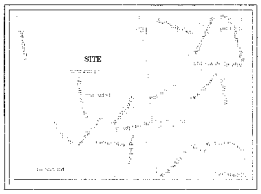
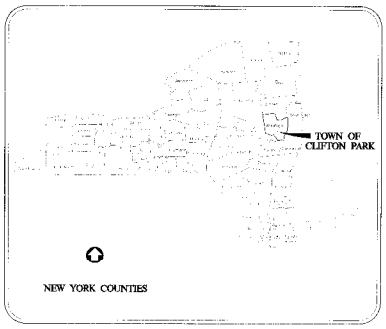
LONGKILL SUBDIVISION

LONGKILL ROAD
TOWN OF CLIFTON PARK, SARATOGA COUNTY



SITE LOCATION MAP
NOT TO SCALE



GENERAL LOCATION MAP
NOT TO SCALE

SHEET ID	SHEET NO.	TITLE
TS	1	TITLE SHEET
SP	2	SUBDIVISION PLAN
SG	3	SITE GRADING PLAN
PP1	4	PLAN / PROFILE KAIN TERRACE
PP2	5	PLAN / PROFILE DHARA COURT & YOGI COURT
PP3	6	PLAN / PROFILE OFFSITE SANITARY SEWER
ESC1	7	EROSION & SEDIMENT CONTROL PLAN
ESC2	8	EROSION & SEDIMENT CONTROL DETAILS
DET1	9	WATER DISTRIBUTION DETAILS
DET2	10	SANITARY SEWER DETAILS
DET3	11	SANITARY SEWER, TRENCHING, PIPE BEDDING AND BACKFILL DETAILS
DET4	12	STORM SEWER DETAILS
DET5	13	MISCELLANEOUS DETAILS
DET6	14	MULTI-USE PATH DETAILS
DET7	15	SANITARY SEWER BORING PLAN & DETAILS
N1	16	UTILITY NOTES
N2	17	UTILITY NOTES

Approved by Resolution of the Planning Board of the Town of Clifton Park, New York, on the ___ day of _____, 20__, subject to all applicable terms and conditions of said Resolution. Any change, erasure, modification or removal of this plat, as approved, shall void this approval.
Signed this ___ day of _____, 20__, by _____

NEW YORK STATE DEPARTMENT OF HEALTH
SUBDIVISION OFFICE
Date 9/26/2011
Water plans for: Kathy Subdivision
are hereby Approved by
Acting State Commissioner of Health

C.T. MALE ASSOCIATES
AUG 12 2011
PROVIDED NO RESPONSE

JOHN E. BRUENO
N.Y. 075425
STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER

DATE		REVISIONS: RECORD/DESCRIPTION	DRAFTER	CHECKER	APPR'D
12/20/06	1	MODIFIED PLAN TO INCLUDE SANITARY SEWER	JPM	JEB	JPM
3/16/07	2	REVISED PLAN PER COMMENTS	JPM	JEB	JPM
1/15/08	3	REVISED PLAN & ADDED DET. 7 - SANITARY SEWER BORING	TM	JEB	JPM
11/13/08	4	REVISED PLAN - SECTION 11 PARCELS	TM	JEB	JPM
10/26/10	5	REVISED PLAN FOR PRELIMINARY	TTP	JPM	JPM
4/29/11	6	REVISED PER TOWN & COUNTY COMMENTS - 3/14/2011	MC	MC	
8/12/11	7	REVISED PER T. & COUNTY COMMENTS - 7/14/11	MC	MC	JEB
	8				
	9				

DESIGNED TO COMPLY WITH THE REQUIREMENTS OF THE NEW YORK STATE UNIFIED SANITARY CODE AND THE NEW YORK STATE PLUMBING CODE

© 2011
C.T. MALE ASSOCIATES, P.C.
DESIGNED : JPM
DRAWN : JPM
CHECKED : JEB
PROJ. NO: 04.3038
SCALE : 1"=200'
DATE : JAN. 24, 2006

TITLE SHEET

LONGKILL SUBDIVISION

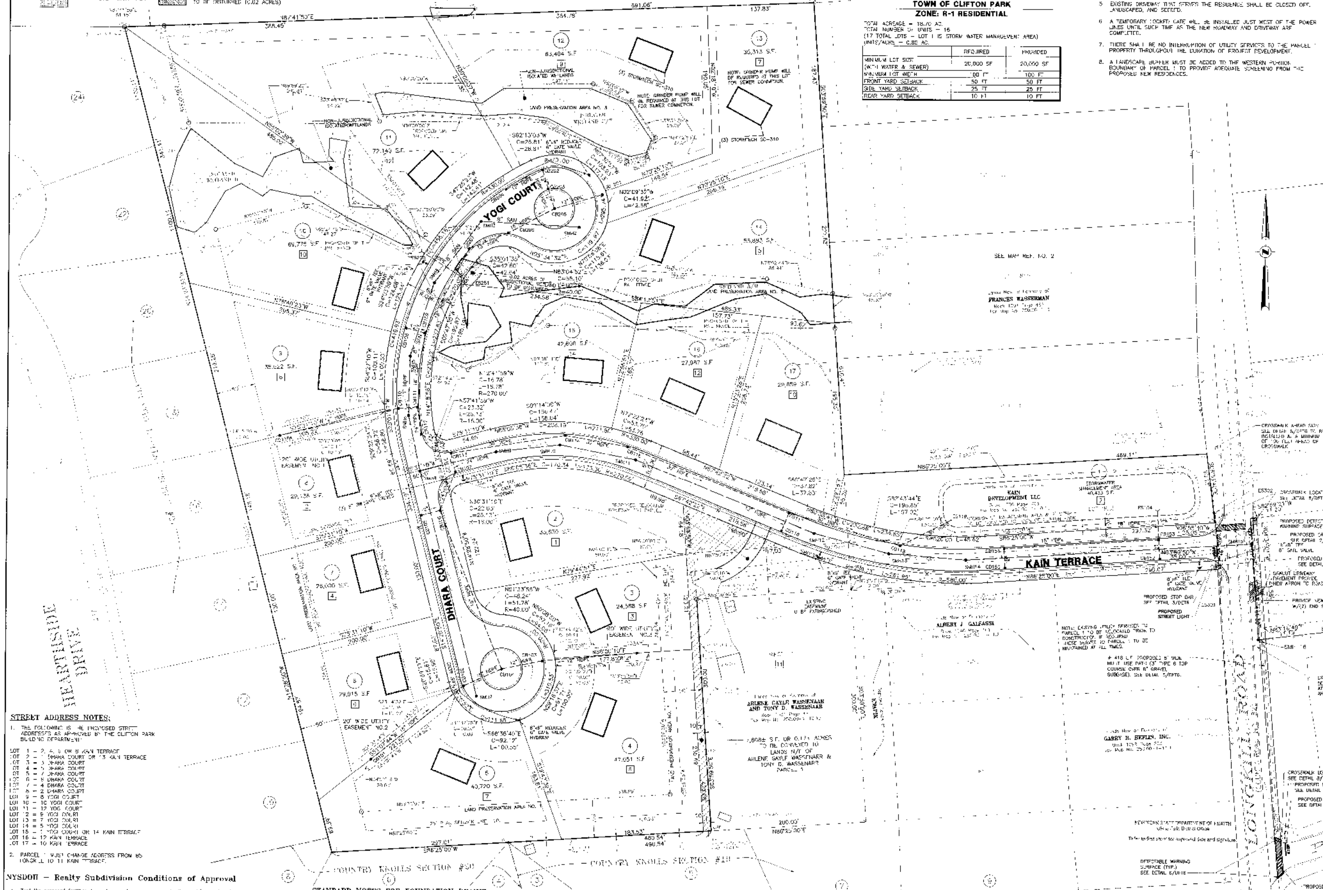
TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 / 800.366.7364

TS
SHEET 1 OF 17
DWG. NO: 06-136

LEGEND

	CAPPED IRON ROD FOUND	(5)	PROPOSED LOT NUMBER
	IRON ROD FOUND	31,224 S.F.	LOT SQUARE FOOTAGE
	WETLAND FLAG	[4]	PROPOSED STREET ADDRESS (SEE STREET ADDRESS NOTES)
	CONIFEROUS TREE		WETLANDS AND OTHER WATERS OF THE U.S. NOT TO BE DISTURBED
	DECIDUOUS TREE		JURISDICTIONAL WETLANDS AND OTHER WATERS OF THE U.S. TO BE DISTURBED (0.02 ACRES)
	EDGE OF WOODS		
	LAND PRESERVATION AREA		



MAP REFERENCES

1. "Boundary and Topographic Survey, Lands Now or Formerly of Lorraine Knapik Hinchey, Susan A. Socolemire & Daniel E. Knapik, Longkill Road" Town of Clifton Park Saratoga County, NY dated July 6, 2004 prepared by C.T. Male Associates DWG. No. 04-474.

2. "Map Showing Layout of 13 Lots Along The Highway From Armstrong's Corners to Jonesville On The Property Owned By Emil Eugster In The Town Of Clifton Park, Saratoga County, New York" prepared by E.D. Coleman C.E. dated April 8, 1947 and filed in the Saratoga County Clerk's Office on May 24, 1948 in Map Book C-1 at Page 15.

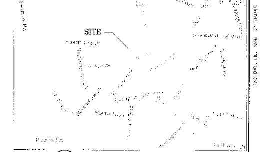
TOWN OF CLIFTON PARK
ZONE: R-1 RESIDENTIAL

TOTAL ACREAGE = 18.70 AC.
TOTAL NUMBER OF UNITS = 16
(17 TOTAL LOTS – LOT 1 IS STORM WATER MANAGEMENT AREA)
UNITS/ACRE = 0.86 AC.

	REQUIRED	PROVIDED
MINIMUM LOT SIZE (WITH WATER & SEWER)	20,000 SF	20,000 SF
MINIMUM LOT WIDTH	100 FT	100 FT
FRONT YARD SETBACK	50 FT	50 FT
SIDE YARD SETBACK	25 FT	25 FT
REAR YARD SETBACK	10 FT	10 FT

PARCEL 1 NOTES:

1. PARCEL 1 DRIVEWAY TO BE RELOCATED AS SHOWN. EXISTING STONE DRIVEWAY TO BE REMOVED.
2. EXISTING MAILBOX TO BE RELOCATED NEXT TO PROPOSED RELOCATED DRIVEWAY.
3. EXISTING DOG FENCE NEAR FRONT OF PARCEL 1, TO BE RELOCATED.
4. STREET ADDRESS TO BE REVISED TO 11 KAIN TERRACE (SEE STREET ADDRESS NOTES)
5. EXISTING DRIVEWAY THAT SERVES THE RESIDENCE SHALL BE CLOSED OFF, LANDSCAPED, AND SEEDED.
6. A TEMPORARY LOCKED GATE WILL BE INSTALLED JUST WEST OF THE POWER LINES UNTIL SUCH TIME AS THE NEW ROADWAY AND DRIVEWAY ARE COMPLETED.
7. THERE SHALL BE NO INTERRUPTION OF UTILITY SERVICES TO THE PARCEL 1 PROPERTY THROUGHOUT THE DURATION OF PROJECT DEVELOPMENT.
8. A LANDSCAPE BUFFER MUST BE ADDED TO THE WESTERN PORTION BOUNDARY OF PARCEL 1 TO PROVIDE ADEQUATE SCREENING FROM THE PROPOSED NEW RESIDENCES.



SITE LOCATION MAP

SCALE: N.T.S.
CROSS REFERENCE: NONE

NOTES

1. APPLICANT:
   KAIN DEVELOPMENT GROUP, LLC
   43 MORNING STAR DRIVE
   SPARTA, NEW JERSEY 07871
2. VERTICAL DATUM ESTABLISHED FROM N.G.V.D. 1929.
3. PARCEL AREA: 18.70 AC.
4. AREA LOCATED IN LAND CONSERVATION EASEMENT NOT TO BE DISTURBED. NO DISTURBANCE IN LAND CONSERVATION EASEMENT AREA TO BE INCLUDED IN DEEDS PRIOR TO SALE. EASEMENTS TO BE GRANTED TO THE TOWN.
5. ACCESS TO PARCEL 1 SHALL BE MAINTAINED AT ALL TIMES.
6. WAIVER FOR 20 LOTS ON CUL-DE-SAC GRANTED ON NOV. 10, 2005
7. MAINTENANCE FOR THE STORMTECH UNITS LOCATED ON LOTS 12 & 13 WILL BE THE RESPONSIBILITY OF THE INDIVIDUAL HOMEOWNERS.
8. FOR THE LIGHTING RESTRICTIONS ON LOTS 3 & 4 REFER TO THE DECLARATION OF PROTECTIVE COVENANTS AND RESTRICTIONS.
9. FEDERAL JURISDICTION WETLANDS HAVE BEEN IDENTIFIED ON THIS SITE. THE TOWN OF CLIFTON PARK BUILDING DEPARTMENT SHALL BE NOTIFIED BEFORE UNDERTAKING ANY LAND DISTURBANCE ACTIVITIES IN FEDERAL WETLANDS.
10. NO SALTS, FERTILIZERS, PESTICIDES OR OTHER MATERIALS MAY BE USED ON THIS PROPERTY WHERE THEY WILL CONTAMINATE ANY WETLAND AREAS OR SURFACE WATER THROUGH RUNOFF, LEACHING OR IN ANY OTHER MANNER WHICH VIOLATES THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW (ECL).
11. THE BORDERS OF ALL LAND THAT IS TO REMAIN UNDISTURBED SHALL BE CLEARLY MARKED ON THE SITE BEFORE SITE PREPARATION BEGINS. THESE ON-SITE BOUNDARY MARKERS SHALL REMAIN UNTIL CONSTRUCTION IS COMPLETED AND SOILS ARE STABILIZED.
12. ALL EROSION AND WATER QUALITY CONTROLS SHALL BE PUT INTO PLACE AT THE INITIAL PHASE OF SITE PREPARATION AND SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION ENDS AND SOILS ARE STABILIZED.
13. THE APPLICANT WILL CONTROL FUGITIVE DUST AND DEBRIS DURING THE CONSTRUCTION/DEMOLITION PHASE OF THE PROJECT.
14. SUBDIVISION APPROVAL BY THE PLANNING BOARD AUTHORIZES GRADING AND CLEARING WITHIN THE ROAD RIGHT OF WAY AND EASEMENTS ONLY. INDIVIDUAL LOT GRADING PLANS WILL BE REQUIRED TO BE APPROVED BY THE TOWN PLANNING DEPARTMENT AS PART OF THE BUILDING PERMIT APPLICATION. THE INDIVIDUAL GRADING PLAN SHALL INDICATE WHICH TREES ABOVE A 8" DIAMETER WILL BE AFFECTED.
15. WETLANDS SHOWN HEREON WERE DELINEATED BY CHARLES MAIN AND WERE FIELD LOCATED BY C.T. MALE SURVEY CREW ON JUNE 15, 2004, REVISED MAY 2005, AND JUNE 2005
16. CONSTRUCTION OF THE MULTI USE PATHWAY WILL OCCUR CONCURRENTLY WITH CONSTRUCTION OF THE NEW STREET
17. NO PERSON SHALL OPERATE OR PERMIT TO BE OPERATED ANY TOOLS OR EQUIPMENT USED IN CONSTRUCTION, DRILLING, EXCAVATIONS OR DEMOLITION WORK, BETWEEN THE HOURS OF 10:00 PM AND 7:00 AM, WHERE SUCH SOUND IS PLAINLY AUDIBLE ACROSS A RESIDENTIAL PROPERTY LINE, EXCEPT THE PROVISIONS OF THIS SECTION SHALL NOT APPLY TO EMERGENCY WORK.

LAND PRESERVATION AREA NOTES

THE FOLLOWING USES/ACTIVITIES SHALL NOT BE ALLOWED WITHIN THE DESIGNATED LAND PRESERVATION AREA/EASEMENT(S):

1. CONSTRUCTION OF PRINCIPAL OR ACCESSORY BUILDINGS INCLUDING SHEDS, BARNS AND OTHER IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO POOLS & FENCES.
2. GRADING OF LAND.
3. CLEARING OF VEGETATION, INCLUDING ANY PRUNING OR REMOVAL OF BRUSH, DEAD WOOD, ETC.
4. INSTALLATION OF ANY UTILITIES EITHER ABOVE GROUND OR BELOW GROUND.

THE LAND PRESERVATION AREA(S)/EASEMENT(S) SHALL BE ESTABLISHED BY DEED RESTRICTIONS FOR EACH RESPECTIVE LOT. EACH EXISTING OR FUTURE PURCHASER/OWNER OF EACH RESPECTIVE LOT WITH A LAND PRESERVATION AREA(S)/EASEMENT(S) SHALL BE PROVIDED WITH A COPY OF THIS PLAN.

