIFICATIONS AND SHOWN ON THE DRAWINGS. ANY CONFLICT OR INCONSISTENCY BETWEEN THE PLANS AND SPECIFICATIONS, OR ANY DISCREPANCY BETWEEN THE FIGURES AND SCALE OF DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER AS TO WHICH SPECIFICATIONS WILL GOVERN WILL BE CONCLUSIVE AND FINAL.

7) IN THE EVENT THE MEANING OF ANY PORTION OF THE SPECIFICATIONS OR DRAWINGS OR ANY SUPPLEMENTARY DRAWINGS OR INSTRUCTIONS OF THE ENGINEER IS IN DOUBT OR CONFLICT, THE SAME SHALL BE UNDERSTOOD TO CALL FOR THE BEST TYPE OF CONSTRUCTION, BOTH AS TO MATERIALS AND WORKMANSHIP, WHICH REASONABLY CAN BE INTERPRETED.

8) IN THE EVENT A SITUATION ARISES IN WHICH MATERIALS NOT SPECIFIED ON THE PLANS OR INDICATED IN THE SUPPLEMENTAL SPECIFICATION ARE TO BE USED FOR EXTRA WORK, THEN THE STANDARD SPECIFICATIONS WILL BE USED FOR REFERENCE IN ADDITION TO THE TERMS OF THE SUPPLEMENTARY AGREEMENT.

9) THE CONTRACTOR'S ATTENTION IS SPECIFICALLY DIRECTED TO GENERAL CONDITIONS, WHICH REQUIRES THAT HE POST A ONE (1) YEAR MAINTENANCE BOND FOR TEN PERCENT (10 %) OF THE FINAL CONTRACT AMOUNT.

10) THE GENERAL CONDITIONS OF THE CONTRACT INDICATES THAT THE CONTRACTOR MUST NOTIFY THE ENGINEER OF ANY INTENDED OVERTIME WORK. FURTHER THE BOROUGH MUST BE REIMBURSED BY DEDUCTION OF MONTHLY PAYMENTS FOR THE OVERTIME WORK PERFORMED BY THE INSPECTOR AND/OR BOROUGH PERSONNEL WHERE REQUIRED..

11) ALL TRENCHES UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS AND/OR AMENDMENTS, SHALL HAVE BACKFILL MATERIAL AS SPECIFIED. THE ENGINEER AT HIS DISCRETION MAY PERMIT THE USE OF EXCAVATED OR OTHER SUITABLE MATERIAL TO BE USED AS BACKFILL ON TRENCHES OUTSIDE THE CURB LINES, OR PAVEMENT LIMITS.

12) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCESS MATERIALS EXCAVATED OF WHATEVER NATURE AT HIS OWN EXPENSE. THE BOROUGH IS NOT OBLIGATED TO SUPPLY A DISPOSAL SITE. THE CONTRACTOR MUST NOT DEPOSIT THE EXCESS MATERIALS IN THE BOROUGH LIMITS WITHOUT EXPRESS PERMISSION OF THE BOROUGH ENGINEER.

13) THE CONTRACTUAL TIME OF COMPLETION FOR THIS PROJECT IS PROVIDED IN THE SPECIFICATIONS.

14) THE CONTRACTOR IS NOTIFIED THAT THE SPECIFICATIONS INDICATE THAT HE MUST MAINTAIN TRAFFIC AND ACCESS TO RESIDENCES. HE IS ALSO NOTIFIED TO ASSURE ACCESS FOR GARBAGE COLLECTION AND EMERGENCY VEHICLES.

15) PAYMENT FOR PIPES SHALL BE ON THE BASIS OF HORIZONTAL LINEAR FEET. THE UNIT PRICE PER LINEAR FEET SHALL INCLUDE THE COST FOR CONSTRUCTION LAYOUT, EXCAVATION, BEDDING AND BACKFILLING WITH SPECIFIED MATERIAL. ASPHALT APPLICATIONS SHALL CONFORM TO DETAILS..

16) EXISTING FENCES AND IRRIGATION HEADS SHALL BE REMOVED AND SHALL BE RESET AT THE LOCATION ACCEPTABLE TO THE OWNER AND THE ENGINEER. THE COST TO REMOVE AND RESET FENCES SHALL BE INCLUDED IN VARIOUS ITEMS IN THE PROPOSAL.

17) THE CONTRACTOR IS RESPONSIBLE TO OBEY ALL THE SAFETY AND HEALTH REGULATIONS. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED. TRENCH SAFETY SHALL CONFORM TO THE LATEST O.S.H.A.. REQUIREMENTS AND STANDARDS, AT A MINIMUM.

18) THE CONTRACT INCLUDES STATE WAGE RATES.

19) PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES LOCATED AND PHYSICALLY MARKED OUT WITHIN THE LIMITS OF THE PROJECT (CALL 1-800-272-1000 OR 811). THE CONTRACTOR SHALL PROVIDE TEST HOLES IN AREAS OF POSSIBLE CONFLICT TO VERIFY THE DEPTH AND LOCATION OF THE UTILITY. NO SEPARATE PAYMENT SHALL BE MADE FOR DELAYS DELAYS THAT MAY BE NECESSARY TO RELOCATE UTILITIES OR THE PROPOSED LOCATION OF DRAINAGE STRUCTURES.

20) THE CONTRACTOR SHALL APPLY THE FINISH ASPHALT PAVEMENT SURFACE WITHIN 72 HOURS OF THE MILLING OPERATION.

21) THE CONTRACTOR IS RESPONSIBLE THAT UPON COMPLETION OF CONSTRUCTION THAT ALL WATER MAIN SERVICE CONNECTIONS ARE FUNCTIONING PROPERLY AND CONFORM TO THE "SERVICE CONNECTION" DETAIL CONTAINED IN THIS SET OF PLANS.

22) TREE PROTECTION MEASURES WITHIN THE PROJECT LIMITS WILL BE CLEARLY ESTABLISHED AND INSPECTED BY THE BOROUGH OF MADISON, A LICENSED ARBORIST OR THE OWNER, AND SUCH MEASURES WILL REMAIN IN PLACE FOR THE ENTIRE PROJECT DURATION.

CONSTRUCTION NOTES

1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE LOCAL POLICE DEPARTMENT FOR TRAFFIC OPERATIONS AND PARKING PROHIBITIONS DURING CONSTRUCTION.

2) ANY DAMAGE TO UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND ALL COSTS FOR REPAIRS SHALL BE BORNE BY THE CONTRACTOR.

3) ALL DISTURBED SHRUBS, FENCING, SIGNS, MAILBOXES, DRIVES, ETC. SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS RESTORATION, UNLESS SPECIFIED ELSEWHERE.

4) ALL PROPERTY CORNERS OR MONUMENTS REMOVED DURING CONSTRUCTION SHALL BE REPLACED BY A NEW JERSEY LICENSED LAND SURVEYOR, AT NO SEPARATE COST TO THE OWNER.

5) ALL EXISTING UTILITY CASTINGS, COVERS AND GRATES TO BE REMOVED ARE THE PROPERTY OF THE BOROUGH OF MADISON AND SHALL BE DELIVERED TO THE PUBLIC WORKS DEPARTMENT. PAYMENT WILL NOT BE MADE FOR NEW CASTINGS, COVERS AND GRATES UNLESS THE ORIGINALS ARE RETURNED.

6) ALL MILLED MATERIALS ARE TO BE DISPOSED OF IN ACCORDANCE WITH APPROVED NJDOT/NJDEP METHODS AND MEANS, OR TRANSPORTED AT THE DIRECTION OF THE ENGINEER AND COPIES OF DESTINATION DISPOSAL RECEIPTS WILL BE SUPPLIED PRIOR TO PAYMENT.

7) PRIVATE UTILITY COMPANIES MUST BE CONTACTED BY THE CONTRACTOR SO THAT PRIVATELY OWNED CASTINGS MAY BE RESET BY THE UTILITY COMPANY. PUBLIC UTILITIES MUST BE CONTACTED PRIOR TO MILLING OR PAVING OPERATIONS TO ASSURE SERVICE CASTINGS OR RISERS ARE OF THE TYPE AND NUMBER REQUIRED TO MAINTAIN ACCESS TO ALL UNDERGROUND FACILITIES.

8) UNSUITABLE SUBBASE MATERIAL WHICH HAS BEEN UNCOVERED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED AT THE DIRECTION OF THE ENGINEER. ROADWAY EXCAVATION, UNCLASSIFIED SHALL BE PERFORMED TO REMOVE UNSUITABLE SUBBASE MATERIAL. SUBBASE MATERIAL SHALL BE REPLACED WITH DENSE GRADED AGGREGATE BASE COURSE. ROADWAY EXCAVATION, UNCLASSIFIED, AND DENSE GRADED AGGREGATE BASE COURSE WHICH HAVE BEEN INSTALLED ON AN "IF AND WHERE DIRECTED" BASIS, WILL BE PAID FOR AT THE UNIT PRICE BID FOR THOSE ITEMS.

9) THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ACCESS RAMPS AT ALL CURB OPENINGS FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN RAMPS AROUND ALL EXPOSED CASTINGS, BOTH PUBLIC AND PRIVATE, WHICH HAVE BEEN UNCOVERED OR RESET DURING CONSTRUCTION.

10) THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE ENGINEER. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED IN CONFORMANCE TO THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND AS DIRECTED BY THE ENGINEER

11) ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE STANDARDS OF THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND AS FURTHER SPECIFIED HEREIN.

12) IF NOT OTHERWISE INDICATED, NEW PAVEMENT MARKINGS SHOULD CONFORM TO THE FOLLOWING:

CENTER LINES	2 – 4inch WIDE YELLOW LINES, 4inch APART
STOP LINES	12inch WIDE WHITE LINES (4 ft. MIN. FROM CROSSWALK)
CROSSWALKS	6inch WIDE WHITE LINES, 6ft. MIN. WIDTH, DIAGONALS

MATCH PROPOSED STRIPING WITH EXISTING LANE AND CENTER LINES, WHERE POSSIBLE, AND REQUEST INSPECTIONS OF PRELIMINARY MARKOUT BY ENGINEER PRIOR TO FINAL STRIPING.

13) CONTRACTOR SHALL NOTIFY ENGINEER WHEN TRAFFIC STRIPES AND TRAFFIC PAINT HAVE BEEN MARKED OUT PRIOR TO PAINTING. THE ENGINEER WILL INSPECT AND APPROVE LAYOUT PRIOR TO CONTRACTOR PAINTING TRAFFIC STRIPES AND TRAFFIC MARKINGS.

14) NO SEPARATE PAYMENT WILL BE MADE FOR THE REMOVAL OF EXISTING CURBS, SIDEWALKS, ETC., THE COST FOR THE REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SIMILAR NEW ITEMS IN THE PROPOSAL. WHERE EXISTING CURB BLOCK IS BEING REMOVED, THE CONTRACTOR SHALL INVESTIGATE DISPOSAL AT THE MADISON D.P.W. FIRST, AND PROCEED TO AN ALTERNATE ACCEPTABLE DISPOSAL SITE IF NO AGREEMENT CAN BE MADE WITH MADISON D.P.W.

15) CONTRACTOR IS TO OPERATE ALL NEWLY INSTALLED WATER VALVES AND EXISTING WATER VALVES WITHIN THE WORK AREAS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY UPON THE COMPLETION OF ALL IMPROVEMENTS ASSOCIATED WITH THIS PROJECT. THIS WILL BE ACCOMPLISHED UNDER THE DIRECT SUPERVISION OF THE WATER DEPARTMENT OF THE BOROUGH OF MADISON AND A CERTIFICATE OF ACCEPTANCE IS OBTAINED.

16) ALL SERVICE CONNECTIONS COMPROMISED BY THIS CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AND SUCH WORK SHALL INCLUDE EXCAVATION, FILL, LABOR AND MATERIAL WITHIN THE SCOPE OF THIS CONTRACT OR FURTHER INCLUDED AS A UNIT PRICES BID FOR THIS WORK.

WATER MAIN REPLACEMENT NOTES

1. MAILBOX "SERVICE IMPROVEMENT REQUEST" ONE MONTH PRIOR.
2. MAILBOX "CONSTRUCTION NOTICE" ONE WEEK PRIOR.
3. MARKOUT MAINS, UTILITIES AND SERVICE LOCATIONS.
4. "SHUT OFF NOTICE" PRIOR TO REMOVING SERVICE PRESSURE.
5. MEASURE VALVE DEPTHS AND REQUEST RISER CLEANING FROM WATER UTILITY.
6. LOCATE STORAGE AREA IN MUNICIPALITY FOR SPARE PARTS INCLUDING AT A MINIMUM (2) VALVES, (12) GASKETS, (2) TEES, (2) 45° BENDS, (2) 22° BENDS (2) 11° BENDS, (12) 1" DIA. X 3 FT. THREADED STEEL RODS W/BOLTS, VARIOUS SERVICE CONNECTION COMPRESSION FITTINGS, GASKET COMPOUND AND CHLORINE SOLUTION.
7. CONSTRUCTION VEHICLES, MATERIALS AND EQUIPMENT ON ONE SIDE OF STREET ONLY.
8. PIPE MAY BE STORED BEHIND CURBLINE FOR ONE WEEK IF TRAFFIC CONES ARE USED.
9. MUNICIPAL ENGINEER TO APPROVE PROPOSED WATER MAIN ALIGNMENT ON PAVEMENT.
10. SAWCUT, JACK OR STRAIGHT MILL PROPOSED TRENCH ALIGNMENT (NO MORE THAN 200 FEET OR PER CREW).
11. MAINTAIN TRAFFIC CONES DELINEATING CONSTRUCTION AREAS AT A MINIMUM EVERY 50 FEET OF PROJECT, ONE SIDE.
12. BEGIN EXCAVATION, HAND DIG NEAR SERVICE AREAS, LAY NEW MAIN AND AVOID SERVICE CONFLICTS IN ALIGNMENT.
13. BACKFILL, STABILIZE TO GRADE, INSTALL BASE COURSE, CHECK TRAFFIC CONTROLS BEFORE LEAVING SITE DAILY.
14. CONTINUE MAIN PIPE LAYING UNTIL INTERCONNECTION OR HYDRANT FLUSH POINT IS REACHED AND ASSEMBLE FLUSH POINT.
15. MAINTAIN CLEAN PIPE INTERIORS, PROPER JOINTING, AND CHLORINATION.
16. REQUEST MAIN SHUTOFF FROM WATER UTILITY 24 HOURS PRIOR TO INTERCONNECT.
17. MAILBOX "TEMPORARY WATER SHUTOFF" NOTICE DATE 24 HOURS PRIOR.
18. INTERCONNECT TO PUBLIC SYSTEM FOR FILLING AND DISINFECTION ONLY. (NO POTABLE USES UNTIL TESTS APPROVED BY WATER UTILITY).
19. PHOTOGRAPH INTERCONNECTION POINTS AND VERITY UTILITY DEPARTMENT INSPECTION.
20. PRESSURE TEST COMPLETED SECTIONS ONCE ALL RESTRAINTS ARE IN PLACE AND SECURE.
21. INSTALL STABILIZED BASE ON MAIN TRENCH AT COMPLETION OF EACH MAIN SEGMENT.
22. ALLOW HYPERCHLORINATION FOR 48 HOURS PRIOR TO TEST AND FLUSH MAIN.
23. TAKE WATER SAMPLE WITH WATER UTILITY WITNESS, SEND TO APPROVED LABORATORY.
24. IF SAMPLE PASSES, EXCAVATE NEW SERVICE CONNECTIONS AT 90° TO MAIN.
25. MAILBOX "TEMPORARY WATER SHUTOFF" NOTICE DATE FOR EACH SERVICE AFFECTED.
26. TAP SERVICE CONNECTIONS (WET) AND EXTEND NEW COPPER BEYOND EXISTING CORPORATION STOP AND NOTE FITTINGS REQUIRED.
27. PLACE NEW CORPORATION STOP AND CROSSOVER UP TO 10 FEET FROM EXISTING PAVEMENT AND NEAR EXISTING STOP, UNLESS OTHERWISE DIRECTED.
28. PHOTOGRAPH EACH WET TAP, STOP ORIENTATION AND SERVICE CONNECTION.
29. COMPLETE ALL INTERCONNECTIONS FOR COMPLETED SECTIONS OF MAIN.
30. FINAL PAVE, TOPSOIL, SWEEP AND REMOVE DEBRIS ON COMPLETED SECTIONS.