ANY MODIFICATIONS TO THE LAND PRESERVATION AREA(S)/EASEMENT(S) MUST RECEIVE PRIOR APPROVAL FROM THE TOWN OF CLIFTON PARK PLANNING BOARD.

PRINCIPAL BUILDINGS SHALL BE AT LEAST FIFTY FEET FROM JURISDICTIONAL AND NON-JURISDICTIONAL WETLANDS AND SHALL NOT EXTEND INTO AREAS DESIGNATED AS LAND PRESERVATION AREAS.

NEW YORK STATE DEPARTMENT OF HEALTH
Glens Falls District Office
Refer to first sheet for approval date and signature.

Approved by
New York State
Department of Environmental Conservation
Region 5 Warrensburg, NY
For Approval Date and Signature
Refer to Cover Sheet

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SEWER CONSTRUCTION NOTE

THE CONSTRUCTION OF THE SANITARY SEWERS DEPICTED ON THESE PLANS SHALL BE UNDER THE SUPERVISION OF A PERSON OR FIRM QUALIFIED TO PRACTICE PROFESSIONAL ENGINEERING IN THE STATE OF NEW YORK UNDER THE EDUCATION LAW OF THE STATE OF NEW YORK. WITHIN THIRTY (30) DAYS FOLLOWING THE COMPLETION OF CONSTRUCTION, THE ENGINEER SHALL CERTIFY TO THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND TO THE OWNER THAT THE CONSTRUCTED FACILITIES HAVE BEEN CONSTRUCTED UNDER THEIR SUPERVISION AND THE WORK HAS BEEN FULLY COMPLETED IN ACCORDANCE WITH THE APPROVED ENGINEERING REPORT AND PLANS. THE PROJECT DEVELOPER MUST RECEIVE WRITTEN ACCEPTANCE OF SUCH CERTIFICATION FROM THE DEPARTMENT PRIOR TO PLACING THE FACILITIES IN SERVICE.

STREET ADDRESS NOTES:

1. THE FOLLOWING IS THE PROPOSED STREET ADDRESSES AS APPROVED BY THE CLIFTON PARK BUILDING DEPARTMENT

LOT 1 – 2, 4, 6 OR 8 KAIN TERRACE
LOT 2 – 1 DHARA COURT OR 13 KAIN TERRACE
LOT 3 – 3 DHARA COURT
LOT 4 – 5 DHARA COURT
LOT 5 – 7 DHARA COURT
LOT 6 – 6 DHARA COURT
LOT 7 – 4 DHARA COURT
LOT 8 – 2 DHARA COURT
LOT 9 – 8 YOGI COURT
LOT 10 – 10 YOGI COURT
LOT 11 – 12 YOGI COURT
LOT 12 – 9 YOGI COURT
LOT 13 – 7 YOGI COURT
LOT 14 – 5 YOGI COURT
LOT 15 – 1 YOGI COURT OR 14 KAIN TERRACE
LOT 16 – 12 KAIN TERRACE
LOT 17 – 10 KAIN TERRACE

2. PARCEL 1 MUST CHANGE ADDRESS FROM 85 LONGKILL TO 11 KAIN TERRACE.

NYSDOH – Realty Subdivision Conditions of Approval

a. That the proposed facilities for water supply and sewage collection and/or treatment shall be installed in conformity with said plans.
b. That no lot or remaining land shall be subdivided without plans for such subdivision being submitted to and approved by the New York State Department of Health (NYSDOH).
c. That the developer shall furnish each purchaser of a lot on which water supply and/or sewage treatment facilities were installed with a reproduction of the approved plans and an accurate as-built plan depicting all installed sanitary facilities.
d. That the developer shall furnish each purchaser of a lot on which where was no water supply and/or sewage treatment facilities installed with a reproduction of the approved plans and shall notify the purchaser of the necessity of installing such facilities in accordance with the approved plans.
e. That the sanitary facilities on these lots shall be inspected for compliance with the approved plans at the time of construction by a P.E., R.A., or exempt L.L.S. and written certification to that effect shall be submitted to the NYSDOH and the Town of Clifton Park Building Code Enforcement Officer within 30 days and prior to occupancy.
f. That plan approval is limited to 5 years and shall expire on ____________. Time extensions for plan approval may be granted by the NYSDOH based upon development facts and the realty subdivision regulations in effect at that time. A new plan submission may be required to obtain a time extension.
g. That the approved plans must be filed with the Saratoga County Clerk prior to offering lots for sale and within 90 days of the date of plan approval.
h. That all local and state agency rules and regulations shall be complied with.

STANDARD NOTES FOR FOUNDATION DRAINS:

FOUNDATION DRAINS ARE COVERED IN TOWN OF CLIFTON PARK CODE UNDER SECTION 80-7(C) BASEMENT SUMP DRAINS, FOUNDATION DRAINS AND SUMP PUMPS AND STATES THE FOLLOWING:

(A) BASEMENT DRAINS, FOUNDATION DRAINS OR SUMP PUMP OUTLET PIPES SHALL BE PROVIDED FOR ALL RESIDENTIAL LOTS, UNLESS SPECIFICALLY APPROVED BY THE BOARD AND HIGHWAY SUPERINTENDENT, AND SHALL BE CONNECTED DIRECTLY INTO STORM MANHOLES, CATCH BASINS OR JUNCTION BOXES OR DAYLIGHTED TO GRADE. IN NO INSTANCE SHALL THESE OUTLETS BE TIED DIRECTLY INTO A STORM SEWER.

(B) SUMP PUMPS SHALL ONLY BE PERMITTED WHEN IT CAN BE SHOWN THAT NO OTHER FEASIBLE ALTERNATIVE EXISTS FOR GRAVITY FLOW, INCLUDING ADJUSTING AND FINISHED FLOOR ELEVATION, ELEVATION OF PROPOSED STORM SEWER AND LOT GRADING, AND ONLY WITH THE APPROVAL OF THE BUILDING DEPARTMENT.

(C) FOOTING DRAINS SHALL BE LAID OUT SO THAT INVERT ELEVATIONS ARE TWO FEET ABOVE THE SEASONAL HIGH WATER LEVEL.

(D) ALL SUMP PUMP OUTLET PIPES SHALL BE EQUIPPED WITH SOME FORM OF BACKFLOW PREVENTION DEVICE OR CHECK VALVE.

NO CONNECTIONS SHALL BE MADE TO A SANITARY OR TO A COMBINED SEWER, WHICH CONNECTIONS ARE INTENDED TO DISCHARGE INFLOW. SUCH PROHIBITED CONNECTIONS INCLUDE, BUT ARE NOT LIMITED TO, FOOTING DRAINS, ROOF LEADERS, ROOF DRAINS, CELLAR DRAINS, SUMP PUMPS, CATCH BASINS, UNCONTAMINATED COOLING WATER DISCHARGES, OR OTHER SOURCES OF INFLOW.

STANDARD STREET TREE NOTES:

THE SPECIFICATION NOTES FOR PLANTINGS OF THE TREES ARE AS FOLLOWS, PER SECTION 86-10 OF THE TOWN CODE:

1. TREES SHALL BE BALLED AND BURLAPPED AND SHALL NOT BE LESS THAN THREE INCHES IN CALIPER, MEASURED SIX INCHES ABOVE THE BALL. THEY MUST BE WELL BRANCHED. TRANSPLANTED TREES MEETING THESE SPECIFICATIONS MAY BE SUBSTITUTED. TREES MUST BE GUARANTEED FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM THE TIME OF PLANTING.
2. TREES SHOULD NOT BE PLANTED BETWEEN JUNE 1 AND SEPTEMBER 1 UNLESS REGULAR WATERING AND MAINTENANCE CAN BE GUARANTEED.
3. TREES SHALL BE PLANTED IN ACCORDANCE WITH ACCEPTED PLANTING PROCEDURES, STAKED AND WATERED.
4. PREFERENCE SHALL BE GIVEN TO PLANTING DECIDUOUS TREES WHICH WILL DEVELOP INTO STREET SHADE TREES AND WHICH DO NOT OBSTRUCT THE VIEW OF TRAFFIC. TREES SHOULD BE SELECTED FROM THE LIST OF RECOMMENDED TREES FOR ROADSIDE PLANTING THAT ARE DISEASE AND POLLUTION RESISTANT. A LIST OF THESE TREES IS IN THE PUBLICATION ENTITLED "TOWN OF CLIFTON PARK COMMUNITY TREE PROGRAM."
5. TREES SHALL NOT BE PLANTED IN THE PUBLIC RIGHT-OF-WAY
6. IF TREES WHICH ARE DESIGNATED TO BE SAVED ARE REMOVED BY THE APPLICANT, THEY SHALL BE REPLACED BY THREE NEW TREES THAT MEET THE TREE SPECIFICATIONS OF THIS SECTION

WILLIAM J. NETTLETON L.S. 49513
JOHN R. BRUSKO P.E. 057436

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
9/25/11		REVISED PER NYSDOH COMMENTS	[illegible]	[illegible]	
1/25/11		REVISED PER NYSDEC COMMENTS [illegible]	TGB	JRB	
4/1/10		REVISED PER TOWN COMMENTS [illegible]	TGB	[illegible]	
3/2/06	1	REVISED PER REVIEW LETTER DATED 1/18/06	JPM	FSF	FSF
5/4/06	2	REVISED PER TOWN COMMENTS	JPM	FSF	FSF
6/1/06	3	REVISED FOR LOT LINE & DETAIL SAP	JPM	FSF	FSF
8/17/06	4	REVISED FOR DESIGN SUBMISSION	JPM	FSF	FSF
3/5/07	5	MISC. REVISIONS FOR SUBMISSION	TGB	JRB	KML
6/20/07	6	REVISIONS PER C.H.A. COMMENTS DATED 7/31/07	MAC	JRB	FLP
7/10/07	7	REVISIONS PER C.H.A. COMMENTS DATED 7/9/07	MAC	JRB	FLV
5/12/10	8	REVISIONS PER C.H.A. COMMENTS DATED 1/21/08	MAC	JRB	FLV
2/1/11	9	REVISIONS PER C.H.A. COMMENTS DATED 2/1/11	MAC	JRB	

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

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C.T. MALE ASSOCIATES, P.C.

DESIGNED: JPM
DRAFTED: JPM
CHECKED: FSF
PROJ. NO: 04.9269
SCALE: 1"=50'
DATE: JAN. 24, 2006

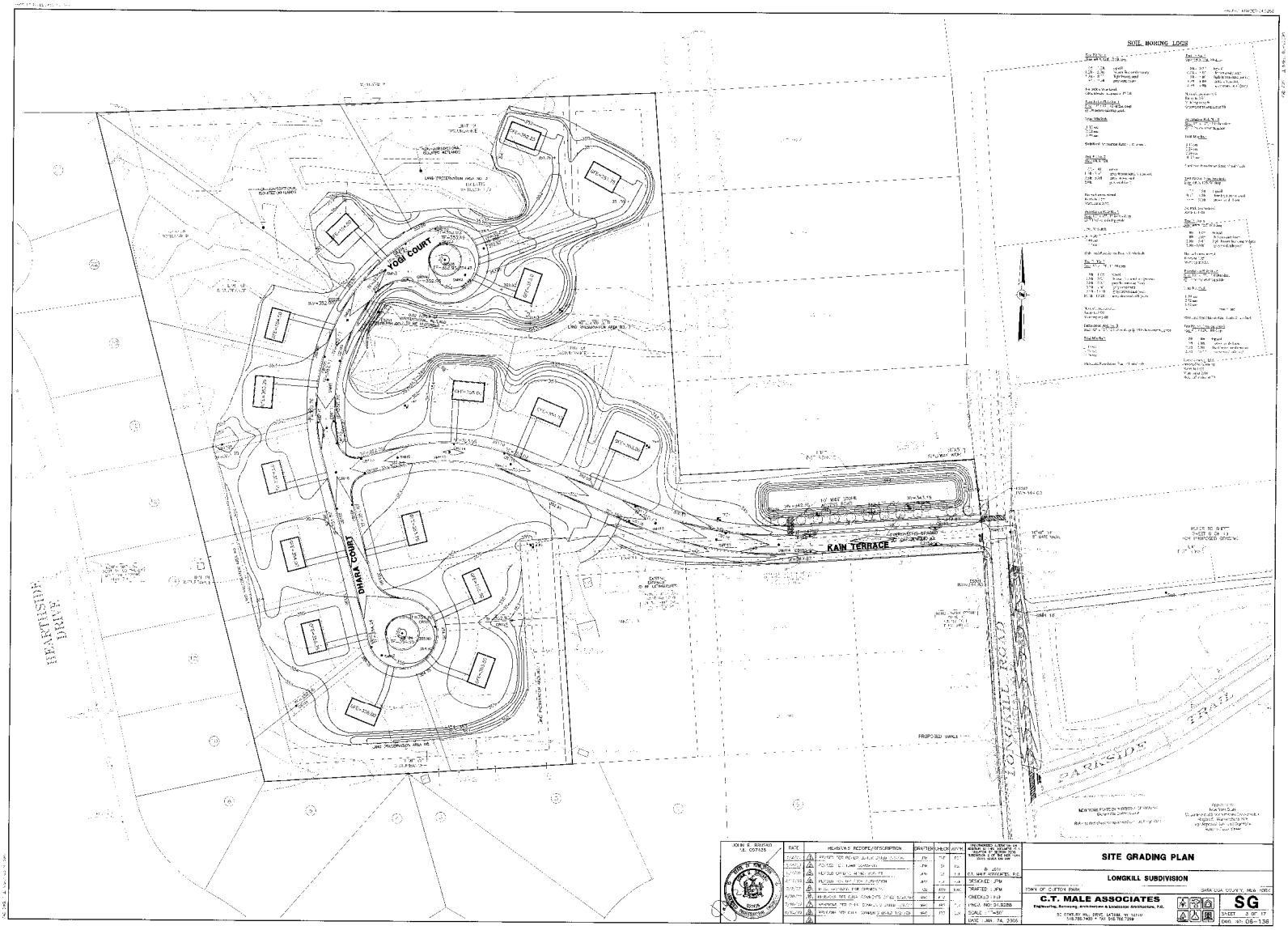
SUBDIVISION PLAN

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

SP
SHEET 2 OF 17
DWG. NO: 06-136



JOHN E. BOUNAS
LS. 057425

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APVR
12/4/06	1	REVISED PER REVIEW COMMENTS	JPW	TCF	TCF
12/14/06	2	ADDED C.T. MALE CONTACT	JPW	JB	TCF
12/15/06	3	REVISED PER C.T. MALE REVIEW	JPW	JB	TCF
12/27/06	4	REVISED PER REVIEW COMMENTS	JPW	JB	TCF
3/9/07	5	REVISED PER REVIEW FOR SUBMITTAL	JB	JPW	TCF
4/26/07	6	REVISED PER CITY COMMENTS DTD 3/14/07	JPW	PJ	
5/29/07	7	REVISED PER CITY COMMENTS DTD 5/21/07	JPW	JPW	PJ
6/12/07	8	REVISED PER CITY COMMENTS DTD 6/12/07	JPW	PJ	

PROFESSIONAL ENGINEER OR LAND SURVEYOR MUST ALTER THIS DOCUMENT IN ANY WAY UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR

R. WEIR
C.T. MALE ASSOCIATES, P.C.

DESIGNED : JPW
DRAFTED : JPW
CHECKED : PJB
FINAL NO: 06-0288
SCALE : 1"=50'
DATE : JAN. 24, 2006

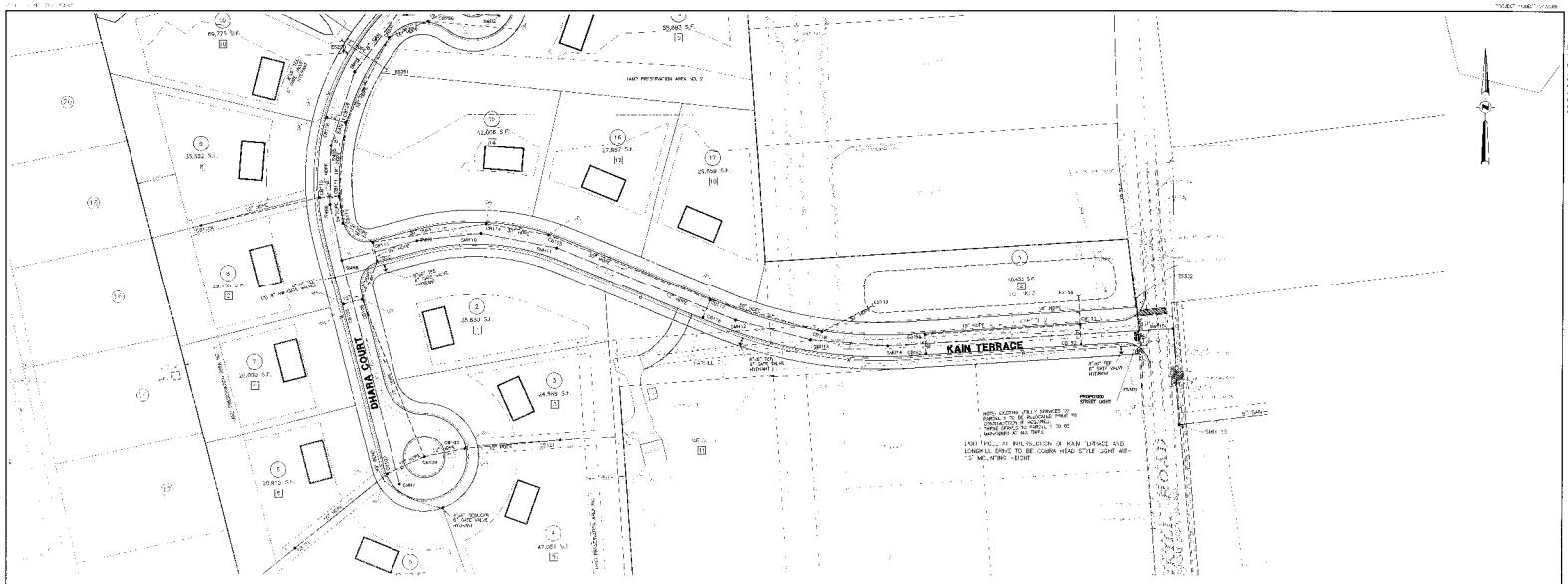
SITE GRADING PLAN

LONGKILL SUBDIVISION

TOWN OF GREENBURGH — WESTCHESTER COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CONTEL PLL, DRIVE, LATHAM, NY 12110
518.785.7400 • FAX 518.785.7399

SG
SHEET 2 OF 17
DWG. NO. 06-138



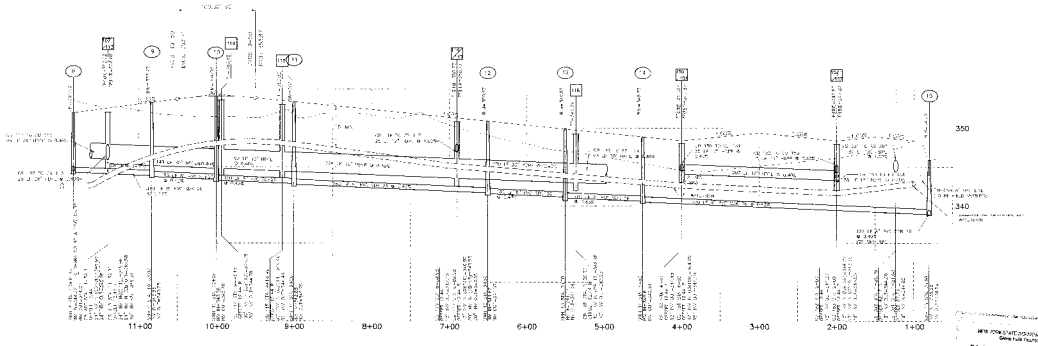
1 PP1 **PLAN VIEW**
KAIN TERRACE
SCALE: 1" = 50'
CROSS REFERENCE: NONE

NOTE: ALL CURB STOPS SHALL BE LOCATED AT THE FRONT OF THE PUBLIC RIGHT OF WAY AND CENTERED ON EACH HOUSE FRONTAGE

SEE MATERIAL SPECIFICATIONS:
WATER DIP - CLASS 52
WATER SERVICE CONNECTIONS (SERVICE - TYPE B)
SANITARY SEWER CONNECTIONS PVC - SDR35
SANITARY SEWER SERVICE (LATERAL) PVC - SDR35

LEGEND (PROPOSED)
- PROPOSED CATCH BASIN
- PROPOSED END SECTION
- PROPOSED HYDRANT
- PROPOSED SANITARY MANHOLE
- PROPOSED WATER VALVE
- PROPOSED WATER LINE
- PROPOSED SANITARY LINE
- PROPOSED DRAINAGE LINE
- PROPOSED LOT NUMBER

LEGEND (EXISTING)
- EXISTING CATCH BASIN
- EXISTING END SECTION
- EXISTING HYDRANT
- EXISTING SANITARY MAN HOLE
- EXISTING MANHOLE



2 PP1 **PROFILE**
KAIN TERRACE
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'
CROSS REFERENCE: NONE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SEWER COMPLETION STATEMENT

THE CONSTRUCTION OF THE SANITARY SEWERS DESCRIBED ON THESE PLANS WAS PERFORMED UNDER MY SUPERVISION OR AT LEAST ONE PROFESSIONAL PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK UNDER THE EXACT OR AS OF THE STATE OF NEW YORK. BEFORE THE SEWERS ARE PLACED INTO USE, THE OWNER MUST OBTAIN A WRITTEN ACCEPTANCE OF SUCH CONSTRUCTION FROM THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND SUCH OWNER MUST MAINTAIN THE SEWERS IN GOOD REPAIR. THE OWNER MUST MAINTAIN THE SEWER SYSTEM IN THE APPROPRIATE OWNER REPORT AND PLANS. THE PROJECT ENGINEER MUST REPORT BY WRITTEN ACCEPTANCE OF SUCH CONSTRUCTION FROM THE DEPARTMENT PRIOR TO "LAYING THE FACE TRENCH SURFACE."

Prepared by
Anna Fox Sun
Department of Environmental Conservation
"Sewer" Engineering & T
10 Bloomingdale Avenue
Albany, NY 12304-1000

NEW YORK STATE DEPARTMENT OF HEALTH
Sewer Hook Permit Office
Refer to this sheet for approved date and signature

JOHN K. SPRUSKO
R.L.S. 57420

DATE		REVISIONS RECORD/DESCRIPTION	DRAWN	CHECKED	APPR.
02/07/07	4	REVISED PER TOWN PER SWPPP DATA	TN	TSF	TSF
12/06/07	3	REVISED PER TOWN COMMENTS	TN	TSF	TSF
11/27/06	2	REVISED SANITARY & WATER PL. PLAN	JJV	JJ	JJ
10/17/06	1	REVISED PER LANDOWNER COMMENTS	JJV	JJ	JJ
7/28/06	0	INITIAL PLAN SUBMISSION	JJV	JJ	JJ
5/31/07	4	REVISED PER COMMENTS	EDB	BPH	TSF
10/06/06	3	REVISED PER D.E.C. COMMENTS DATED 10/11/06	MAC	TSF	
8/14/06	2	REVISED PER D.E.C. COMMENTS DATED 7/24/06	MAC	JBP	TSF
7/25/06	1	REVISED TO REFLECT COMMENTS VIA E-MAIL	TCB	TSF	

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APPROVED: JPM
DRAWN: JJV/JPM
CHECKED: TSF
PROJ. NO: 04.9288
SCALE: 1"=50'
DATE: JAN. 24, 2006

PLAN & PROFILE
KAIN TERRACE

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
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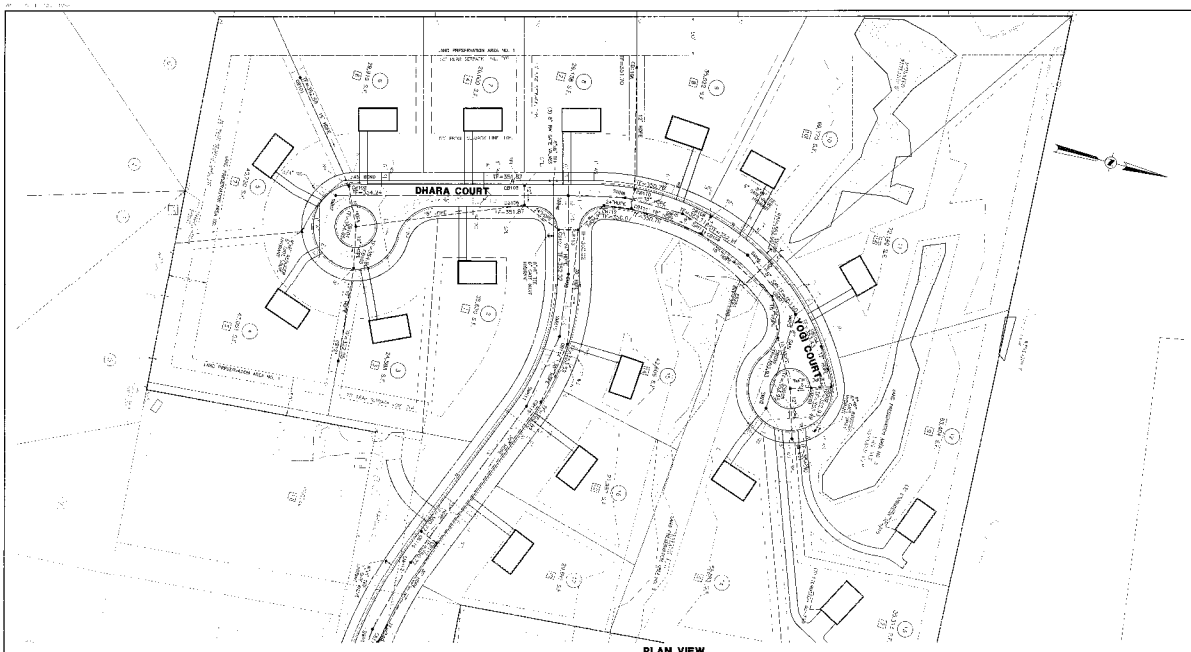
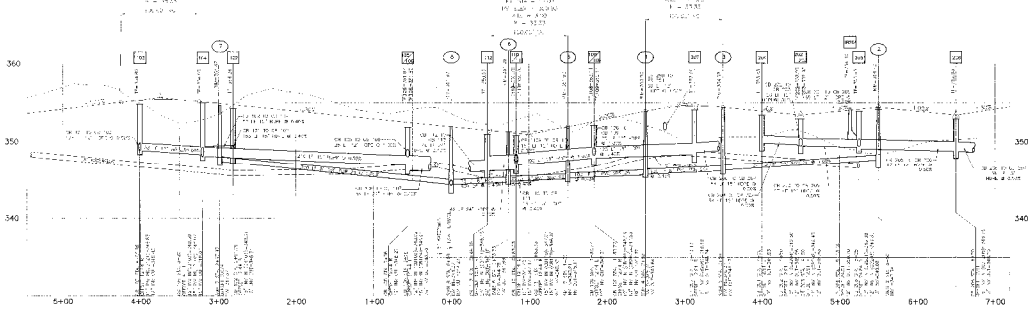
518.786.7400 • FAX 518.786.7299

PP1
SHEET 4 OF 17
FMC NO: 06-138



1 PP2 **PLAN VIEW**
DHARA COURT & YOGI COURT
SCALE: 1" = 50'
CROSS REFERENCE: NONE



2 PP2 **PROFILE**
DHARA COURT & YOGI COURT
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'
CROSS REFERENCE: NONE

LEGEND (PROPOSED)

- PROPOSED CATC- BASIN
- PROPOSED END SECTION
- PROPOSED HYDRANT
- PROPOSED SANITARY MANHOLE
- PROPOSED WATER VALVE
- PROPOSED WATER LINE
- PROPOSED SANITARY LINE
- PROPOSED DRAINAGE LINE
- PROPOSED LOT NUMBER

LEGEND (EXISTING)

- EXISTING CONCRETE BASIN
- EXISTING END SECTION
- EXISTING HYDRANT
- EXISTING SANITARY MAN-HOLE
- EXISTING MONUMENT

NEW YORK STATE DEPARTMENT OF HEALTH
Water Line Check Group
Refer to Map Number approved date and signature.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SEWER CONSTRUCTION NOTE:

IN A CONDITIONAL APPROVAL THE NEW SEWERS DESCRIBED ON THESE PLANS SHALL BE BUILT IN THE IMPROVED, IN A PROPERLY ENGINEERED MANNER TO PROVIDE UNDERGROUND WATER TIGHT SEWERS, IN THE NEW YORK STATE DEPARTMENT OF HEALTH LAW OF THE STATE OF NEW YORK, WITHIN THIRTY (30) DAYS AFTER THE COMPLETION OF THE SEWER SYSTEM, A CERTIFICATE SHALL BE SENT TO THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND TO THE OWNER THAT THE CONSTRUCTION HAS BEEN MADE IN ACCORDANCE WITH THE APPROVED PLANS. THIS APPROVAL DOES NOT ALLOW THE CONNECTION OF ANY SEWER UNTIL THE SEWER SYSTEM IS IN OPERATION IN ACCORDANCE WITH THE APPROVED PLANS. APPROVAL REPORT AND PLANS TO PROVIDE OWNER WITH WRITTEN ACCEPTANCE OF SUCH CERTIFICATION FROM THE OWNER PRIOR TO FILING. NO "PRE-FILING" WILL BE ISSUED.

Terrance M. Flynn
Water & Sewer Engineer
Department of Environmental Conservation
Region 4 - Albany, N.Y.
For Region 4 - DEC Albany
Bureau Director

JOHN H. BRUGO
P.E. 057436

DATE	REVISION RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
11/20/07	REVISED PER REVISED SITE PLAN	PM	PJV	PJV
5/10/07	REVISED PER DHAR COMMENTS	PM	PJV	PJV
3/17/06	RE-SUBMISSION OF PROFILE, STORM & SANITARY	PM	PJV	PJV
2/21/06	REVISED PER SANITARY SEWER PLAN	JP	DJS	DJS
5/3/05	MISC. REVISIONS PER PLAN REVIEW	DJS	DRA	DRA
3/29/05	UPDATED PLAN TO INCORPORATE PARCEL 3 & 4	BRC	DJS	DJS
07/16/04	REVISED PLAN TO INCORPORATE SANITARY SEWER	BRC	JJB	JJB
12/31/03	REVISED PLAN TO INCORPORATE PARCEL 2 LAND	PJV	PJV	PJV

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DES.ENGR.: JJB
DRAWN: DJS
CHECKED: PJV
PROJ. NO: 04.0268
SCALE: 1"=50'
DATE: MAR. 24, 2006

PLAN & PROFILE
DHARA COURT & YOGI COURT

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

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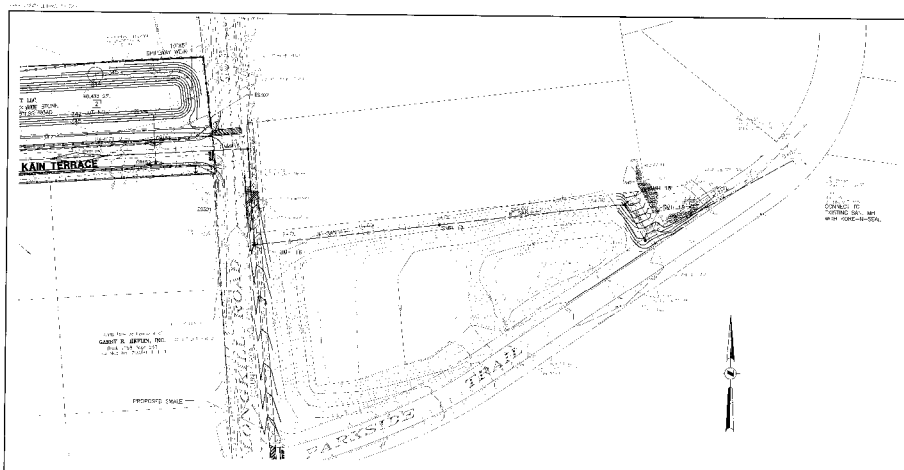
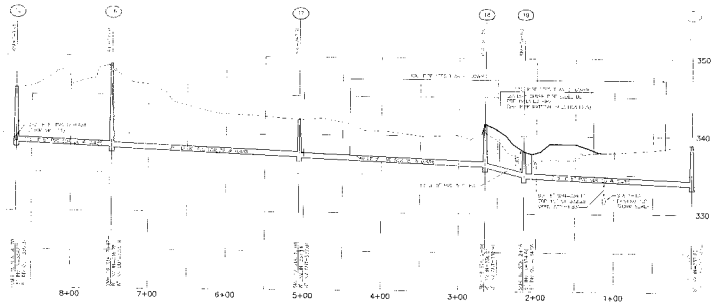
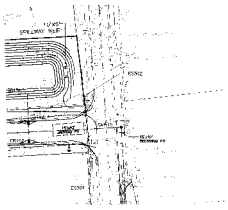
PP2
SHEET 5 OF 17
DWG. NO: 06-136



PLAN VIEW
OFFSITE SANITARY SEWER
PP3 1
SCALE: 1" = 50'
CROSS REFERENCE: NONE



PROFILE
OFFSITE SANITARY SEWER
PP3 2
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'
CROSS REFERENCE: NONE



LONGKILL ROAD
BORING/JACKING PLAN
PP3 3
SCALE: 1" = 50'
CROSS REFERENCE: NONE

NOTES:

NOTES FOR TELEVISING OF SEWER MAINS:

1. PRIOR TO THE ACCEPTANCE OF OWNERSHIP OF THE SANITARY SEWER MAIN, THE TOWN OF CLIFTON PARK SEWER DEPARTMENT WILL PERFORM TELEVISING OF ALL SANITARY SEWER MAINS.
2. THE CONTRACTOR TO PROVIDE THE SANITARY DEPARTMENT WITH A VIDEO OF THE INTERNAL INSPECTION OF THE SANITARY SEWER MAINS, 8" INCHES OR LARGER IN DIAMETER, INSTALLED UNDER THIS CONTRACT.
3. THE DELIVERY OF THE DVD WILL PROVIDE THE INSPECTION FOR THE ACCEPTANCE OF THE PHYSICAL SYSTEM. THE NUMBERING AND ITEMS DISPLAYED ON THE DVD MUST MATCH THE SYSTEM MAP. ANY ITEMS NOT SHOWN ON THE DVD, PRIOR TO ACCEPTANCE OF THE INSPECTION SECTION, REPAIRS, INCLUDING RETELEVISING, SHALL BE DONE AT NO ADDITIONAL COST TO OWNER.
4. DVDS SHALL BE ACCOMPANIED BY LOGS OF THE DVDS INCLUDING THE DATE OF INSPECTION, PROJECT NAME, CONTRACTOR, MH TO MH SECTION, DIRECTION OF TEST AND LOCATION OF ALL SERVICE CONNECTIONS (BOTH ENTRANCE SANITARY AND MH DATA - NOW DESIGNATED VARIANTS).
5. THE INTERNAL SUMMARY INSPECTION WILL BE PERFORMED AFTER VARIANT FLUSH OF ALL STREAM MATERIAL, DEBRIS IN LINE AND SERVICE AS A RESULT OF REJECTION OF THE DATA AND THE INSPECTION BY THE REPORTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. WHEN IN THE OPINION OF THE TOWN ENGINEER/ARCHITECT THE DVD SHALL BE REJECTED THE CONTRACTOR OF THE SANITARY SEWER MAIN WILL BE MADE TO THE RECEIVER. DATA THE DVD SHALL BE REJECTED AND WILL NOT BE REVIEWED AT NO ADDITIONAL EXPENSE TO THE OWNER.

NEW YORK STATE DEPARTMENT OF HEALTH
SECTION 75-0101 (NOTE 2)

Show as first sheet for review and approval

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SEWER CONSTRUCTION

I HEREBY CERTIFY THAT THE SANITARY SEWER OPERATION WITH PLANS AND SPECIFICATIONS DESCRIBED IN THE PROJECT DESCRIPTION AND SHOWN ON THE PROJECT PLANS DATED WITH THE STATE OF NEW YORK, ACCEPTED BY THE DEPARTMENT ON JANUARY 6, 1998 WHICH WERE LATER RELEASED FOR CONSTRUCTION. THE ENGINEER SHALL CERTIFY TO THE COMPLETION OF CONSTRUCTION, THE ENGINEER SHALL CERTIFY TO THE COMPLETED FACILITY WHICH CONSTITUTES A MAJOR MODIFICATION OF THE PREVIOUSLY APPROVED FACILITY WHICH WAS CONSTRUCTED UNDER THE SUPERVISION AND THE APPROVED TERMS AND WHICH WERE COMPLETED IN ACCORDANCE WITH THE APPROVED TERMS AND REPORT AND PLANS. THE PROJECT CONSULTANT (NEC) WILL PROVIDE ACCEPTANCE OF SUBMITTED REPORT TO THE DEPARTMENT PRIOR TO ACTIVE TRAFFIC TRACK AVAILABLE.

PLEASE FILE
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

(PROPOSED)

- IMPOSED CATCH BASIN
- PROPOSED END SECTION
- PROPOSED HYDRANT
- PROPOSED SANITARY MANHOLE
- PROPOSED WATER VALVE
- PROPOSED WATER LINE
- PROPOSED SANITARY LINE
- PROPOSED DRAINAGE LINE
- PROPOSED LOT NUMBER

(EXISTING)

- EXISTING CATCH BASIN
- EXISTING END SECTION
- EXISTING HYDRANT
- EXISTING SANITARY MAN HOLE
- EXISTING MONUMENT

PP3 MATERIAL SPECIFICATIONS

WATER: DIP – CLASS 50

WATER SERVICE CONNECTIONS, COPPER – TYPE K

SANITARY SEWER (GRAVITY), PVC – SDR35

SANITARY SEWER SERVICE LATERALS: PVC – SDR35

PRE-INSULATED SANITARY SEWER (GRAVITY):

PRE-INSULATED SANITARY SEWER PIPE SHALL BE SDR 26 (PS 115) PVC PIPE CONFORMING WITH ASTM D3034. INSULATION SHALL BE CHLORDANE OR EQUIVALENT, RIGID POLYURETHANE FOAM INSULATION BONDED DIRECTLY TO THE ENTIRE PIPE SURFACE. THE MINIMUM SERVICE TEMPERATURE SHALL BE 110°F WITH THE INSULATION TEMPERATURE RATING AT THE 10% OF THE HEIGHT OF GRADE (VARIES). CONTRACTOR SHALL PROVIDE MANUFACTURER'S DATA ON INSULATION THICKNESS INLINE WITH SHOP DRAWING SUBMITTAL ON PIPE.

ADAM M. BRUSKO
P.E. 067660

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHKD	APTR
11/15/07	1	REVISED SAN SEWER ALIGNMENT PER SITE PLAN	JFW	JMT	TG
12/21/07	2	REVISED SAN SEWER PER COMMENTS	TG	TG	TG
12/21/07	3	REVISED GRAVITY SANITARY SEWER PER COMMENTS	JFW	JB	JB
01/11/08	4	REVISED SANITARY SEWER PER COMMENTS	JFW	JB	JB
02/14/08	5	REVISED SANITARY SEWER PER COMMENTS	JB	JMT	JMT
03/05/08	6	REVISED SANITARY SEWER PER COMMENTS	JFW	JMT	JMT
03/10/08	7	REVISED SANITARY SEWER PER COMMENTS	JFW	JMT	JMT
03/13/08	8	REVISED SANITARY SEWER PER COMMENTS	JFW	JMT	JMT
03/24/08	9	REVISED SANITARY SEWER PER COMMENTS	JFW	JMT	JMT
7/23/08	10	REVISED SANITARY SEWER PER COMMENTS	JFW	JMT	JMT

ALL PRELIMINARY VERSIONS OF THIS DRAWING MUST BEAR THE SIGNATURE OF A MEMBER OF THE ENGINEERING FIRM THAT PREPARED THE DRAWING

@ 30%
PLAN MAP, DRAWING, PP3
DES.DRAW.: JFW
DRAWN BY: JFW
CHKD: JMT
APPROVED: TMT
PROJ. NO: 04-5288
SCALE: 1"=50'
DATE: JAN. 24, 2008

PLAN & PROFILE
OFFSITE SANITARY SEWER

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

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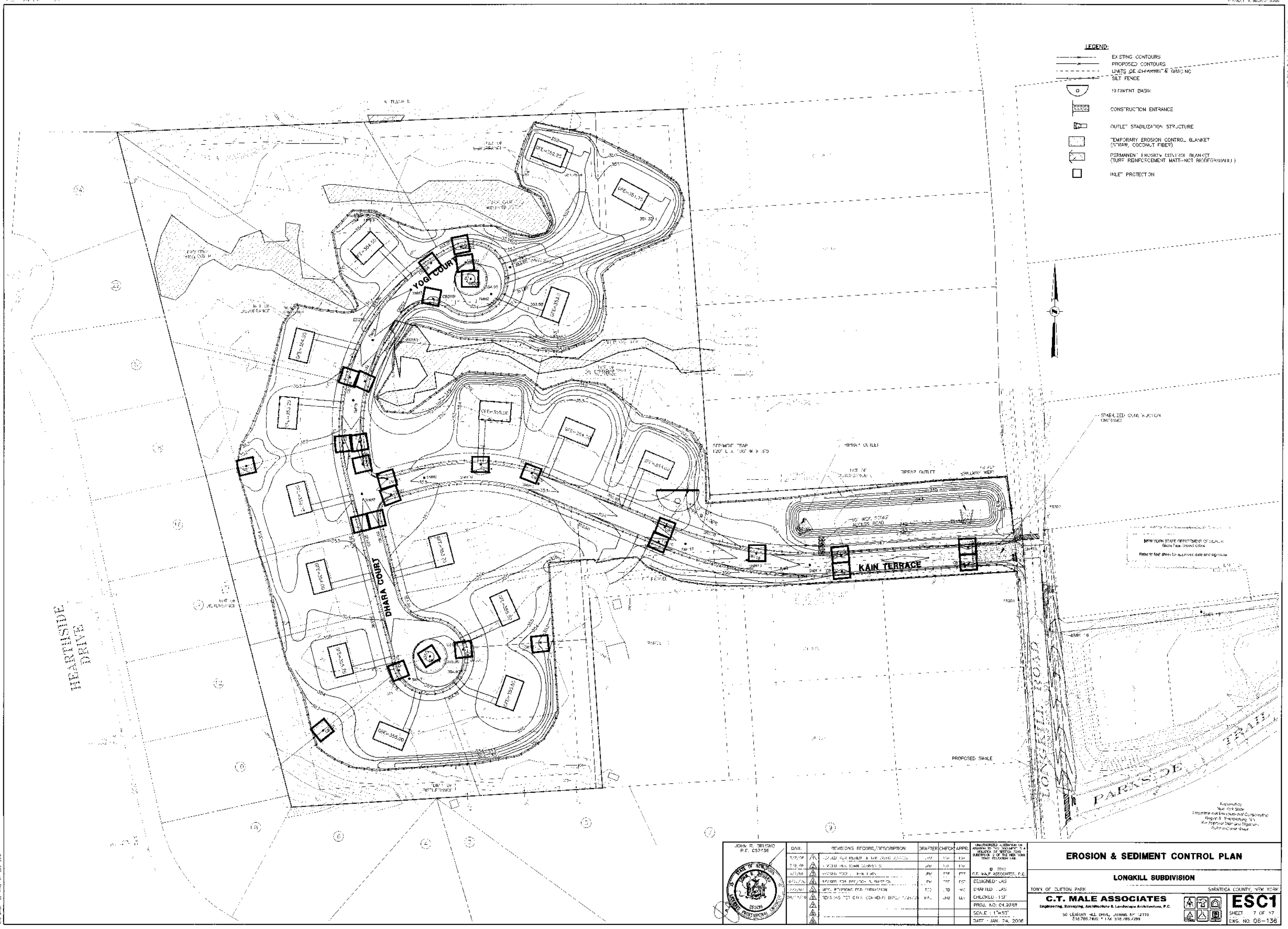
PP3
SHEET 6 OF 12
DWG. NO: 06-136


LEGEND:
EXISTING CONTOURS
PROPOSED CONTOURS
SILT FENCE
CONSTRUCTION ENTRANCE
OUTLET STABILIZATION STRUCTURE
TEMPORARY EROSION CONTROL BLANKET
(STRAW, COCONUT FIBER)
INLET PROTECTION
YOGI COURT
DHARA COURT
KAIN TERRACE
HEARTHSIDE DRIVE
PARKSIDE
PROPOSED SWALE
JOHN R. BRUSKO
P.E. 057436
DATE
REVISIONS RECORD/DESCRIPTION
DRAFTER
CHECK
APPR.
C.T. MALE ASSOCIATES, P.C.
DESIGNED: JAS
DRAFTED: JAS
PROJ. NO: 04.9288
SCALE : 1"=50'
DATE : JAN. 24, 2006
EROSION & SEDIMENT CONTROL PLAN
LONGKILL SUBDIVISION
TOWN OF CLIFTON PARK
SARATOGA COUNTY, NEW YORK
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
ESC1
SHEET 7 OF 17
DWG. NO: 06-136

GENERAL NOTES:

1. ALL CONTRACTORS AND SUBCONTRACTORS (SUCH AS SITE WORK THAT INVOLVES PERFORM EROSION RECTIFICATION ON THE PROJECT SITE SHALL SIGN AND DATE A COPY OF THE CERTIFICATION STATEMENT WHICH IS LOCATED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), BEFORE UNDERTAKING ANY CONSTRUCTION ACTIVITY.

2. BMP TEMPORARY CONTROL MEASURES DETAILED ON THIS SHEET SHALL BE IN PLACE PRIOR TO CONSTRUCTION START UPON NEW CONSTRUCTION PHASE. AT A MINIMUM THESE MEASURES CONSIST OF SILT FENCE, INLET PROTECTION AND TEMPORARY SEDIMENT TRAPS CONSTRUCTED. ALL MEASURES SHALL BE PROPERLY MAINTAINED AND/OR REPLACED AS NECESSARY, AND REMOVED WITHIN THREE (3) DAYS OF THE SITE STABILIZED.

3. FOLLOWING CONVENTIONAL CONSTRUCTION SITE INSPECTIONS AND CONSTRUCTION SITE STORMWATER INSPECTIONS DUE AND WRITTEN REPORTS WITHIN THE SWPPP SHALL BE REVISED AS NECESSARY.

4. BASED ON THE WEEKLY SITE INSPECTIONS, THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWPPP SHALL BE REVISED AS SITE CONDITIONS WARRANT. THE CONTRACTOR SHALL IMPLEMENT THESE CHANGES AS SOON AS PRACTICABLE.

5. SILT FENCING AND CONSTRUCTION ENTRANCE MEASURES WILL BE INSTALLED AND MAINTAINED AS SHOWN ON THE PLAN. ALL OTHER DISTURBED AREAS, STOCKPILES, AND THE HAUL ROAD AREAS WHICH ARE STABILIZED WITHIN 14 DAYS FOR LONGTERM COVER. THE PROPERTY OWNER WILL ASSUME RESPONSIBILITY FOR MAINTAINING THE EROSION AND SEDIMENT CONTROLS (SWPPP) IN PERPETUITY.

6. CONSTRUCTION IS TO PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. IN ADDITION THE CONTRACTOR OR SUBCONTRACTOR MUST PROVIDE SUFFICIENT TIME FOR THE INSTALLATION OF SOIL STABILIZATION (SUCH AS THE USE OF JUTE MESH AND EROSION MATTING) WITH THE WEEKLY SITE INSPECTIONS AND REQUIRED TO BE INSTALLED.

7. PROPER AS PRACTICABLE, LIMIT THE VEGETATION SCALP, PER PRELIMINARY SITE PREPARATION ACTIVITIES SHALL BE PLACED TO MINIMIZE THE AREA AND DURATION OF SOIL DISTURBANCE. ALL UNNECESSARY REMOVAL OF MATURE VEGETATION SHALL BE AVOIDED.

8. TEMPORARY DIVERSIONS WILL BE CONSTRUCTED USING A PORTABLE FLUME AND HOSE AS NECESSARY. EXCESS WATER WILL BE PUMPED TO THE MAIN SEDIMENTATION BASIN OR COMPUTED STORM DRAIN. A FILTER BAG MUST BE USED TO FILTER THE WATER BEFORE ENTERING THE BASIN WHEN COMPLETED. ALL DISPOSED SEDIMENTS WILL BE DISPOSED OF IN THE STORMS AREA.

9. INLET PROTECTION MEASURES WILL BE INSTALLED AROUND EACH DRAIN INLET TO PREVENT SEDIMENT LADEN WATER FROM ENTERING STORM SEWER SYSTEMS.

10. IN AREAS OF STEEPER WALLS SLOPES, SUCH AS DRAINAGE DITCHES AND ROADSIDE DITCHES SEEDS & SOD PLANTS WILL BE INSTALLED TO BLOCK THE MOVEMENT OF THE FLOWS. EXTENDED DITCHES, SEEDS & SOD PLANTS WILL BE INSTALLED TO BLOCK THE MOVEMENT OF THE FLOWS. THE EROSION CONTROL AND STABILIZATION MEASURES WILL BE PARTIALLY SIZED USING RIPRAP OR EROSION CONTROL FABRIC.

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STABILIZED CONSTRUCTION ENTRANCE(S) SHALL BE INSTALLED AS PER PLAN AT THE PRIMARY SITE ACCESS(S) ON A MINIMUM, AS PER REQUIREMENT.

2. PERMANENT WEATTY DEPRESSED SHALL BE ESTABLISHED AND TO THE DEPTH OF STORMWATER (WHO BE BASED). CONSTRUCTION ENTRANCE SHALL NOT PASS SIMILARLY OR DEPRESS SUCH AS SURFACE CROSSING DOCTRINE, AND SHALL NOT INTERFERE WITH THE TRAFFIC ON THE PUBLIC ROADWAY.