2013 FINAL RIDGEDALE GENNOTES.DWG 4-1-13

NO.	REVISIONS	DATE	BY	CHK.	APPR
1					

2013 WATER MAIN REPLACEMENT PROJECT

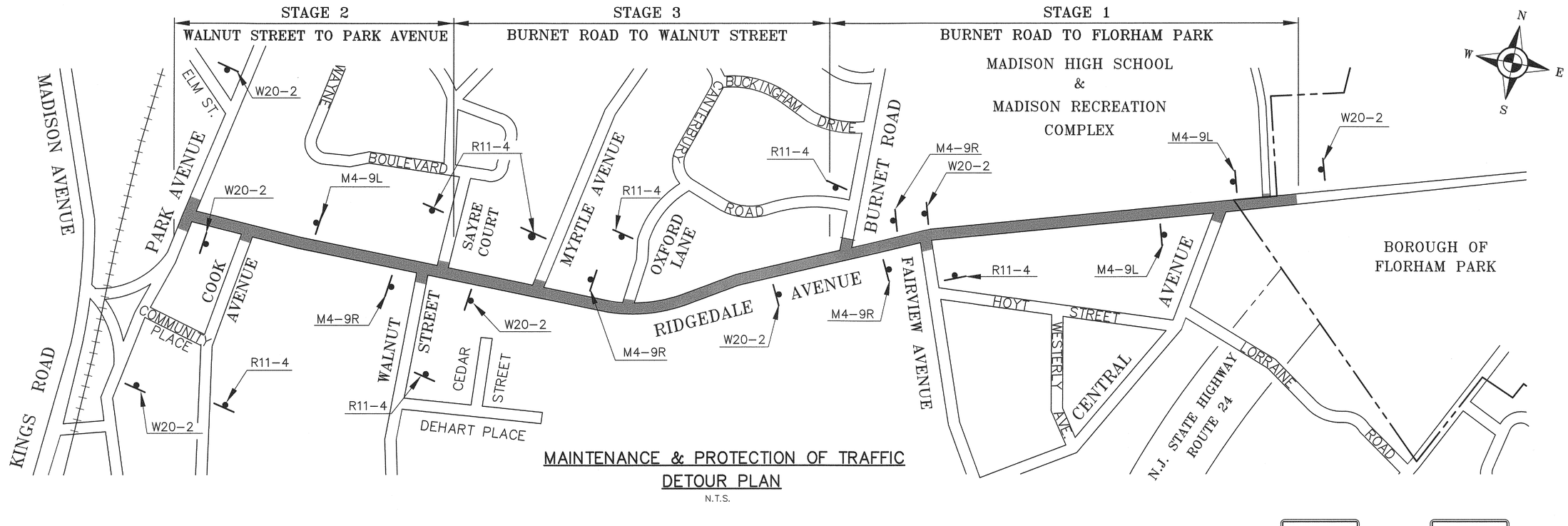
GENERAL NOTES, CONSTRUCTION NOTES & WATER MAIN REPLACEMENT NOTES

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940

DATE

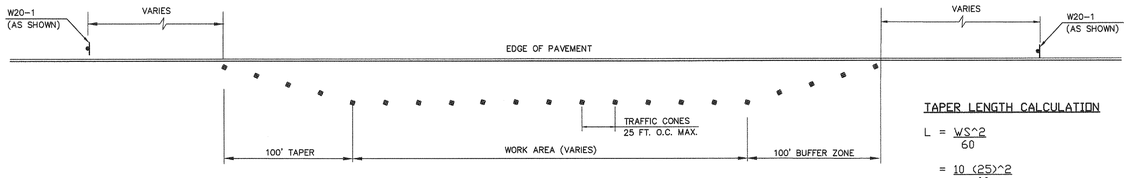
ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	N.T.S.
DATE:	4-1-13
DR. BY:	D.BUCK
DR. BY:	R.A.V.
DWG. NO.	3 of 12



MAINTENANCE & PROTECTION OF TRAFFIC DETOUR PLAN

N.T.S.



TYPICAL WORK ZONE TRAFFIC CONTROL PLAN

NOTE: REFER TO SHEET 96 of 129 N.J.D.O.T. TRAFFIC CONTROL DETAILS.

TAPER LENGTH CALCULATION

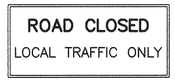
$L = \frac{WS^2}{60}$

$= \frac{10\ (25)^2}{60}$

$= 100'$

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

W20-2
48" x 48"



R11-4
60" x 30"

W20-1
48" x 48"

SIGN DETAILS

M4-9R
30" x 24"

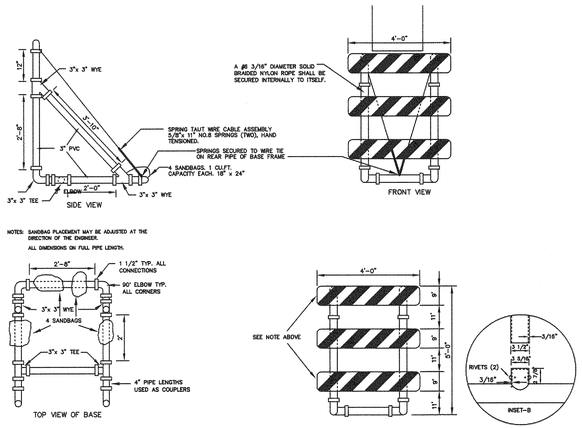
M4-9L
30" x 24"

M4-8a
24" x 18"

M4-9X
30" x 24"

GENERAL NOTES:

1. CONTRACTOR SHALL INSTALL APPROPRIATE CONSTRUCTION SIGNAGE TO COORDINATE WITH LOCATION OF CONSTRUCTION ACTIVITIES.
2. CONTRACTOR MAY ONLY CLOSE THE ROADWAY UPON RECEIPT OF WRITTEN PERMISSION FROM THE BOROUGH TRAFFIC SAFETY DIVISION.
3. NO ROAD SHALL BE PERMITTED TO REMAINED CLOSED OVERNIGHT WITHOUT THE EXPRESS WRITTEN PERMISSION FROM THE BOROUGH ENGINEER AND TRAFFIC SAFETY DIVISION.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DAILY INSTALLATION AND BREAK DOWN OF DETOUR SIGNAGE. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE RELOCATION OF THE CONSTRUCTION SIGNS.
5. ROAD CLOSED SIGNS (R11-4) SHALL BE MOUNTED ON A TYPE III BARRICADE, IN ACCORDANCE WITH PART 6 OF THE MUTCD.
6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COORDINATING THE SCHEDULING OF POLICE TRAFFIC DIRECTORS. THE POLICE DEPARTMENT MUST BE GIVEN 72 HOURS ADVANCED NOTICE TO SCHEDULE POLICE TRAFFIC DIRECTORS.
7. NO MORE THAN ONE LANE IN ONE DIRECTION MAY BE CLOSED DURING WORKING HOURS.
(ALTERNATE ROUTE: CENTRAL AVENUE)



NOTES:

1. THE 8"x 48" OR 9"MIN. x 48" BARRICADE RAILS SHALL BE FABRICATED FROM 0.024" ANODIZED ALUMINUM OR 0.125" MAX. PLASTIC SHEETING AND SHALL BE ATTACHED, 4 PER RAIL, WITH 1 INCH NO. 14 PAN HEAD METAL SCREWS OR PLASTIC RIVETS. ALL CORNERS SHALL BE ROUNDED.
2. ORANGE AND SILVER(WHITE) STRIPES SHALL BE RETROREFLECTIVE SHEETING, TYPE II OR TYPE IIIA, AS SHOWN FOR CONSTRUCTION SIGNS.
   ALTERNATE ORANGE AND SILVER(WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.
3. THE 18" x 24" SANDBAGS SHALL BE FABRICATED FROM POLYPROPYLENE AND SHALL HAVE A CAPACITY OF 1 CU. FT.. PLACEMENT OF SANDBAGS SHALL BE AS SHOWN ABOVE.
4. SANDBAG PLACEMENT MAY BE ADJUSTED AT THE DIRECTION OF THE ENGINEER. ALL DIMENSIONS ON FULL PIPE LENGTH.
5. EITHER TYPE III, PE OR TYPE III, PVC CAN BE USED AT THE OPTION OF THE CONTRACTOR.

PIPE SHALL BE WHITE PVC SCHEDULE 40 ASTM 1785 OR PVC, SDR-26, ASTM 2241. FITTINGS SHALL BE WHITE PVC OR ABS OF MATCHING WALL THICKNESS AND INSIDE DIAMETER AND MEETING THE MATERIALS, REQUIREMENTS AND TESTING SECTIONS OF ASTM D-2468 FOR PVC AND ASTM D-2468 FOR ABS. ALL JOINTS SHALL BE SLIP FIT AND NOT THREADED OR CEMENTED. PVC FITTINGS MEETING ASTM D-2665 WILL ALSO BE ACCEPTABLE. PVC OR ABS MATERIAL SHALL BE ULTRAVIOLET LIGHT STABILIZED.

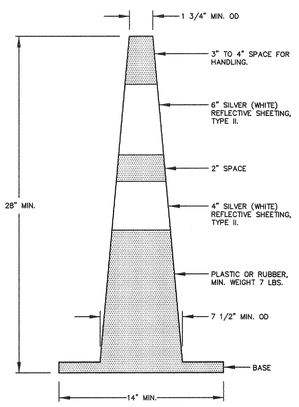
NOTES: MINOR MANUFACTURERS VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.

BREAKAWAY BARRICADES

TYPE III

N.T.S.

TRAFFIC CONES SHALL BE PREDOMINATELY ORANGE IN COLOR.



BASES MAY BE OF BREAKAWAY BALLASTED TYPE.

MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE ENGINEER.

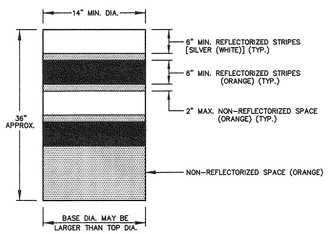
TRAFFIC CONES

N.T.S.

DRUMS SHALL BE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE ORANGE AND SILVER (WHITE) RETLECTORIZED STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY SHALL BE NO MORE THAN 2" WIDE. STRIPES SHALL BE REFLECTIVE SHEETING, TYPE III. THE TOP OF THE DRUM SHALL NOT BE OPEN.

DRUMS SHALL BE CONSTRUCTED TO INHIBIT ROLLING IF KNOCKED OVER.

THE REFLECTORIZED AREA OF DRUMS SHALL BE ROUND EXCEPT THAT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS A 18" DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED IF APPROVED BY THE BUREAU OF MATERIALS.



WHEN BALLAST IS REQUIRED BY THE ENGINEER, SAND SHALL BE USED. THE MAXIMUM WEIGHT OF THE BALLAST SHALL BE 50 LBS. AND BE LOCATED APPROXIMATELY AT GROUND LEVEL.

DRUM

N.T.S.

NO.	REVISIONS	DATE	BY	CHK.	APPR

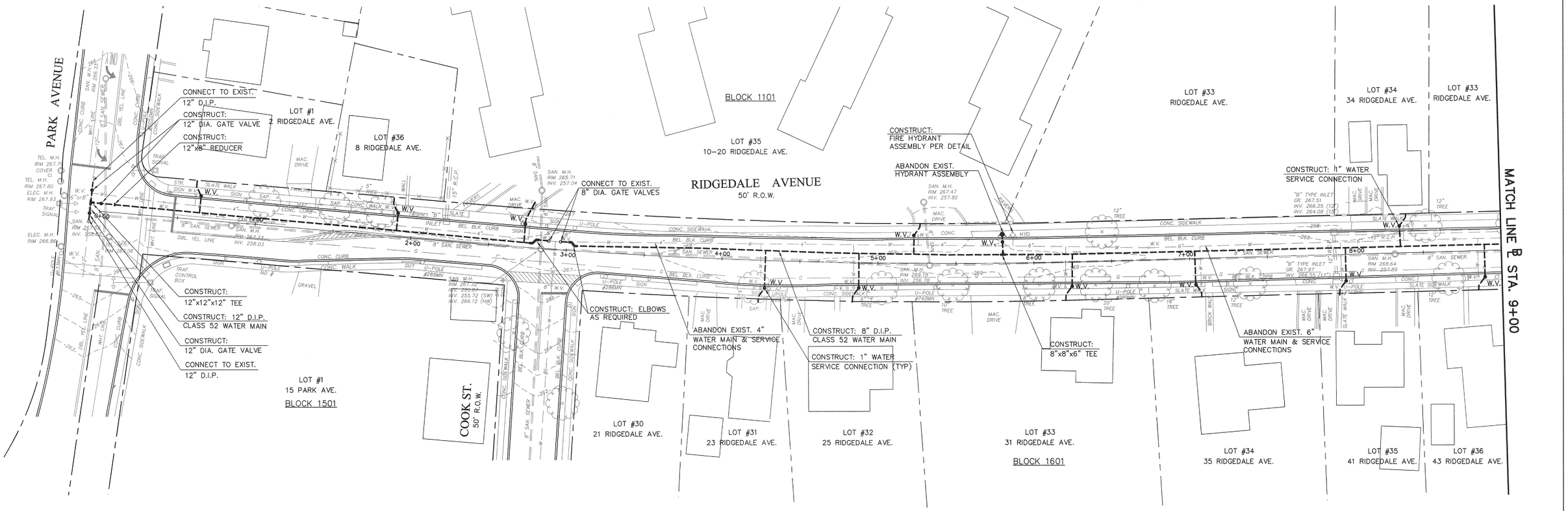
2013 WATER MAIN REPLACEMENT PROJECT
MAINTENANCE & PROTECTION OF TRAFFIC DETOUR PLAN

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

DATE

SCALE:	N.T.S
DATE:	4-1-13
DR. BY:	D. Buck
CHK. BY:	R.A.V.
DWG. NO.	4 of 12



GENERAL NOTES

1. R.O.W. LINES, PROPERTY LINES AND LOT INFORMATION SHOWN ON THIS PLAN ARE BASED UPON BOROUGH OF MADISON TAX MAPS.
2. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON:
   A. AVAILABLE RECORDS AND MAPPING OF THE BOROUGH OF MADISON ENGINEERING DEPARTMENT.
   B. FIELD OBSERVATIONS PERFORMED BY THE BOROUGH OF MADISON ENGINEERING DEPARTMENT.
   C. PLANS TITLED "TOPOGRAPHIC MAP BOROUGH OF MADISON, MORRIS COUNTY, NEW JERSEY" PREPARED BY VEP ASSOCIATES, DATE OF PHOTOGRAPHY APRIL 13, 1993.
3. ROADWAY UTILITIES SHOWN HEREON ARE BASED UPON FIELD OBSERVATIONS PERFORMED BY THE BOROUGH OF MADISON ENGINEERING DEPARTMENT AND ARE APPROXIMATE IN LOCATION.
4. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
5. ALL PAVEMENT REMOVAL SHALL BE SAW CUT.
6. CONTRACTOR TO VERIFY CONDITION OF ALL EXISTING WATER SERVICE RISERS, REPLACE AS DIRECTED BY BOROUGH WATER DEPARTMENT.

30' 20' 10' 0 30' 60'
SCALE: 1"=30'

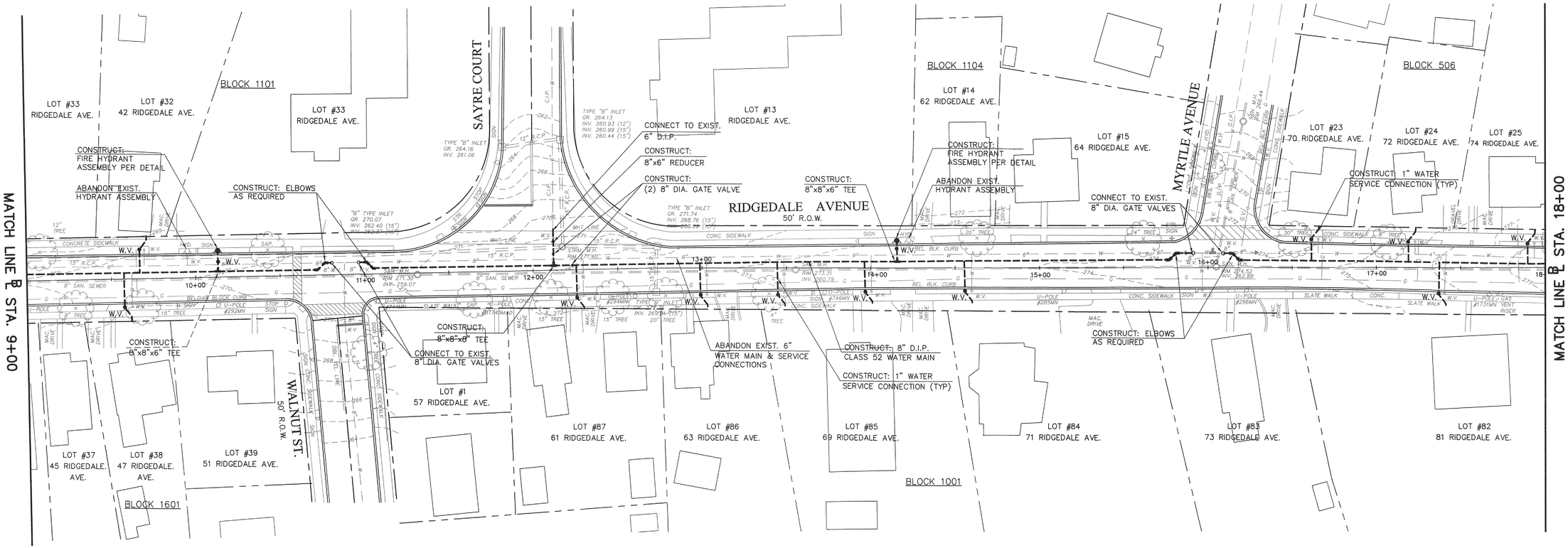
NO.	REVISIONS	DATE	BY	CHK.	APPR

2013 WATER MAIN REPLACEMENT PROJECT
RIDGEDALE AVENUE
℄ STA. 0+00 – ℄ STA. 9+00

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

DATE
ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	1"=30'
DATE:	4-1-13
DR. BY:	D.Buck
CHK. BY:	R.A.V.
DWG. NO.	5 of 12