3. IF ENTRANCE CONSTRUCTION ROADS ARE A SOURCE OF SEDIMENT WHICH SHALL THE SURFACE AREAS MEASURING 1 INCH OR 25 MILLIMETERS OR LARGER, THE ENTRANCE SHALL BE DESIGNED AS PRACTICABLE.

STOCKPILE NOTES:

1. TOPSOIL AND FILL (CUT & FILL SPOILS) STOCKPILE MATERIAL THE REMOVED DURING THE SITE PREPARATION SHALL BE STORED IN AREAS ON THE PLAN. DURING OPERATION, THE STOCKPILED MATERIAL SHALL BE SPREAD ON SITE TO REPAIR THE SURFACE DRAINAGE DEPENDING ON REQUIRED PROPERTIES, VOLUME, MOLD APPLICATION, AND MULCH PROPERTIES. IN NO CASE SHALL UNCOVERED MATERIALS BE STORED WITHIN 25 FT OF ANY TRIBUTARY, OR OTHER SURFACE WATER.

2. ANY BUILT BERMS SHALL BE CONSTRUCTED AREAS AND STOCKPILES OF TOPSOIL AND FILL MATERIAL. THE BERMS SHALL BE SEEDED WITH FUNCTIONAL PERENNIAL VEGETATION. THE BERMS SHALL BE MAINTAINED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS THE STOCKPILES ARE REMOVED AND DISPOSED OF OR AS APPROPRIATE TO FINAL GRADE AND PERMANENTLY STABILIZED.

SILT FENCE NOTES:

1. SILT FENCE WILL BE PLACED ON THE DOWNSLOPE SIDE OF DISTURBED AREAS AND AROUND ALL STOCKPILES. SILT FENCING WILL ALSO BE PLACED AROUND THE BOUNDARY OF WETLANDS ADJACENT TO THE WORK AREA AS OF THE LOSS OF WETLANDS AS THE CONSTRUCTION IS COMPLETED. WITHIN PERIMETER AREAS, SILT FENCE SHALL BE INSTALLED ALONG THE PERIMETER OF THE ENTIRE WORK AREA WHEN WORK IS CONDUCTED IN PHASES.

2. SILT FENCE MUST BE REMOVED OR REPLACED WHEN THE LINES ARE PRESENT OR WORN, AND THE FENCE IS NOT PROVIDED OF TO BE CLEANED WHEN THE ACCUMULATED SEDIMENT REACHES TWO (2) FEET. THE SILT FENCE REMOVAL THE SEDIMENT WILL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE UPLAND AREA.

MULCHING & SEEDING NOTES:

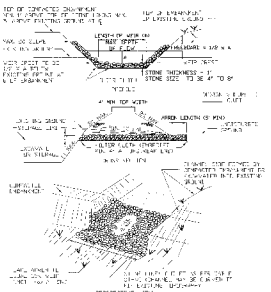
1. TEMPORARY MULCHING SHALL BE PROVIDED AS SOON AS PRACTICAL IN AREAS OF THE SITE PRIOR TO FORMING STOCKPILES, OR PLACING OTHER TEMPORARY OR PERMANENT EROSION CONTROL, BUT NO LATE THAN 14 DAYS AFTER WORK HAS CEASED. ACCEPTABLE TEMPORARY STABILIZATION MULCHES MULCH, STRAW, AND EROSION CONTROL FABRIC OR SOME FUNCTIONAL EQUIVALENT.

2. TEMPORARY EROSION CONTROL PROTECTION BY MULCHING SHOULD BE CONTINUED ONLY WITHIN 14 DAYS OF THE FILL GRADE ZONES PRODUCED TO AVOID ALL POSSIBLE CONTAMINATION OF POINTS OUTSIDE OF OTHER WATERCOURSES. PLACEMENT OF JUTE MESH UNDER THE MULCH IS RECOMMENDED TO PROVIDE POSITIVE TACKIFIER OF THE MULCH AND INCREASES PROTECTION AGAINST EROSION.

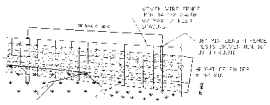
3. LITTERS AREAS WILL BE REVEGETATED IN ACCORDANCE WITH RECOMMENDATIONS FROM "DEC NYS CONSERVATION FOR URBAN EROSION AND SEDIMENT CONTROL (OCTOBER, 1991).

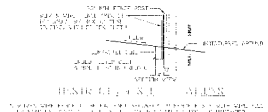
RECOMMENDED SEED MIXTURE FOR REVEGETATION OF DISTURBED UPLAND AREAS		
COMMON NAME	SEEDING RATE** (LBS / ACRE)	SEEDING RATE (LBS / SQ. FOOT)
UNPAVED UNDERGROUND UTILITIES OR COMMON WHITE CLOVER*	8 LBS./ACRE	0.4 LBS./SQ. FOOT
TALL FESCUE	20 LBS./ACRE	0.45 LBS./SQ. FOOT
REDTOP OR PERENNIAL RYEGRASS	2.0 LBS./ACRE (REDTOP) 0 LBS./ACRE (RYEGRASS)	0.05 LBS./SQ. FOOT 0.12 LBS./SQ. FOOT

* ADD INOCULANT INVARIABLY WHEN IN SEEDING
** SEED MIX RATES INCLUDED HERE ARE THOSE RECOMMENDED FOR URBAN EROSION AND SEDIMENT CONTROL (OCTOBER 1991)

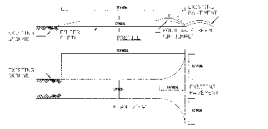


(NYSDEC STD)
RIPRAP OUTLET SEDIMENT TRAP
ESC2 SCALE NONE
CROSS REFERENCE:NONE





(NYSDEC STD)
SILT FENCE
ESC2 SCALE NONE
CROSS REFERENCE:NONE



(NYSDEC STD) STABILIZED CONSTRUCTION ENTRANCE
ESC2 SCALE NONE
CROSS REFERENCE:NONE

RIPRAP OUTLET SEDIMENT TRAP ST-V
(FOR STONE LINED CHANNEL)

CONTRIBUTING DRAINAGE AREA (ACRES)	WIDTH (FT) (BOTTOM)	LENGTH (FT) (TOP OF DITCH)
1	1.5	4.5
2	1.5	5.0
3	1.5	5.5
4	1.5	3.0
5	1.5	7.0
6	1.5	10.0
7	1.5	4.5
8	2.0	3.0
9	2.0	13.0
10	2.0	7.0
11	2.0	9.0
12	2.0	11.0
13	2.0	17.0
14	2.5	11.0
15	2.5	17.0

CONSTRUCTION SPECIFICATION FOR STONE OUTLET SEDIMENT TRAP

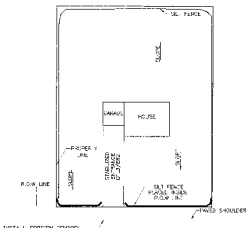
[illegible]

INDIVIDUAL LOT CONSTRUCTION:

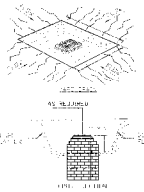
1. INSTALL SILT FENCE AROUND PERIMETER OF SITE OR SITES IF MULTIPLE RESIDENCES ARE ERECTED WITHIN SUBDIVISION.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE FOR EACH LOT.
3. AFTER FINE GRADING IS COMPLETED ON LOT, SEED AND/OR STABILIZE SITE WITH HAY AND MULCH TO PREVENT WIND EROSION WITHIN 14 DAYS OF COMPLETING WORK.
4. REPAIR ROADS IMMEDIATELY IF SEDIMENT IS TRACKED ONTO THE ROADWAY.
5. UPON COMPLETION OF HOME AND AFTER SOD GRASS GROWTH IS ACHIEVED, ALL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED.

SEDIMENT TRAP DESIGN:

1. CONTRIBUTION AREA (DISTURBANCE AREA): 0.5 ACRES
   REQUIRED STORAGE = 3600 CUBIC FEET PER ACRE X 0.5 ACRES
   = 1800 CUBIC FEET
   ACTUALLY PROVIDED = 3600 CUBIC FEET
   STONE LINED CHANNEL
   DEPTH OF CHANNEL 0.5 FEET
   LENGTH OF WEIR 10.0 FEET
2. CONTRIBUTION AREA (DISTURBANCE AREA): 2.0 ACRES
   REQUIRED STORAGE = 3600 CUBIC FEET PER ACRE X 2.0 ACRES
   = 7200 CUBIC FEET
   ACTUALLY PROVIDED = 7200 CUBIC FEET
   STONE LINED CHANNEL
   DEPTH OF CHANNEL 1.0 FEET
   LENGTH OF WEIR 9.3 FEET



TYPICAL LOT SEDIMENT CONTROL
ESC2 SCALE NONE
CROSS REFERENCE:NONE



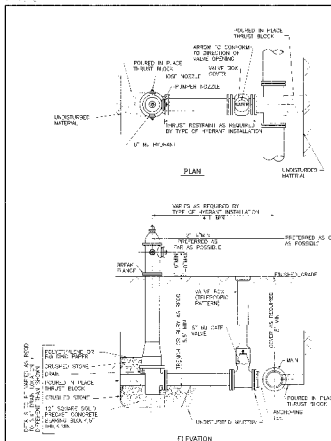
(NYSDEC STD)
CATCH BASIN SEDIMENT TRAP
ESC2 SCALE NONE
CROSS REFERENCE:NONE

NEW YORK STATE DEPARTMENT OF HEALTH
Water Public Control Office
Refer to Resolution for approval date and signature.

Approved for
New York State
Department of Health
by Approval Date of Resolution
Name & Title of Signer

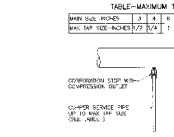
JOHN W. BRUSKO P.E. 067439	DATE	REVISIONS RECORD/DESCRIPTION	DRAWN	CHECK	APV'D	© 2011 C.T. MALE ASSOCIATES, P.C.	EROSION & SEDIMENT CONTROL DETAILS
	07/09/08	REVISED AS PER DEC REVIEW	JVS	JWB	PCF		LONGKILL SUBDIVISION
	02/07/08	REVISED TO REFLECT TOWN COMMENTS DATED 2/28/08	JVS	PCF	PCF		
	01/30/08	REVISED TO TOWN COMMENTS	JVS	JWB	PCF		TOWN OF CLIFTON PARK SARATOGA COUNTY, NEW YORK
	12/17/07	ADDED ESC DETAILS AND CLEAN UP	JVS	JWB	PCF	DESIGNED - JWB	C.T. MALE ASSOCIATES
	07/31/07	INITIAL PRELIMINARY SUBMISSION PLAN	MAC	JWB	JWB	DRAWN - JVS	Engineering, Surveying, Architecture & Landscape Architecture, P.C.
						CHECKED - PCF	50 CENTURY HILL DRIVE, LATHAM, NY 12110
						PROJ. NO. 06-136	518.786.7400 • FAX 518.786.7299
						SCALE 1"=50'	
						DATE JAN. 24, 2008	

ESC2
SHEET 8 OF 17
DWG. NO. 06-136



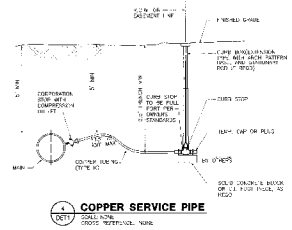
1 DET1 TYPICAL HYDRANT INSTALLATION

SCALE: NONE
CROSS REFERENCE: NONE



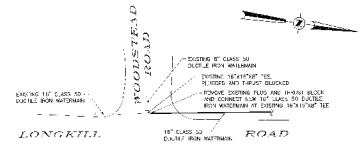
3 DET1 TYPICAL COPPER SERVICE PIPE CONNECTIONS

SCALE: NONE
CROSS REFERENCE: NONE



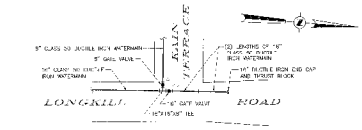
4 DET1 COPPER SERVICE PIPE

SCALE: NONE
CROSS REFERENCE: NONE



8 DET1 SCHEMATIC - AT POINT OF CONNECTION TO EXISTING WATER MAIN

SCALE: NONE
CROSS REFERENCE: DRAWING NO. PP1 AND P4



9 DET1 SCHEMATIC - WATER MAIN JUNCTURE AT LONGKILL ROAD AND KAIN TERRACE

SCALE: NONE
CROSS REFERENCE: DRAWING NO. PP4

REQUIRED BEARING AREAS -b (SOFT) FOR BEARING BLOCKS*					
PIPE SIZE (INCHES)	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	
4	3.0	1.8	1.2	0.6	0.4
6	4.0	5.9	3.3	1.6	0.8
8	7.2	10.1	5.6	2.8	1.4
10	10.9	15.7	8.3	4.2	2.1
12	15.6	21.5	11.8	6.0	3.0
14	20.8	29.1	15.9	8.0	4.0
16	26.8	37.9	20.5	10.4	5.2
18	33.8	47.9	25.7	13.1	6.5
20	41.2	58.2	31.5	16.1	8.1
24	59.0	83.1	45.0	22.9	11.5
30	90.0	127.0	68.9	35.0	17.7
36	129.0	183.3	99.1	50.5	25.4

*FACTOR OF SAFETY=1.5
SOIL BEARING OF 2000 PSF
200 PSI DESIGN PRESSURE

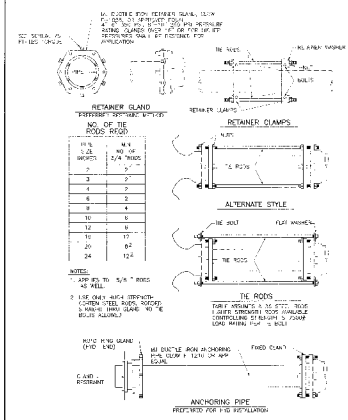
THRUST REACTIONS-R(LB) PER 100PSI INTERNAL PRESSURE					
NOM. PIPE DIA. (IN)	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	
4	1,910	2,899	1,265	636	320
6	3,735	5,898	2,862	1,459	733
8	6,133	9,097	4,293	2,510	1,261
10	9,077	13,655	7,409	3,716	1,869
12	13,065	19,533	10,474	5,340	2,683
14	16,985	26,007	14,012	7,174	3,604
16	22,179	33,885	19,159	9,278	4,661
18	29,040	44,226	22,358	11,651	5,855
20	35,644	51,821	29,040	14,918	7,493
24	52,279	77,054	40,917	20,596	10,348
30	80,425	117,716	61,554	31,980	15,777
36	115,209	167,621	88,177	44,882	22,585

NOTES:

1. VALVES FOR THE APPLY TO TEES, 90's BENDS, CAPS, AND TAPPED SECTIONS.
2. REQUIRED BEARING AREAS ARE BASED ON UNBURIED PIPE WITH INTERNAL PRESSURE PLUS SURGE PRESSURE ALLOWANCE INCLUDING 50% FOR TOTAL INTERNAL PRESSURE.
3. REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT DUE TO COMMON SOIL CONDITIONS ENCOUNTERED. BEARING AREAS MAY BE MODIFIED BY THE ENGINEER.

BEARING STRENGTH (lb/ft²)	
SOIL	
MUCK	0
SOFT CLAY	2,000
SILT	2,000
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	6,000

4. IN MUCK, PEAT, OR ORGANIC SILT PLACED FOR ALL THRUSTS SHALL BE REMOVED BY PLACE OF BLOCK OR WOULD FOR A DEPTH OF ONE OF SUCH UNSUITABLE MATERIAL AND REPLACED WITH BALLAST OF SUFFICIENT STRENGTH TO RESIST THE THRUST. ALL AS REQUIRED BY THE ENGINEER.



NO. OF TIE RODS REQD	
PIPE SIZE	NO. OF RODS
3	2
4	2
6	2
8	4
10	6
12	6
16	10
20	8*
24	12*

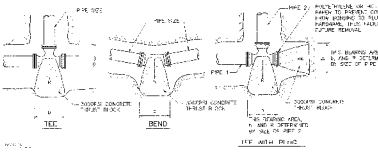
NOTES:

1. APPLIES TO 5/8" RODS AS WELL.
2. USE GRADE 105 (SPECIFICATION CORTEN STEEL RODS, SHOCKED & MADE SMALL GRADE NO. TIE RODS ALLOWED.

TIE RODS
FURNISH MATERIALS & MAKE SETTING TRUE & SUITED STRAIGHT RODS AVAILABLE CONTRACTORS BY MEANS OF A JAMMED LOAD AGAINST FLAT & BOLT

2 DET1 THRUST RESTRAINT OPTIONS

SCALE: NONE
CROSS REFERENCE: NONE



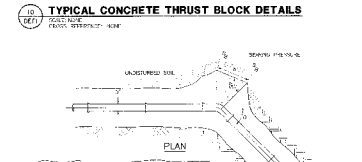
NOTES:

1. BEARING SURFACE SHOULD BE UNDISTURBED SOIL. WHERE IT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
2. BLOCK HEIGHT(H) SHOULD BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK (H/2), BUT NOT LESS THAN THE PIPE DIAMETER (D).
3. BLOCK HEIGHT(H) SHOULD BE CHOSEN SUCH THAT THE CALCULATED BLOCK WIDTH(A) VARIES BETWEEN D/2 AND 1D(1 TIMES THE DIAMETER).