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SCALE: 1"=30'

NO.	REVISIONS	DATE	BY	CHK.	APPR

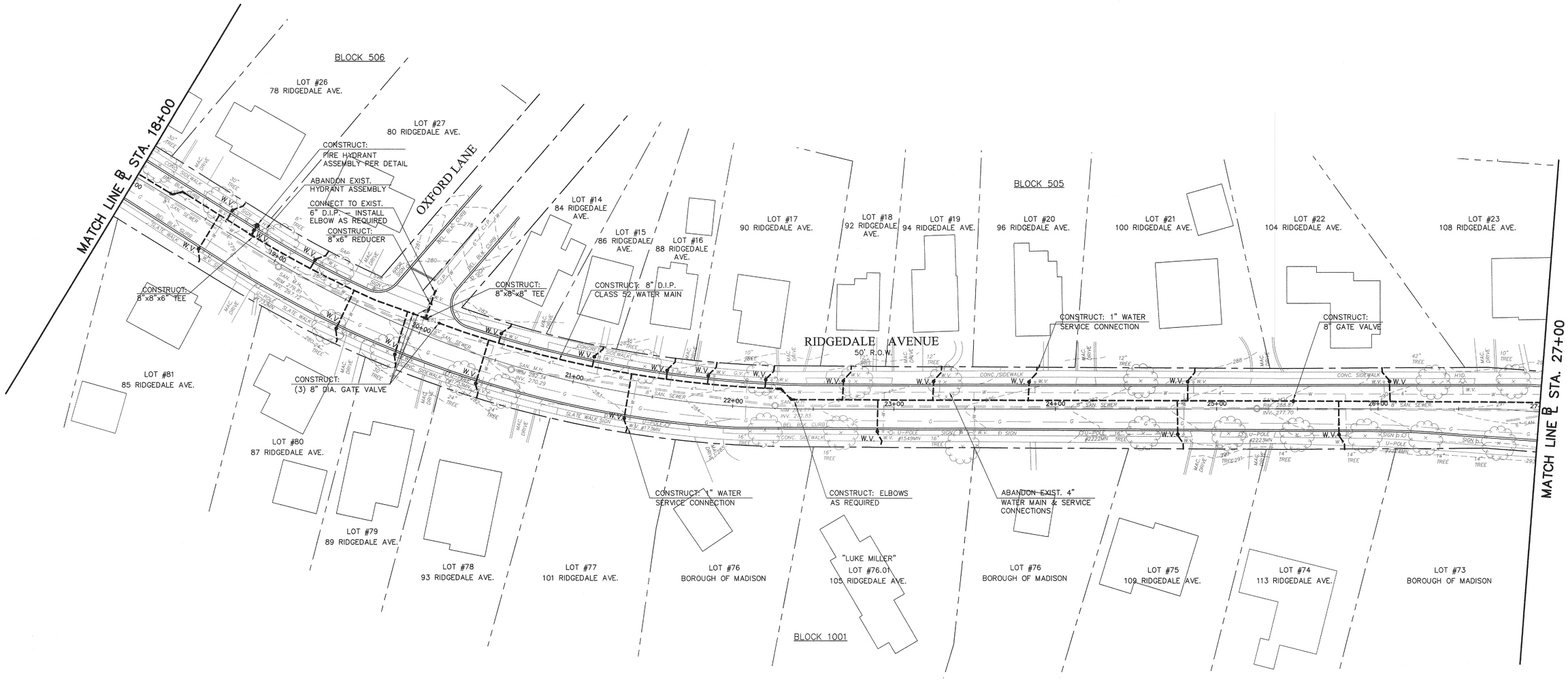
2013 WATER MAIN REPLACEMENT PROJECT
RIDGEDALE AVENUE
℄ STA. 9+00 – ℄ STA. 18+00

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

DATE
ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	1"=30'
DATE:	4-1-13
DR. BY:	D.Buck
CHK. BY:	R.A.V.
DWG. NO.	6 of 12

2013 FINAL RIDGEDALE CONSTR PLANS 4-1-2013



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NO.	REVISIONS	DATE	BY	CHK.	APPR

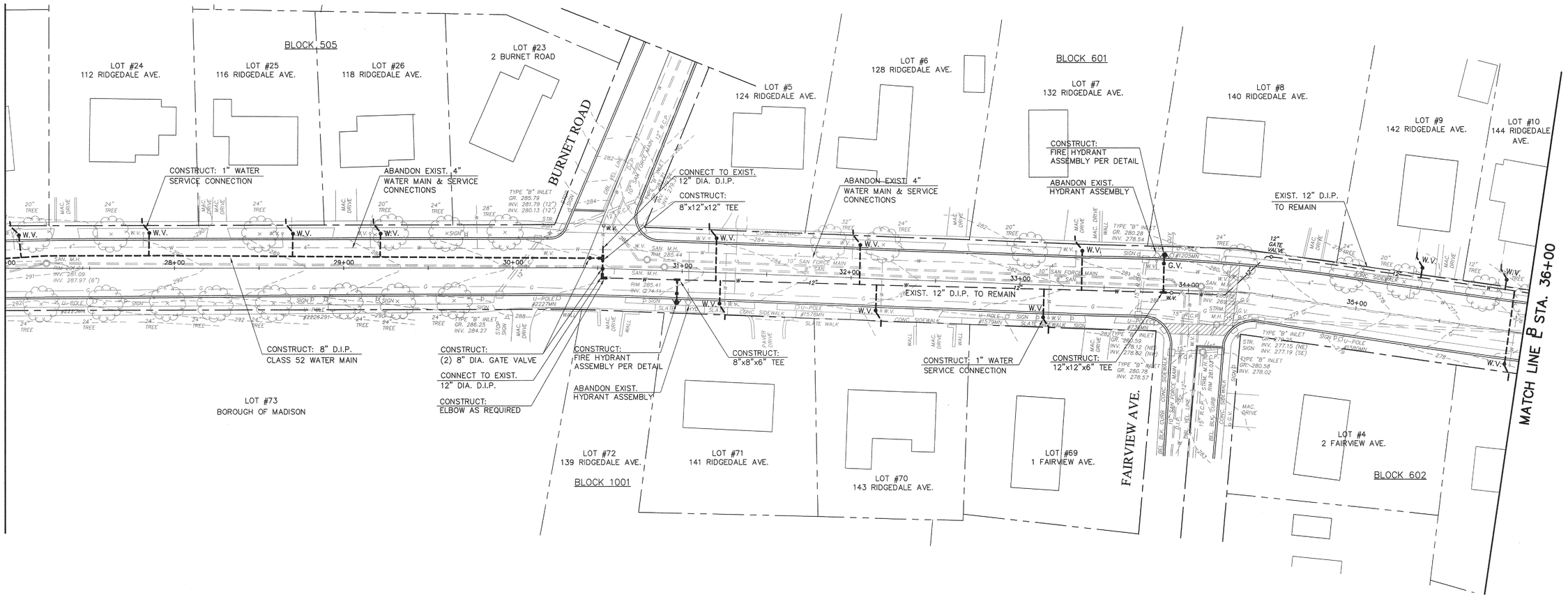
2013 WATER MAIN REPLACEMENT PROJECT RIDGEDALE AVENUE
℄ STA. 18+00 – ℄ STA. 27+00

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

DATE
ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	1"=30'
DATE:	4-1-13
DR. BY:	D.Buck
CHK. BY:	R.A.V.
DWG. NO.	7 of 12

2013 FINAL RIDGEDALE CONSTR PLANS 4-1-2013



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NO.	REVISIONS	DATE	BY	CHK.	APPR

2013 WATER MAIN REPLACEMENT PROJECT RIDGEDALE AVENUE
℄ STA. 27+00 – ℄ STA. 36+00

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

DATE _____

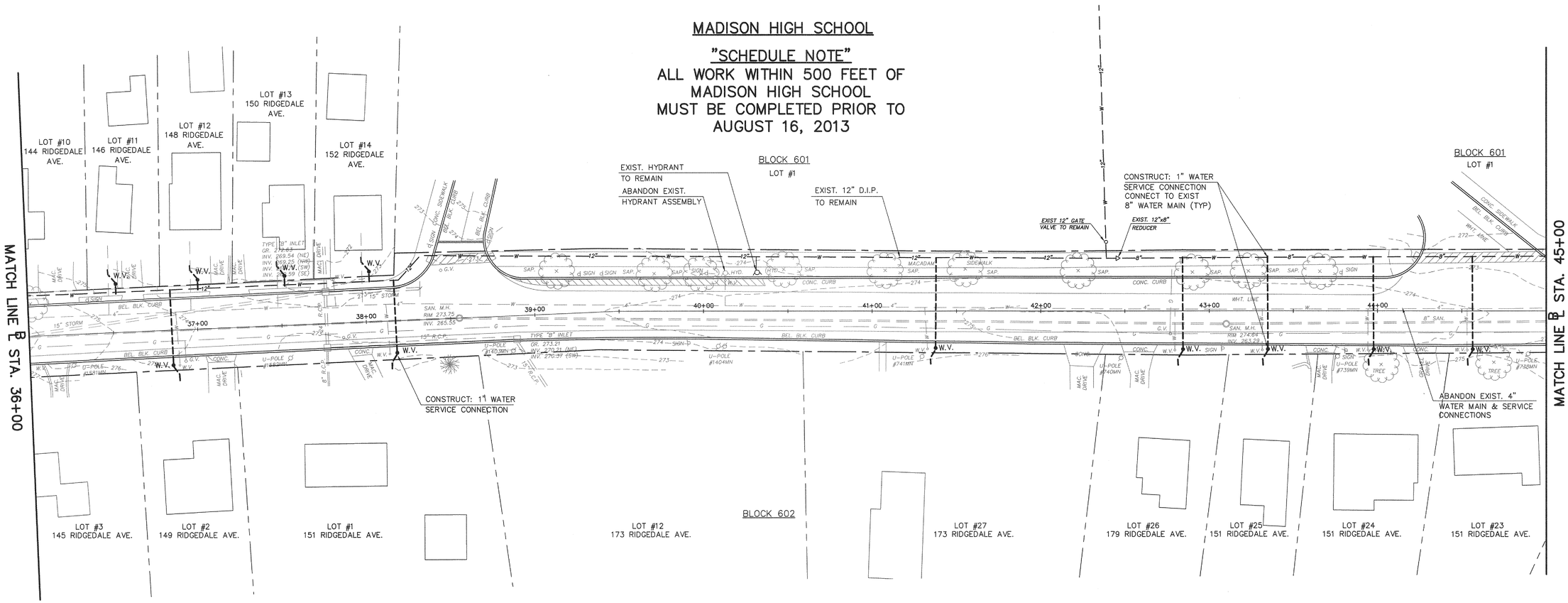
SCALE:	1"=30'
DATE:	4-1-13
DR. BY:	D.Buck
CHK. BY:	R.A.V.
DWG. NO.	8 of 12

2013 FINAL RIDGEDALE CONSTR PLANS 4-3-2013

MADISON HIGH SCHOOL

"SCHEDULE NOTE"

ALL WORK WITHIN 500 FEET OF
MADISON HIGH SCHOOL
MUST BE COMPLETED PRIOR TO
AUGUST 16, 2013



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NO.	REVISIONS	DATE	BY	CHK.	APPR

2013 WATER MAIN REPLACEMENT PROJECT RIDGEDALE AVENUE

℄ STA. 36+00 – ℄ STA. 45+00

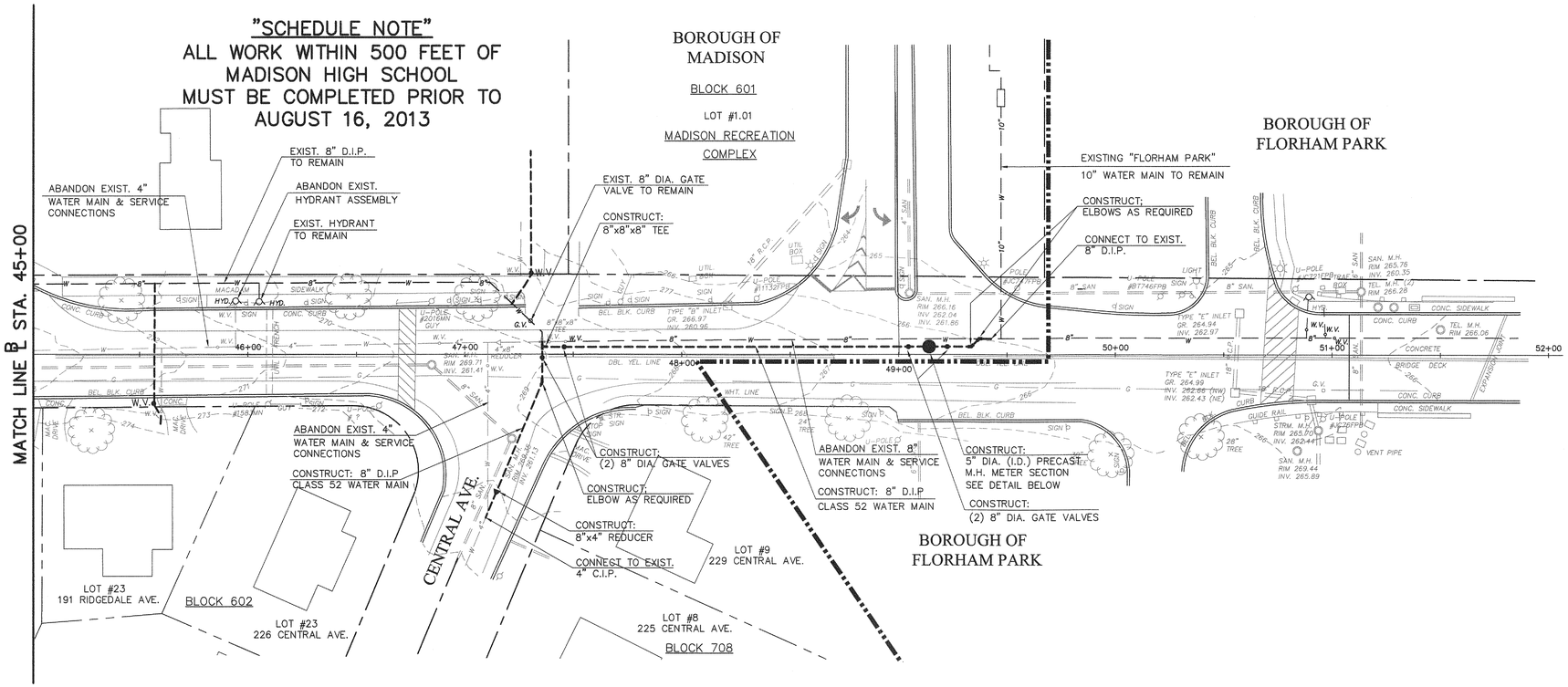
BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

DATE

SCALE:	1"=30'
DATE:	4-1-13
DR. BY:	D.Buck
CHK. BY:	R.A.V.
DWG. NO.	9 of 12

2013 FINAL RIDGEDALE CONSTR PLANS 4-3-2013



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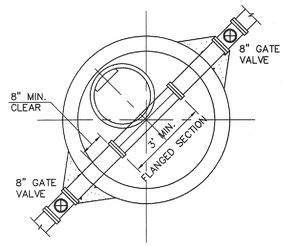
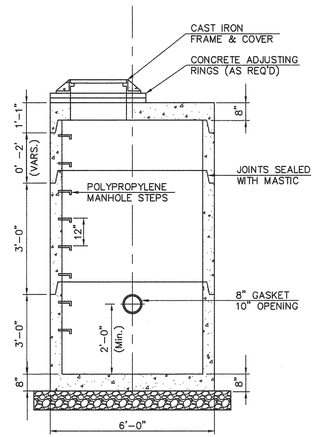


PLAN



ELEVATION

PRECAST MANHOLE

N.T.S.