FOR DIMENSIONS AND THRUST REACTIONS SEE ABOVE THIS SHEET

10 DET1 TYPICAL CONCRETE THRUST BLOCK DETAILS

SCALE: NONE
CROSS REFERENCE: NONE



12 DET1 GRAVITY THRUST BLOCK DETAILS

SCALE: NONE
CROSS REFERENCE: NONE

MJ BOLT TORQUE		
JOINT SIZE (IN)	BOLT SIZE (IN)	TORQUE (FT-LBS)
3	5/8	45-60
4-24	3/4	75-90

6 DET1 TYPICAL JOINT DETAIL

SCALE: NONE
CROSS REFERENCE: NONE

11 DET1 BEARING BLOCK DETAILS

SCALE: NONE
CROSS REFERENCE: NONE

7 DET1 ACI STANDARD HOOKS

SCALE: NONE
CROSS REFERENCE: NONE

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECKED	APPR.
3/7/07	1	REVISED PER REVIEW COMMENTS	JPG	JR	
3/28/07	2	REVISED PER TOWN COMMENTS	JPG	JR	
5/21/07	3	REVISED PER TOWN COMMENTS	JPG	JR	
11/13/07	4	REVISED PER REA COMMENTS DATED 10/31/07	JPG	JR	
	5				
	6				
	7				
	8				
	9				
	10				

JOHN H. BRUGNOLI
P.E. 067438

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C.T. MALE ASSOCIATES, P.C.

DESIGNED: JMB
DRAFTED: TCB
CHECKED: JRB
PROJ. NO: 04-0298
SCALE: NONE
DATE: JAN. 24, 2006

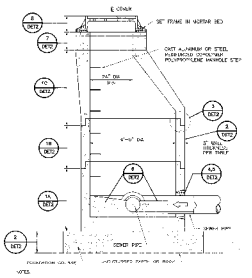
WATER DISTRIBUTION DETAILS

LONGKILL SUBDIVISION

TOWN OF ATHENS PARK — GREENE COUNTY, NEW YORK

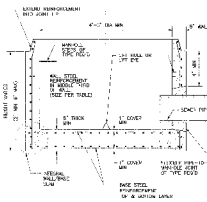
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 FAX 518.786.7299

DET1
SHEET 9 OF 17
DWG. NO. 06-136



NOTES:
1. SEE "GENERAL NOTES - SANITARY SEWER" ON SHEET DET4
2. CONCRETE SHALL HAVE A 28 - DAY COMPRESSIVE STRENGTH OF 4000 PSI. ANY HOLE IN WALL OR BASE SHALL BE EXPANDED GROUT.
3. CONCRETE PIPE SHALL BE CONNECTED TO MANHOLE WITH PRECAST CONCRETE "SANITARY" PIPE BOOT. ALL PIPE BOOTS SHALL BE SPECIFIED FOR "FLEXIBLE" JOINTS.
4. ALL JOINTS OF BASE SHALL BE FILLED IN CONJUNCTION WITH PRECAST CONCRETE "SANITARY" PIPE BOOT. ALL PIPE BOOTS SHALL BE SPECIFIED FOR "FLEXIBLE" JOINTS.

1 DET2 PRECAST CONCRETE SANITARY MANHOLE
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2

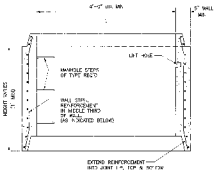


STEEL REINFORCEMENT SIZE
(ASTM A185 GRADE 65)

MANHOLE DIA.	WALL REINFORCEMENT MIN. AREA/LINK FT.	BASE STEEL TOP & BOTTOM MESH MIN. AREA/LIN. FT.
4'-0"	0.77 SQ IN	0.77 SQ IN
5'-0"	0.15 SQ IN	0.15 SQ IN

(AS INDICATED BELOW)

2 DET2 BASE SECTION
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



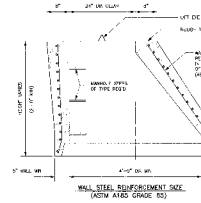
WALL STEEL REINFORCEMENT SIZE
(ASTM A185 GRADE 65)

MANHOLE DIA	CIRCUMFERENTIAL STEEL MIN. AREA/LIN FT.
4'-0"	0.77 SQ IN
5'-0"	0.15 SQ IN

USE MIN ENTRANCE CONCRETE 4000 PSI MIN
MIX LATE DIA. IN 3 3/4 INCHES AND 18-MIN

NOTE:
RISER SECTION SHALL BE REINFORCED TO WITHSTAND 16 20-kN LOAD IN TRAFFIC AREAS. NON-PRECAST LISTED DOES NOT NECESSARILY MEET TRAFFIC REQUIREMENT.

3 DET2 RISER SECTION
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



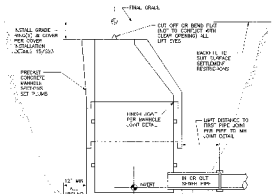
WALL STEEL REINFORCEMENT SIZE
(ASTM A185 GRADE 65)

MANHOLE DIA	CIRCUMFERENTIAL STEEL MIN. AREA/LIN FT.
4'-0"	0.77 SQ IN
5'-0"	0.15 SQ IN

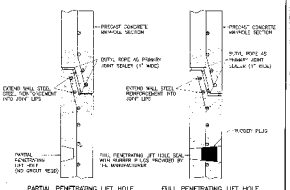
USE MIN PERMANENT CONCRETE 4000 PSI MIN
MIX LATE DIA. (MINIMUM 3 1/2 IN)

NOTE:
BASE SECTION SHALL BE REINFORCED TO WITHSTAND 16 20-kN LOAD IN TRAFFIC AREAS. NON-PRECAST LISTED DOES NOT NECESSARILY MEET TRAFFIC REQUIREMENT.

4 DET2 CONE SECTION
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



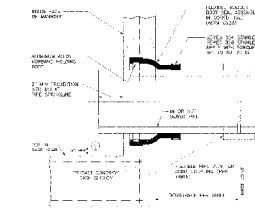
5 DET2 PRECAST CONCRETE SANITARY MH INSTALLATION
SCALE NONE
CROSS REFERENCE 1/DET2



PARTIAL PENETRATING LIFT HOLE

FULL PENETRATING LIFT HOLE

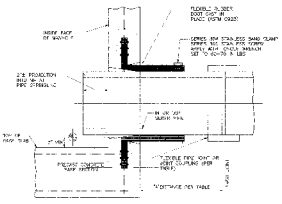
6 DET2 MANHOLE JOINT
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



FLEXIBLE JOINT REQUIREMENTS

"SANITARY PIPE" TYPE	FLEXIBLE JOINT TYPE IN & OUT	"FLEXIBLE" JOINT TYPE
PVC	STD RUBBER GASKET PVC JOINT ONLY	2 WAY
PLASTIC PIPE	STD RUBBER GASKET PVC JOINT ONLY	10 WAY
ELECTRIC WORK	STD RUBBER GASKET PVC JOINT ONLY	10 WAY

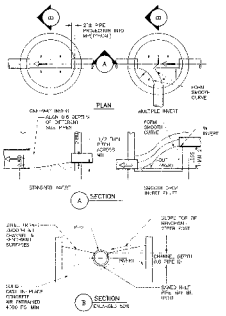
A DET2 FORMED OR CORED HOLE WITH FLEXIBLE PIPE-TO-MH-JOINT
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



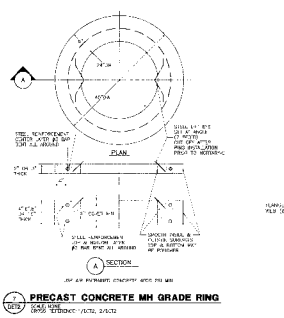
FLEXIBLE JOINT REQUIREMENTS

"SANITARY PIPE" TYPE	FLEXIBLE JOINT TYPE IN & OUT	"FLEXIBLE" JOINT TYPE
PVC	STD RUBBER GASKET PVC JOINT ONLY	2 WAY
PLASTIC PIPE	STD RUBBER GASKET PVC JOINT ONLY	10 WAY

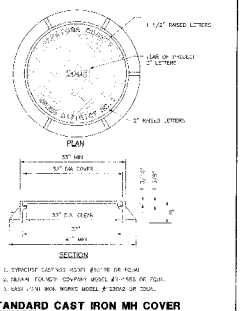
B DET2 PRECAST HOLE FLEXIBLE PIPE-TO-MH-JOINT
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



8 DET2 INVERT, CHANNEL AND BENCHWALLS
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2

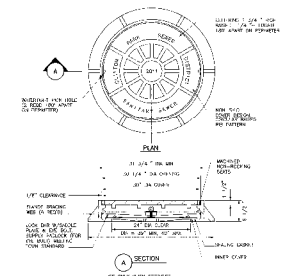


7 DET2 PRECAST CONCRETE MH GRADE RING
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2



1. SYRACUSE CASTINGS MODEL #SC-1000 OR EQUAL
2. NEENAH FOUNDRY COMPANY MODEL #R-1755 OR EQUAL
3. EAGLE LOW BOX WORKS MODEL # 12002 OR EQUAL

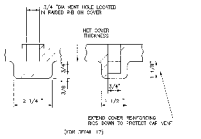
A DET2 STANDARD CAST IRON MH COVER
SCALE NONE
CROSS REFERENCE NONE



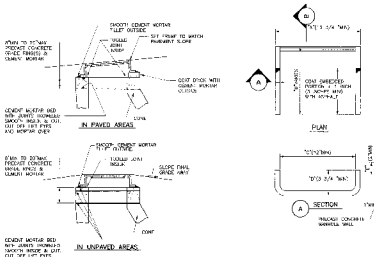
JOB ONLY WHEN SPECIFIED

9 DET2 WATERTIGHT/LOCKING CAST IRON MH FRAME AND COVER SANITARY MANHOLE
SCALE NONE
CROSS REFERENCE 1/DET2

10 DET2 FULL PENETRATING PICK HOLE
SCALE NONE
CROSS REFERENCE 8/DET2



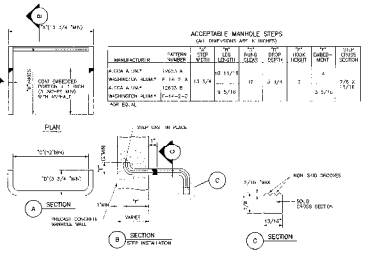
11 DET2 SAFETY VENT OR CAP VENT HOLE
SCALE NONE
CROSS REFERENCE 1/DET2



IN PAVED AREAS

IN UNPAVED AREAS

12 DET2 CAST IRON MH COVER INSTALLATION
SCALE NONE
CROSS REFERENCE 1/DET2, 8/DET2, 9/DET2

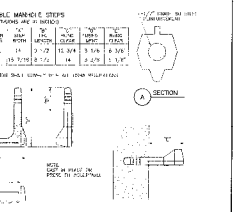


ACCEPTABLE MANHOLE STEPS
(ALL DIMENSIONS ARE IN INCHES)

MANUFACTURER	PATTERN NUMBER	"A" OVER STEP WIDTH	"B" OVER LEG LENGTH	"C" OVER RUNG CLEAR.	"D" OVER STEP DEPTH	"E" OVER HEIGHT	"F" OVER HEIGHT	"G" OVER CAMBER-MENT	"H" OVER CROSS SECTION
A-LON ALUM	1A03-A	13	3 1/2	10 11/16				4	
INGERSOLL-RAND	P 14 S 3	13 1/4	—	12	12 3/4	2		7/8	
AJ-TUL ALUM	1203-B		3 5/16					3 5/16	
NEENAH ALUM	R-4972-2								

ASP EQ.AL

13 DET2 ALUMINUM MH STEP CAST IN PLACE
SCALE NONE
CROSS REFERENCE: 7/A, 2, 1/DET2



ACCEPTABLE MANHOLE STEPS
(ALL DIMENSIONS ARE IN INCHES)

MANUFACTURER	PATTERN NUMBER	"A" OVER WIDTH	"B" OVER LEG LENGTH	"C" OVER RUNG CLEAR	"D" OVER STEP DEPTH	"E" OVER HEIGHT
M.A. INDUSTRIES INC	PS-4-PS	14	3 1/2	11 3/4	3 1/4	6 3/8
M.A. INDUSTRIES INC	PS-4-PF	15 7/16	3 1/2	14	3 1/8	6 1/8

FOR EQ.AL

MM STEP DESIGN AND INSTALLATION SHALL COMPLY WITH ALL OSHA REQUIREMENTS

14 DET2 COPOLYMER POLYPROPYLENE PLASTIC MH STEP
SCALE NONE
CROSS REFERENCE 1/DET2, 2/DET2

JOHN R. BRISCO
P.E. 051436
STATE OF NEW YORK
JOHN R. BRISCO
LICENSED PROFESSIONAL ENGINEER

	DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR
1	10/17/07	PRECAST CONC. MH INSTALL. 2/DET2	JRB	JB	JRB
2	11/14/07	PRECAST CONC. CONNECTION	JRB	JB	JRB
3	12/17/07	MANHOLE STEP INSTALLATION DETAIL	JRB	JB	JRB
4	1/4/07	REVISIONS PER SPECIFICATIONS	JRB	JB	JRB
5	1/14/08	REVISIONS PER PRELIMINARY SUBM. 1/14/08	MAC	JRB	
6	1/21/08	REVISIONS PER FINAL COMMENTS 1/21/08	MAC	JRB	
7					
8					
9					
10					

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C.T. MALE ASSOCIATES, P.C.

DRAWN: JRB
CHECKED: JRB
FIELD BK: CK-2158
SCALE: AS SHOWN
DATE: JAN. 24, 2008

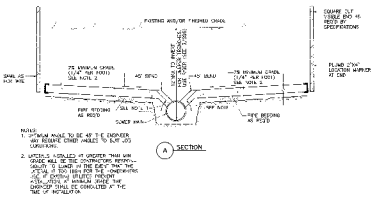
SANITARY SEWER DETAILS

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

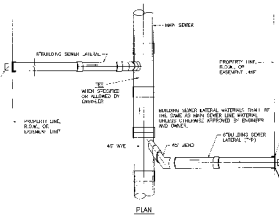
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
(518) 786-7400 • FAX (518) 786-7299

DET2
SHEET 10 OF 17
DWG. NO. 06-136



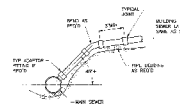
1 DET1 STANDARD SEWER SERVICE CONNECTION SECTION

SCALE: NONE
CROSS REFERENCE: 1/DET1, 2/DET3



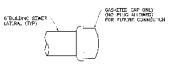
2 DET3 STANDARD SEWER SERVICE CONNECTION PLAN

SCALE: NONE
CROSS REFERENCE: 1/DET1, 2/DET3



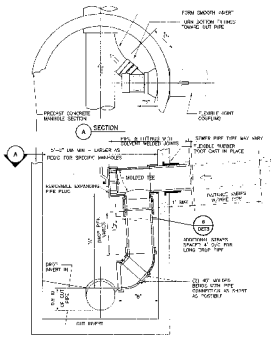
3 DET3 TYPICAL RISERS FOR DEEP TRENCHES

SCALE: NONE
CROSS REFERENCE: 1/DET3, 3/DET3



4 DET3 END CAP DETAIL

SCALE: NONE
CROSS REFERENCE: 1/DET3, 3/DET3

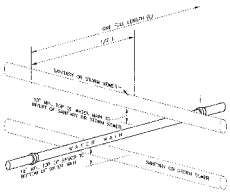


1 DET3 INSIDE DROP MANHOLE

SCALE: NONE
CROSS REFERENCE: 1/DET3, 2/DET3, 4/DET3

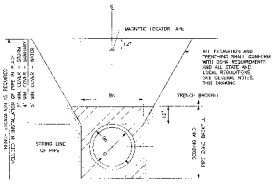
6 DET3 RESTRAINING STRAP

SCALE: NONE
CROSS REFERENCE: 3/DET3



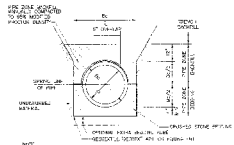
7 DET3 TYPICAL SECTION WATER / SEWER CROSSING

SCALE: NONE
CROSS REFERENCE: NONE



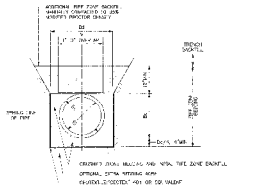
8 DET3 TYPICAL TRENCH DETAIL

SCALE: NONE
CROSS REFERENCE: NONE



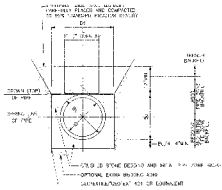
9 DET3 WATER MAIN - CL50 DUCTILE IRON PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE



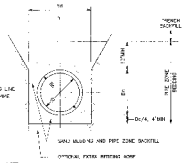
10 DET3 STORM SEWER - CORRUGATED HDPE PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE



11 DET3 GRAVITY SANITARY SEWER AND STORM SEWER SDR 26/35 PVC PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE



12 DET3 SANITARY SEWER - SDR 26 PVC PRESSURE PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE

GENERAL NOTES

EXCAVATION, TRENCHING, FILLING AND SHORING REQUIREMENTS

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UTILITIES AND PROPERTIES WITH AND FOR ALL DAMAGE RESULTING FROM ITS FAILURE TO PROPERLY PLACE, MAINTAIN, AND REMOVE IT.

B. REQUIREMENTS OF REGULATION ADDRESS:

1. PERMIT TITLE: "EXCAVATION DURING WET" IN NEW YORK STATE DEPARTMENT OF LABOR SAFETY, PUBLIC HEALTH LAW 27
2. SUBPART 6 - "EXCAVATION" OF UNITED STATES DEPARTMENT OF LABOR OSHA REGULATORS FOR CONSTRUCTION
3. THE MORE STRINGENT REQUIREMENT IN REGARD TO THE MATERIAL USED AND / OR THE METHOD ENGINEERING HAS MINIMUM SOIL/ROCK-SAFE AND SHALL BE ENFORCED IN MAGNITUDE TO PROVIDE SITE WORKING CONDITIONS.
4. ALL MUNICIPAL, COUNTY, STATE, OR FEDERAL ORDINANCES, REGULATIONS, OR LAWS AND ALL NECESSARY REQUIREMENTS, PERMITS AND APPROVALS OBTAINED BY THE CONTRACTOR SHALL BE ENFORCED.

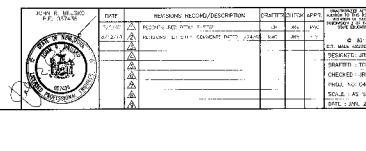
10 DET3 STORM SEWER - CORRUGATED HDPE PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE

AASHTO M294 PIPE 5 CORRUGATED HDPE PIPE						
PIPE	MAINSHORE		TRENCH DIMENSIONS			
NOMINAL SIZE	D	B/4	B/2	B/3	B(MIN)	TRENCH EXCAVATION BELOW PIPE (d)
12"	15"	15.4"	3"	4"	3.0"	6"
15"	18"	19.6"	4"	5"	3.0"	6"
18"	21"	23.9"	5"	6"	3.0"	6"
24"	24"	29.5"	6"	8"	3.0"	6"
30"	30"	37.5"	8"	10"	3.0"	6"

PIPE NOTES

1. SHOWN SEWER PIPE SHALL BE SMOOTH INTERIOR WALL.
2. ALL SLEEVES SHALL BE WATERTIGHT.
3. GASKETS SHALL CONFORM TO ASTM F477.
4. GASKETS AND SEALINGS SHALL BE SUPPORTED AS RECOMMENDED BY THE MANUFACTURER.
5. FITTINGS SHALL BE IN CONFORMANCE WITH AASHTO M294.
6. PIPE SHALL BE MANUFACTURED OR APPROVED FOR A



11 DET3 GRAVITY SANITARY SEWER AND STORM SEWER SDR 26/35 PVC PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE

POLYVINYL CHLORIDE PIPE (SDR 26)

PIPE DIMENSIONS			TRENCH DIMENSIONS									
NOMINAL SIZE D	MIN WALL THICKNESS T	BARREL (PEDIAL) Bc	B/4	B/3	B/2	B/3	B/4	B/2	B(MIN)	TRENCH EXCAVATION BELOW PIPE (d)
1 1/2"	0.035"	1.900"	0.375"	.250"	.333"	.417"	0.167"	.333"	3.0"	6"
2"	0.035"	2.375"	1.00"	.500"	.500"	.500"	1.166"	.333"	3.0"	6"
2 1/2"	0.035"	2.875"	1.25"	.375"	.417"	.750"	1.416"	.333"	3.0"	6"
3"	0.035"	3.500"	1.50"	.438"	.583"	.833"	1.750"	.333"	3.0"	6"

4"	0.035"	4.500"	2.00"	.625"
5"	0.035"	5.563"	2.50"	.750"
6"	0.035"	6.625"	3.00"	.875"
8"	0.035"	8.625"	4.00"	1.125"
10"	0.035"	10.750"	5.00"	1.375"
12"	0.035"	12.750"	6.00"	1.625"
14"	0.039"	14.000"	7.00"	1.750"
16"	0.039"	16.000"	8.00"	2.000"
18"	0.039"	18.000"	9.00"	2.250"
20"	0.039"	20.000"	10.00"	2.500"
24"	0.039"	24.000"	12.00"	3.000"
27"	0.039"	27.000"	13.50"	3.375"
30"	0.039"	30.000"	15.00"	3.750"

1. DIMENSIONS BASED ON POLY WALL CHLORIDE PIPE SDR 26, (ASTM D 3034 & ASTM F 679)

12 DET3 SANITARY SEWER - SDR 26 PVC PRESSURE PIPE BEDDING AND BACKFILL

SCALE: NONE
CROSS REFERENCE: NONE

POLYVINYL CHLORIDE PIPE (SDR 26)

PIPE DIMENSIONS			TRENCH DIMENSIONS							
NOMINAL SIZE D	MIN WALL THICKNESS T	BARREL (PEDIAL) Bc	B/4	B/3	B/2	B/3	B/4	B/2	B(MIN)	TRENCH EXCAVATION BELOW PIPE (d)
1 1/2"	0.035"	1.900"	0.375"	.250"	.333"	.417"	0.167"	.333"	3.0"	6"
2"	0.035"	2.375"	1.00"	.500"	.500"	.500"	1.166"	.333"	3.0"	6"
2 1/2"	0.035"	2.875"	1.25"	.375"	.417"	.750"	1.416"	.333"	3.0"	6"
3"	0.035"	3.500"	1.50"	.438"	.583"	.833"	1.750"	.333"	3.0"	6"

4"	0.035"	4.500"	2.00"	.625"
5"	0.035"	5.563"	2.50"	.750"
6"	0.035"	6.625"	3.00"	.875"
8"	0.035"	8.625"	4.00"	1.125"
10"	0.035"	10.750"	5.00"	1.375"
12"	0.035"	12.750"	6.00"	1.625"
14"	0.039"	14.000"	7.00"	1.750"
16"	0.039"	16.000"	8.00"	2.000"
18"	0.039"	18.000"	9.00"	2.250"
20"	0.039"	20.000"	10.00"	2.500"
24"	0.039"	24.000"	12.00"	3.000"
27"	0.039"	27.000"	13.50"	3.375"
30"	0.039"	30.000"	15.00"	3.750"

1. DIMENSIONS BASED ON POLY WALL CHLORIDE PIPE SDR 26, (ASTM D 3034 & ASTM F 679)

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	DESIGN	APPR
10/14/05	RECEIVED BID PRICE & PROPOSAL	JR	MTL	MTL
6/12/07	REVISIONS TO SITE CONTRACT DOCS.	JR	MTL	MTL

ALAN R. MALSBO
P.E. 065436

STATE OF NEW YORK
ALAN R. MALSBO
065436
LICENSED PROFESSIONAL ENGINEER

THIS DOCUMENT REPRESENTS AN INSTRUMENT OF PROFESSIONAL SERVICE PREPARED BY THE LICENSED PROFESSIONAL ENGINEER SEALED ABOVE

C.T. MALE ASSOCIATES
DESIGNED: JRB
DRAFTED: TCR
CHECKED: JRB
PROJ. NO: 04-0208
SCALE: AS SHOWN
DATE: JUNE 24, 2005

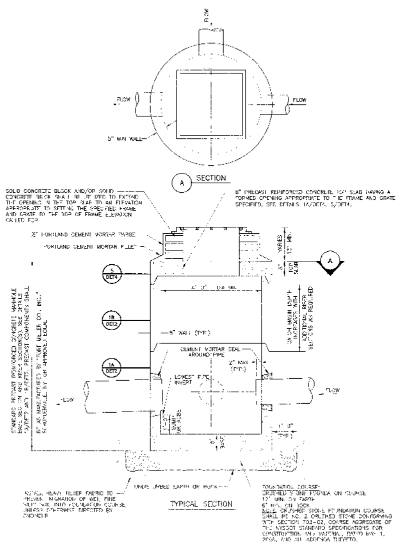
SANITARY SEWER, TRENCHING, PIPE BEDDING AND BACKFILL DETAILS

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architectural & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 • FAX: 518.786.7299

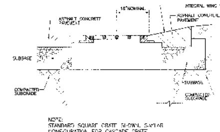
DET3
SHEET: 11 OF 17
DWG. NO: 06-136



NOTES:
1. SEE "GENERAL NOTES - DRAINAGE AND SANITARY SEWER STRUCTURES" ON THIS SHEET.
2. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI AND HAVE BETWEEN 5% AND 8% ENTRAINED AIR.
3. STRUCTURES SHALL BE WET CAST ONLY.

1 DET4 STANDARD PRECAST CONCRETE ROUND CATCH BASIN

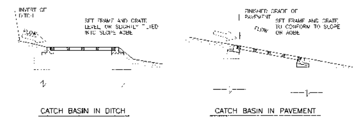
SCALE: NONE
CROSS REFERENCE: 1A/DET4, 2/DET4, 3/DET4, 5/DET4



NOTE:
STANDARD SQUARE GRATE SHOWN. SIMILAR CONFIGURATION FOR CASCADE GRATE.

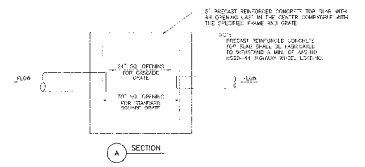
2 DET4 CATCH BASIN GRATE TO CURB RELATIONSHIP

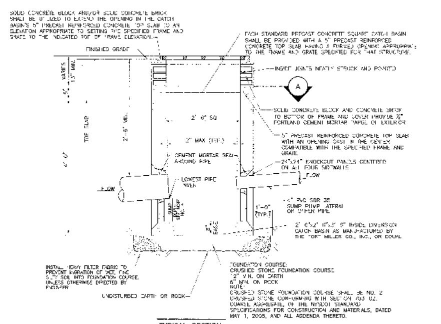
SCALE: NONE
CROSS REFERENCE: 1/DET4, 4/DET4



3 DET4 CATCH BASIN GRATE TO SLOPE RELATIONSHIP

SCALE: NONE
CROSS REFERENCE: 1/DET4, 1A/DET4, 4/DET4, 4A/DET4



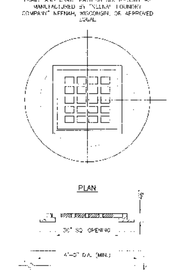


NOTES:
1. SEE "GENERAL NOTES - DRAINAGE AND SANITARY SEWER STRUCTURES" ON THIS SHEET.
2. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI AND HAVE BETWEEN 5% AND 8% ENTRAINED AIR.
3. STRUCTURES SHALL BE WET CAST ONLY.
4. PIPES SHALL BE SET IN UPPER PORTION OF KNOCKOUT IN ORDER TO PROVIDE A 12" SUMP FOR A 12" DIAMETER PIPE AND A 9" SUMP FOR A 15" DIAMETER PIPE. FOR LARGER PIPES, USE A STANDARD PRECAST ROUND CATCH BASIN (SEE DETAIL 1/DET4).

4 DET4 STANDARD PRECAST CONCRETE SQUARE CATCH BASIN

SCALE: NONE
CROSS REFERENCE 4A/DET4

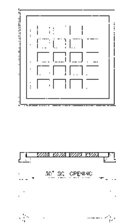
FRAME AND GRATE PATTERN NO. 2816 B AS MANUFACTURED BY "SYRACUSE CASTINGS", CICERO, NEW YORK, OR APPROVED EQUAL
—OR—
FRAME AND GRATE PATTERN NO. R-3501 AS MANUFACTURED BY "NEENAH FOUNDRY COMPANY" NEENAH, WISCONSIN, OR APPROVED EQUAL



1A DET4 STANDARD SQUARE FRAME AND GRATE ON STANDARD PRECAST CONCRETE ROUND CATCH BASIN

SCALE: NONE
CROSS REFERENCE: 1/DET4, 3/DET4

FRAME AND GRATE PATTERN NO. 2816 B AS MANUFACTURED BY "SYRACUSE CASTINGS", CICERO, NEW YORK, OR APPROVED EQUAL
—OR—
FRAME AND GRATE PATTERN NO. R-3501 AS MANUFACTURED BY "NEENAH FOUNDRY COMPANY" NEENAH, WISCONSIN, OR APPROVED EQUAL