30' 20' 10' 0 30' 60'

SCALE: 1"=30'

2013 WATER MAIN REPLACEMENT PROJECT RIDGEDALE AVENUE

℄ STA. 45+00 – END OF PROJECT

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

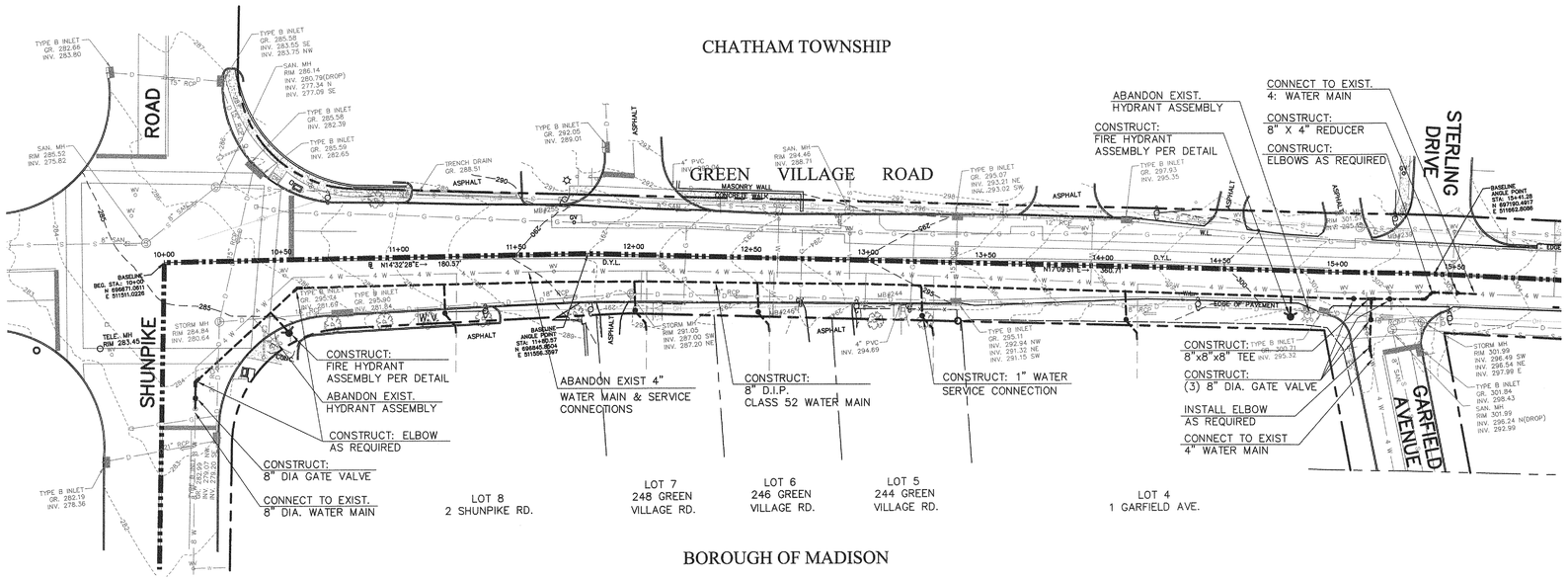
NO.	REVISIONS	DATE	BY	CHK.	APPR

DATE _____

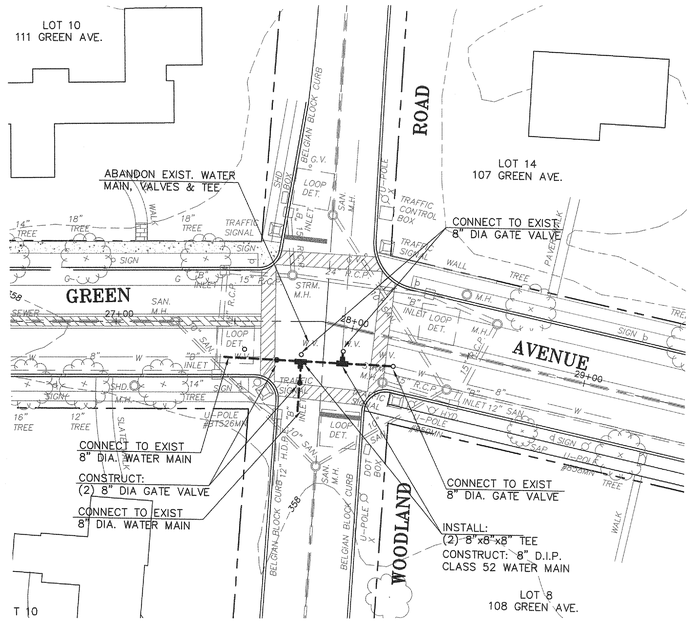
ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	1"=30'
DATE:	4-1-13
DR. BY:	D.Buck
CHK. BY:	R.A.V.
DWG. NO.	10 of 12

2013 FINAL RIDGEDALE CONSTR PLANS 4-1-2013.DWG



PORTION OF GREEN VILLAGE ROAD



WOODLAND ROAD & GREEN AVENUE INTERSECTION

GENERAL NOTES

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30' 20' 10' 0 30' 60'
SCALE: 1"=30'

REVISIONS	DATE	BY	CHK.	APPR

2013 WATER MAIN REPLACEMENT PROJECT
PORTION OF GREEN VILLAGE ROAD
WOODLAND ROAD & GREEN AVENUE

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940
(973) 593-3060

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PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

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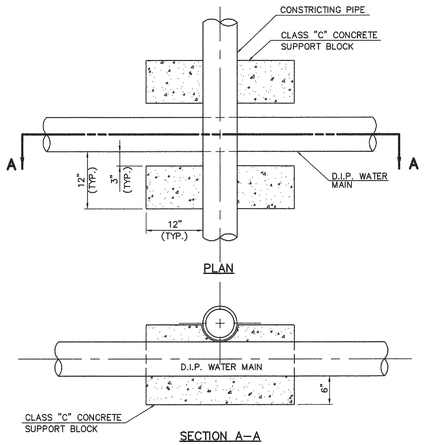
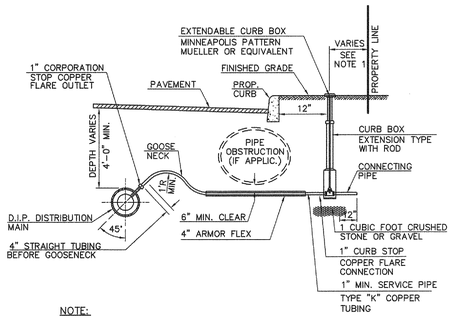
CHK. BY:	R.A.V.
DWG. NO.	11 of 12

2013 FINAL RIDGEDALE CONSTR PLANS 4-1-2013.DWG



TYPICAL CONCRETE SUPPORT BLOCK

N.T.S.

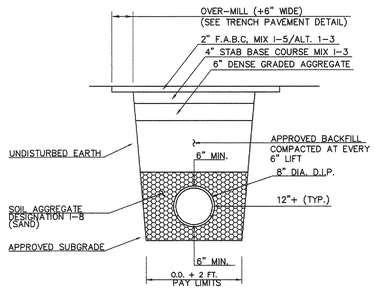


NOTE:

1. CURB STOP TO BE LOCATED 8' FROM PROPERTY LINE ON 50' R.O.W., OR AS DIRECTED.
2. BACKFILL SHALL BE HAND PLACED SAND FOR A DEPTH OF 1 FOOT OVER SERVICE.
3. SERVICE PIPE SHALL BE CONSTRUCTED AT 90° TO THE CURB LINE.
4. A TUBING BENDER APPROVED BY THE ENGINEER MUST BE USED FOR ALL BENDS AND GOOSENECK.

SERVICE CONNECTION

N.T.S.

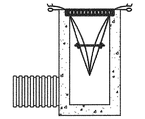


NOTES:

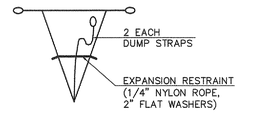
1. IN ALL CASES, EXCAVATE 6" BELOW INVERT OF PIPE AND FILL WITH SAND BEDDING.
2. BACKFILL TO A HEIGHT OF 6" ABOVE PIPE SHALL BE SAND, ABOVE SAND SHALL BE APPROVED SUITABLE EXCAVATED MATERIAL.
3. WHERE PIPE INVERTS ARE IN SOFT ORGANIC SOIL AT LEAST 2 FEET OF CRUSHED STONE SHALL BE USED FOR BEDDING, UNDERLAIN BY A LAYER OF FILTER FABRIC SUCH AS MIRAFI OR EQUIVALENT AS DIRECTED BY THE ENGINEER.
4. WHERE PIPE INVERTS ARE IN FULL CONDITION, SAID FILL IS TO BE CONTROLLED COMPACTED FILL. (SEE NOTES FOR TYPICAL ROAD SECTION)

PAVEMENT RESTORATION WATER MAIN BEDDING

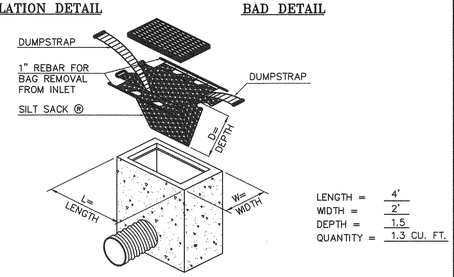
N.T.S.



INSTALLATION DETAIL

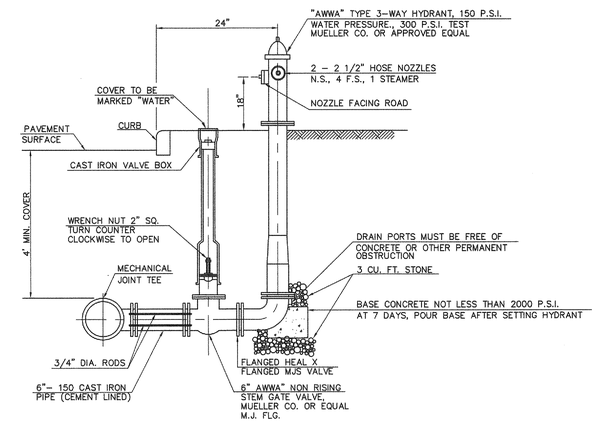


BAD DETAIL



INLET FILTER DETAIL

N.T.S.



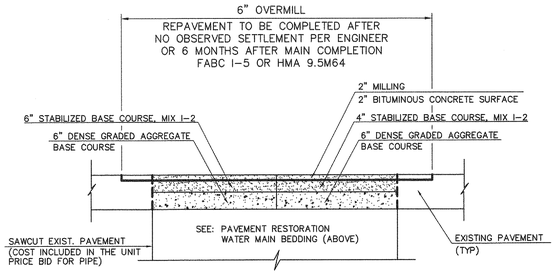
ELEVATION

TYPICAL FIRE HYDRANT ASSEMBLY DETAILS

N.T.S.

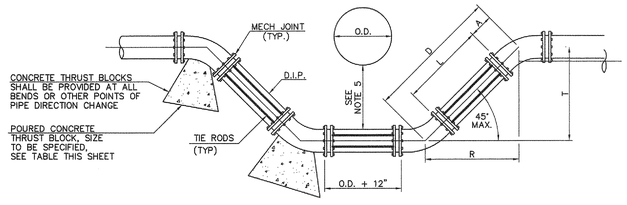
NOTES:

1. CONCRETE FOR THRUST BLOCKS TO BE N.J.D.O.T., CLASS"C".
2. SIZE AND BEARING AREA FOR THRUST BLOCKS SHALL CONFORM TO CURRENT A.W.W.A. STANDARDS OR SHALL BE DESIGNED ON THE PLANS.
3. FINISH PAINTING AND MARKING SHALL BE DESIGNED ON THE PLANS OR CONTRACT DOCUMENTS OR SHALL BE AS DIRECTED BY THE ENGINEER.
4. TYPICAL HYDRANT LOCATION ADJACENT TO ROADWAY, FOR SPECIAL LOCATION REFER TO PLANS.
5. SPECIAL HYDRANT ARRANGEMENT OR SETTINGS TO BE DETAILED BY CONTRACTOR AND SUBJECT TO THE ENGINEER'S APPROVAL.
6. ALL CONNECTIONS TO BE MECHANICAL JOINT OR LOCK RING TYPE JOINT AS SPECIFIED.



TRENCH PAVEMENT DETAIL

N.T.S.



MECHANICAL JOINTS

ANGLE	"D" EQUALS	"R" EQUALS	"L"* EQUALS
45°	Tx1.414	Tx1.000	D–2A
22 ½°	Tx2.613	Tx2.414	D–2A
11 ¼°	Tx5.126	Tx5.027	D–2A

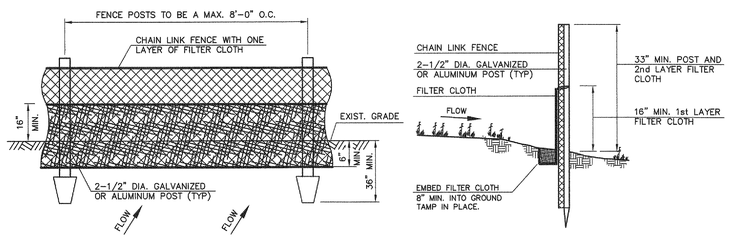
* CUT THE PIPE SOMEWHAT SHORTER THAN THEORETICAL TO ALLOW FOR SOME SLIGHT CLEARANCE IN THE JOINTS.

LOOPING WATER MAIN

N.T.S.

NOTES:

1. WATER MAIN MAY BE LOOPED ABOVE OBSTRUCTION, IF 3' MINIMUM COVER IS MAINTAINED ABOVE WATER MAIN.
2. WATER MAIN LOOPS SHALL BE DUCTILE IRON CEMENT LINED PIPE. ALL JOINTS SHALL BE MECHANICAL JOINT. ALL FITTINGS SHALL BE MECHANICAL JOINT CAST IRON.
3. OFFSETS MAY BE SUBSTITUTED FOR A OR T UP TO 24" IF APPROVED BY THE ENGINEER.
4. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS OR OTHER POINTS OF PIPE DIRECTION CHANGE.
5. MINIMUM CLEARANCE BETWEEN OBSTRUCTING PIPE AND WATER MAIN SHALL BE 18" MINIMUM. CLEARANCE BETWEEN WATER MAIN AND OTHER OBSTRUCTIONS SHALL BE 6". IF 18" MINIMUM CLEARANCE IS NOT PROVIDED BETWEEN OBSTRUCTING PIPE AND WATER MAIN, THE WATER MAIN SHALL BE CONCRETE ENCASED. (SEE DETAIL THIS SHEET)
6. TIE RODS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS. DETAILS OF THE TIE ROD ASSEMBLY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. TIE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THRUST DEVELOPED AT 100 P.S.I. WORKING PRESSURE.

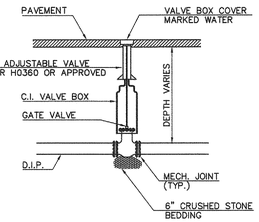


NOTE: ANY FILL SLOPE IN EXCESS OF 20% GRADE OR 4 FOOT IN HEIGHT MAY REQUIRE THE ADDITION OF SUPER SILT FENCE TO CONTROL EROSION OF SEDIMENTS FROM THE EMBANKMENT.

SUPER SILT FENCE

N.T.S.

(IF AND WHERE DIRECTED)



NOTES:

1. SIZE AND BEARING FOR THRUST BLOCK SHALL CONFORM TO CURRENT A.W.W.A. STANDARDS, OR SHALL BE DESIGNATED ON THE PLANS.
2. CONCRETE FOR THE THRUST BLOCKS TO BE N.J.D.O.T., CLASS "C".
3. ALL CONNECTIONS TO BE MECHANICAL JOINT, LOCK RING TYPE JOINTS, OR FULLY RESTRAINED IN A MANNER ACCEPTABLE TO ENGINEER.

GATE VALVE ASSEMBLY

N.T.S.

DIAMETER OF PIPE (d)	22 ½° ELBOW	45° ELBOW	90° ELBOW	TEE	PLUG
	"A"	"A"	"A"	"A"	"A"
6"	1.1	2.1	4.0	2.8	
8"	1.9	3.7	6.8	4.8	
10"	2.8	5.6	10.3	7.3	
12"	4.0	7.9	14.5	10.3	
16"	7.0	13.6	25.2	17.8	
20"	10.7	21.0	38.9	27.5	
24"	15.3	30.0	55.5	39.2	

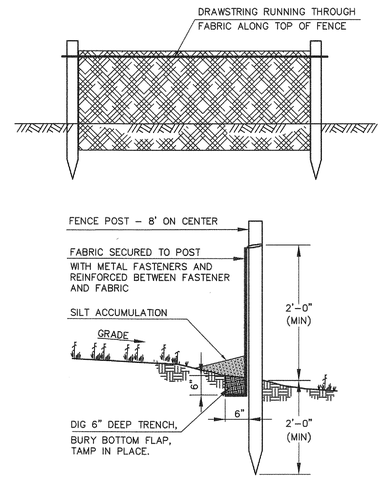
"A" – CONTACT BEARING AREA OF BLOCK WITH EARTH, IN SQUARE FEET

NOTES:

1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY
2. ALL CONCRETE THRUST BLOCKS SHALL BE CLASS "C".
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. TEST PRESSURE = 150 P.S.I.

THRUST BLOCK TABLE

N.T.S.



REQUIREMENTS FOR SILT FENCE

1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER–TO–CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1–1/2 INCHES.
2. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POST USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SILT FENCE

N.T.S.

(IF AND WHERE DIRECTED)

2013 WATER MAIN REPLACEMENT PROJECT

CONSTRUCTION DETAILS

BOROUGH OF MADISON
DEPARTMENT OF ENGINEERING
HARTLEY DODGE MEMORIAL
MADISON, MORRIS COUNTY, N.J. 07940

NO.	REVISIONS	DATE	BY	CHK.	APPR

DATE

ROBERT A. VOGEL, P.E.
PROFESSIONAL ENGINEER N.J. LIC. NO. 34463

SCALE:	N.T.S.
DATE:	4–1–13
DR. BY:	D.BUCK
DR. BY:	R.A.V.
DWG. NO.	12 of 12

2013 FINAL RIDGEDALE CONSTRUCTION DETAILS 4–1–13