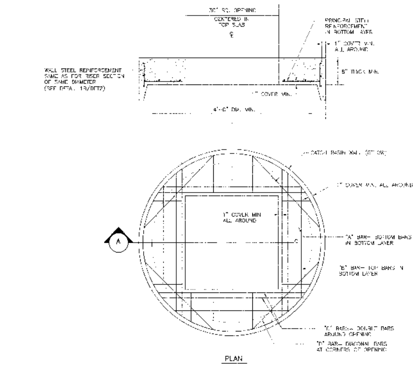


4A DET4 STANDARD SQUARE FRAME AND GRATE ON STANDARD PRECAST CONCRETE SQUARE CATCH BASIN

SCALE: NONE
CROSS REFERENCE: 4/DET4

GENERAL NOTES – DRAINAGE AND SANITARY SEWER STRUCTURES

1. DRAINAGE AND SEWER STRUCTURES SHALL BE EITHER CAST-IN-PLACE OR PRECAST STRUCTURES.
2. CAST-IN-PLACE CONCRETE SHALL BE CLASS A CONCRETE AND SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 555, STRUCTURAL CONCRETE, OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 4, 2006 AND ALL ADDENDA THERETO.
3. CAST-IN-PLACE OR PRECAST STRUCTURES SHALL CONFORM WITH THE APPLICABLE PROVISIONS OF SECTION 604, DRAINAGE STRUCTURES, OF THE STATED NYSDOT STANDARD SPECIFICATIONS.
4. PRECAST STRUCTURES SHALL CONFORM WITH SECTION 706-04, PRECAST DRAINAGE STRUCTURES, OF THE STATED NYSDOT STANDARD SPECIFICATIONS.
5. SEE PLANS FOR ELEVATIONS AND LOCATIONS OF DRAINAGE AND SEWER STRUCTURES AND THE TYPES OF COVERS/GRATES TO BE UTILIZED.
6. REINFORCEMENT FOR DRAINAGE AND SEWER STRUCTURES SHALL CONFORM WITH THE FOLLOWING SUBSECTION OF THE STATED NYSDOT SPECIFICATIONS:
BAR REINFORCEMENT, GRADE 420 — 709-01
WIRE FABRIC FOR CONCRETE REINFORCEMENT — 709-02
COLD DRAWN WIRE FOR CONCRETE REINFORCEMENT — 709-05
7. FORMED INVERTS AND SUMPS:
FORMED INVERTS SHALL BE PROVIDED IN ALL DRAINAGE AND SEWER MANHOLES. SUMPS SHALL BE PROVIDED IN ALL CATCH BASINS.
8. GRATES:
OTHER THAN CASCADE GRATES, GRATES SHALL BE PLACED WITH BARS (LONGEST PART OF OPENING) PARALLEL TO THE SURFACE FLOW.
9. WALL KNOCKOUTS:
UNLESS OTHERWISE DETAILED, WALL KNOCKOUTS SHALL BE FORMED FOR EACH PIPE ENTRY. THE CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE KNOCKOUT SHALL BE AT LEAST TWO INCHES BUT NO MORE THAN THREE INCHES WHEN THE PIPE ENTRIES ARE SKEWED. RECTANGULAR KNOCKOUTS MAY BE USED. THE CLEARANCE BETWEEN THE OUTSIDE OF THE SKEWED PIPE AND THE NEAREST CLEARANCE TO THE RECTANGULAR OPENING SHALL, HOWEVER STILL BE TWO INCHES MINIMUM AND THREE INCHES MAXIMUM. THE RESULTING SPACE AROUND THE PIPE SHALL BE FILLED WITH MORTAR FOR CONCRETE MASONRY, CONCRETE GROUTING MATERIAL, OR CONCRETE REPAIR MATERIAL; UNLESS OTHER METHODS ARE APPROVED BY THE ENGINEER. IF THE ENGINEER DETERMINES THE ALTERNATE METHODS FOR SEALING THE SPACE AROUND THE PIPE ARE NOT SATISFACTORY, THE CONTRACTOR SHALL RESEAL THE JOINTS WITH MORTAR FOR CONCRETE MASONRY, CONCRETE GROUTING MATERIAL, OR CONCRETE REPAIR MATERIAL AS ORIGINALLY SPECIFIED, AT NO ADDED COST TO THE CONTRACT.
10. TOP SLAB AND/OR FRAME AND GRATE ADJUSTMENT; A MIN OF 1/2" OF BEDDING MORTAR SHALL BE PLACED BETWEEN RISER AND PRE-CAST TOP SLABS WHEN ORDERED BY THE CLIENT'S DESIGNATED ENGINEER. FOR ALL DRAINAGE STRUCTURES, A MAXIMUM OF THREE INCHES OF BRICK AND MORTAR OR A MAXIMUM OF TWO INCHES OF MORTAR ALONE SHALL BE USED FOR TOP SLAB AND/OR FRAME AND GRATE ADJUSTMENT. FOR ADJUSTMENTS OVER THREE INCHES AND NOT TO EXCEED 12 INCHES, CAST IN PLACE CONCRETE OR A PRECAST CONCRETE ADJUSTMENT ELEMENT SHALL BE USED. A MAX TWO INCHES OF MORTAR SHALL BE ALLOWED ON BOTH THE TOP AND BOTTOM OF THE PRECAST DEVICES. BRICK SHALL BE PRECAST CONCRETE PAVERS AND MORTAR SHALL BE MORTAR FOR CONCRETE MASONRY.
11. STEPS:
STEPS SHALL BE REQUIRED IN ALL DRAINAGE AND SEWER STRUCTURES DEEPER THAN FOUR FEET.
12. CORBELED OR CONICAL RISER SECTIONS, AND FLAT SLAB REDUCERS. FLAT SLAB REDUCERS MAYBE PROPOSED BY THE CONTRACTOR FOR RECTANGULAR STRUCTURES. IN NO CASE SHALL A WALL SECTION WITH A HEIGHT LESS THAN SIX INCHES BE PERMITTED BETWEEN THE TOP OF THE HIGHEST PIPE ENTRY AND THE BOTTOM EDGE OF A CONICAL SECTION OR FLAT SLAB REDUCER.
13. CONTRACTOR PROPOSED CHANGES TO STRUCTURES DETAILED IN THESE DRAWINGS, OTHER THAN MINOR CHANGES APPROVED BY THE ENGINEER, SHALL REQUIRE THE SUBMISSION OF COMPLETE WORKING DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. THE SAID WORKING DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK. THE SAID WORKING DRAWINGS SHALL ADDITIONALLY BEAR A STATEMENT THAT THE STRUCTURE AND ALL OF ITS COMPONENTS ARE DESIGNED TO SUPPORT AND WITHSTAND HS-20-44 LOADING.
14. SHOP DRAWING SUBMITTALS SHALL INCLUDE A STATEMENT SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK, THAT THE STRUCTURE FOR WHICH THE SUBMISSION IS BEING MADE SHALL BE CONSTRUCTED AS INDICATED IN THE PROJECT DRAWINGS AND FABRICATED TO SUPPORT AND WITHSTAND A.A.S.H.T.O. HS-20-44 LOADING.



PRINCIPAL STEEL REINFORCEMENT – 30" SQ. OPENING

CONDITION	"A" BAR	"B" BAR	"C" BAR	"D" BAR
4' DIA MH–GRADE 60 STEEL	#4 @ 9" OC	#4 @ 9" OC	2-#4, 3'-9" LONG	1-#4, 2'-8" LONG
5' DIA MH–GRADE 60 STEEL	#5 @ 9" OC	#5 @ 9" OC	2-#5, 4'-11" LONG	1-#5, 1'-2" LONG

NOTES:
1. CONCRETE 28-DAY COMPRESSIVE STRENGTH (f'c) SHALL BE 4,000 P.S.I.
2. CONCRETE SHALL BE AIR ENTRAINED WITH 5% TO 8% ENTRAINED AIR.
3. FOR TOP SLABS FOR CATCH BASINS EXCEEDING 5'-0" INSIDE DIAMETER, SUBMIT DESIGN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK.

5 DET4 ROUND CATCH BASIN TOP SLAB WITH 30" SQUARE OPENING

SCALE: NONE
CROSS REFERENCE: 1/DET4, 1A/DET4

NEW YORK STATE DEPARTMENT OF HEALTH
Refer to first sheet for approval date and signature.

Approved by New York State Department of Environmental Conservation
For Approval Date and Signature Refer to Cover Sheet

JOHN R. BIELSKO P.E. 057436

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
[illegible]	1	REVISIONS PER DETAIL SHEETS	[illegible]	[illegible]	[illegible]
[illegible]	2	REVISIONS PER [illegible] COMMENTS DATED [illegible]	[illegible]	[illegible]	[illegible]
	3				
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DESIGNED: JRB
DRAFTED: TCB
CHECKED: JRB
PROJ. NO: 04.9298
SCALE: AS SHOWN
DATE: JAN. 24, 2006

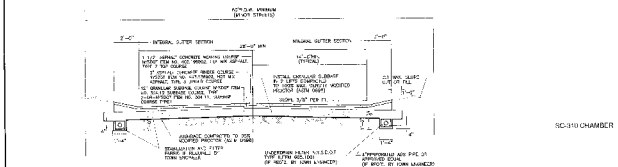
STORM SEWER DETAILS

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

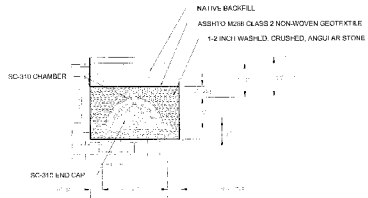
C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110
518.786.7400 * FAX 518.786.7299

DET4
SHEET 12 OF 17
DWG. NO: 08-136

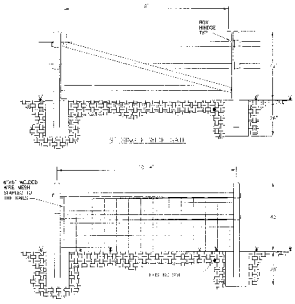


1. BIDDER/OFFER OF MATERIALS INDICATED ABOVE ARE CORRECTED DIMENSIONS.
2. ALL MATERIALS, WORKING AREAS, SHALL CONFORM TO THE REQUIREMENTS OF SECTION 203, 203 AND SUBMITTED AND SECTION 403, 407 AND ASPHALT 6" HALMIXED STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2008, AND ALL ADDENDA THERETO.
3. PRIOR INSTALLATION OF THE SUBGRADE SHALL BE INSPECTED BY THE TOWN ENGINEER. ALL UNSATISFACTORY AREAS, AS TO BE DETERMINED BY THE TOWN ENGINEER, SHALL BE REMOVED AND REPLACED WITH SUBBASE MATERIAL TO THE SATISFACTION OF THE TOWN ENGINEER.
4. SUBBASE MATERIAL SHALL BE SELECTED BY THE TOWN ENGINEER AFTER REVIEWING A SOILS INFORMATION REPORT PREPARED BY THE APPLICANT'S ENGINEER AND AFTER CHECKING TEST PITS ON THE PROPOSED SUBBASE MATERIAL.
5. THE CONTRACTOR SHALL SUBMIT A 20-POUND SAMPLE OF THE APPROVED SUB-BASE MATERIAL TO THE TOWN ENGINEER FOR APPROVAL. THE SAME CHARACTER APPLIED ON THE SUBGRADE MATERIAL, IS REQUIRED WHEN ADDITIONAL SUBBASE MATERIAL IS BEING MATERIAL MAY BEGIN.
6. MAXIMUM SLOPES TO BUTTS ON PERMANENTLY MAY BE 3:1 BY APPROVAL BY THE TOWN ENGINEER.
7. ALL DRAINS, AND COMPACTION SHALL BE INSPECTED AS DIRECTED BY THE PROPERTY THE CONTRACTOR SHALL PAY FOR ALL TESTING.
8. THE TOWN OR CUSTOMER FROM SHALL BE CERTIFIED AS THE CONTRACTOR AS PLANS PRIOR TO THE COMMENCEMENT OF WORKS.
9. COMPENSATION OF ALL ACT AND ASPHALT PAVING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF SECTION 403, ACT AND ASPHALT, UNLESS THEREOF SPECIFICALLY SUBSTITUTED UNDER COMPENSATION PAYMENT, IN THE PRESENT SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2008, AND ALL ADDENDA THERETO.

1 DETS — TYPICAL ROAD CROSS SECTION
SCALE: NONE
CROSS REFERENCE: NONE

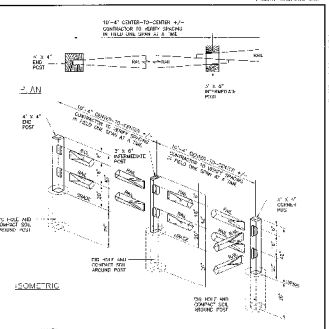


2 DETS — STORMTECH SC-310 CHAMBER SYSTEM
SCALE: NONE
CROSS REFERENCE: NONE



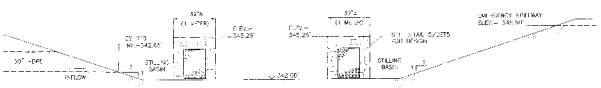
NOTES:
1. FENCE ALIGNMENT IS INDICATED ON DWG. NO. SP, SHEET 2 OF 17, AROUND THE STORMWATER MANAGEMENT AREA.
2. REFER TO DETAIL 3B/DETS FOR ADDITIONAL FENCE INFORMATION.
3. POSTS SHALL BE FABRICATED FROM LOCUST WOOD AND RAILS FROM POPLAR HARDWOOD.
4. WIRE MESH TO BE 6"X6" WELDED WIRE MESH STAPLED TO THE FENCE EVERY 6" USING 32" HEAVY DUTY STAPLES.

3A DETS — 2-RAIL 42" SPLIT RAIL FENCE W/WIRE MESH ALONG STORMWATER MANAGEMENT AREA
SCALE: NONE
CROSS REFERENCE:

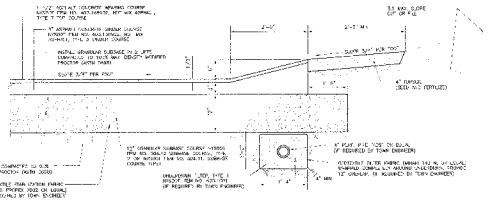


NOTES:
1. FENCE ALIGNMENT IS INDICATED ON DWG. NO. SP, SHEET 2 OF 17, PARALLEL TO THE WETLAND BOUNDARY.
2. THE FENCE SHALL BE A 2-RAIL SPLIT RAIL FENCE AS MANUFACTURED BY "PATTERSPLITS", 125 GALLEON DRIVE, SUITE 1700, DUBLIN, OHIO 43016.
3. POSTS SHALL BE FABRICATED FROM LOCUST WOOD AND RAILS FROM POPLAR HARDWOOD.
4. POST HOLES SHALL BE DUG AT A LOCATION AND WHEN CUTTING THE TOP TILE POST IS CONTRIBUTED IN THE HOLE AND THE SOIL BACKFILL SURROUNDING THE POST CAN BE PROPERLY COMPACTED IN THE LOCATION OF A TAMPING BAR.
5. NO GATES WILL BE PROVIDED IN THE FENCE.

3B DETS — 2-RAIL 42" SPLIT RAIL FENCE ALONG WETLAND BOUNDARY
SCALE: NONE
CROSS REFERENCE:

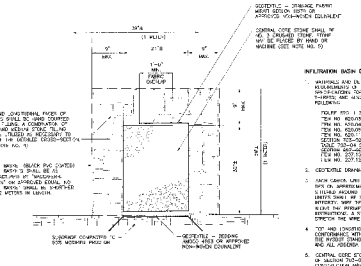


4 DETS — INFILTRATION BASIN CROSS SECTION
SCALE: NONE
CROSS REFERENCE: NONE



5 DETS — DETAIL OF INTEGRAL GUTTER SECTION (ASPHALT BERM)
SCALE: NONE
CROSS REFERENCE: NONE

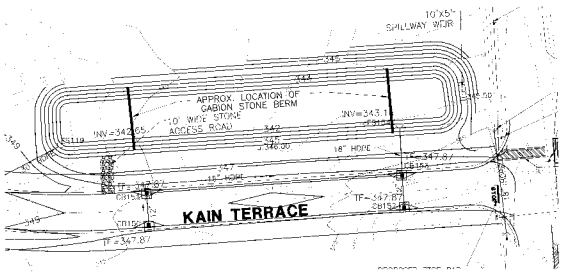
6 DETS — TERMINATION DETAIL OF INFILTRATION BASIN STONE GABION BERM
SCALE: NONE
CROSS REFERENCE: NONE



INFILTRATION BASIN GABION BERM

1. MATERIALS AND DETAILS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE APPROVED REQUIREMENTS OF SECTION 600, DRAIN AND SEDIMENT PROTECTION, OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2008, AND ALL ADDENDA THERETO, AND ALSO IN CONFORMANCE WITH THE FOLLOWING "SUBSTANDARDS" UNDER THE "REMEDIATE SILT FENCE WITH HAY BALES AT LOW POINT" PLAN:
   - FOLLOW DOT 1 TEMP FILTERS STRAWBALES, PROCEDURE:
   - TEM NO. 600.01 STONE FILTERS (SHEET)
   - TEM NO. 600.02 STONE FILTERS (PLAN)
   - TEM NO. 600.03 REQUIRE BEDDING MATERIAL
   - TEM NO. 600.11 PLC 3" CRUSHED SUBMERGED GABIONS
   - SECTION 600.04 COARSE AGGREGATE
   - TEM NO. 600.05 GABION BASKETS, AND TEMP NO. 2 SUBMERGED STONE
   - SECTION 600.06 GABIONS AND MATTRESSES
   - TEM NO. 600.07 GABIONS AND MATTRESSES
   - TEM NO. 207.13 GEOTEXTILE BEDDING
   - TEM NO. 207.13 GEOTEXTILE DRAINAGE
2. GEOTEXTILE DRAINAGE FABRIC SHALL BE PLACED AS INDICATED IN THE DETAIL.
3. EACH GABION UNIT SHALL BE ASSEMBLED BY BINDING TOGETHER ALL VERTICAL EDGES WITH WIRE TIES ON APPROXIMATELY 150MM (6") SPACING OR AS A CONTINUOUS PIECE OF CONNECTING WIRE STITCHING PROVIDED ALL VERTICAL EDGES WITH A COIL ABOUT 300MM (12") SUPPLY GABION UNITS SHALL BE SET UP ON A FLAT SURFACE AS SHOWN ON THE PLANS FOR STRUCTURAL INTEGRITY. WIRE TIES OR CONNECTING WIRE SHALL BE USED TO JOIN THE GABIONS TOGETHER ALONG THE TOP, BOTTOM, AND VERTICAL EDGES. THE FIRST GABION SHALL BE FIRMLY ANCHORED TO STRUCTURAL A STANDARD STRUCTURAL SHAPE (WALL, OR SIDE PLUS ANCHOR) OR OTHER TO DIRECTION THE WIRE BASKETS AND MAINTAIN A DOWNHILL.
4. TOP AND LONGITUDINAL FACES OF GABIONS SHALL BE LEVEL AND UNIFORM UNTIL FILLED IN CONFORMANCE WITH THE REQUIREMENTS OF SECTION 600, DRAIN AND DRAINAGE PROCEDURE, OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2008, AND ALL ADDENDA THERETO.
5. CONTROL CORE STONE SHALL BE NO. 2 CRUSHED STONE IN CONFORMANCE WITH NYSDOT'S DRAINAGE PROCEDURE, OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2008, AND ADDENDA THERETO.

9 DETS — TYPICAL LOT EROSION AND SEDIMENT CONTROL
SCALE: NONE
CROSS REFERENCE: NONE



7 DETS — INFILTRATION BASIN PLAN VIEW
SCALE: 1"=50'
CROSS REFERENCE: NONE

DATE		REVISIONS RECORD/DESCRIPTION	DRAWN BY	CHECKED	APPR.
6/2/2011	1	PROXY COMMENTS (SHEET)	TCB	JRT	[illegible]
6/7/2011	2	REVISIONS PER TOWN COMMENTS DATED 6/2/2011	HHC	JRT	CJV
2/7/2012	3	REVISIONS PER TOWN COMMENTS DATED 2/7/2012	HHC	JRT	

JOHN R. BRETTO
P.E. LICENSE
STATE OF NEW YORK
[illegible]

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C.T. MALE ASSOCIATES, P.C.

DESIGNED: JRB
DRAWN: TCB
CHECKED: JRB
PROJ. NO: 04.9288
SCALE: AS SHOWN
DATE: JAN. 24, 2006

MISCELLANEOUS DETAILS

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
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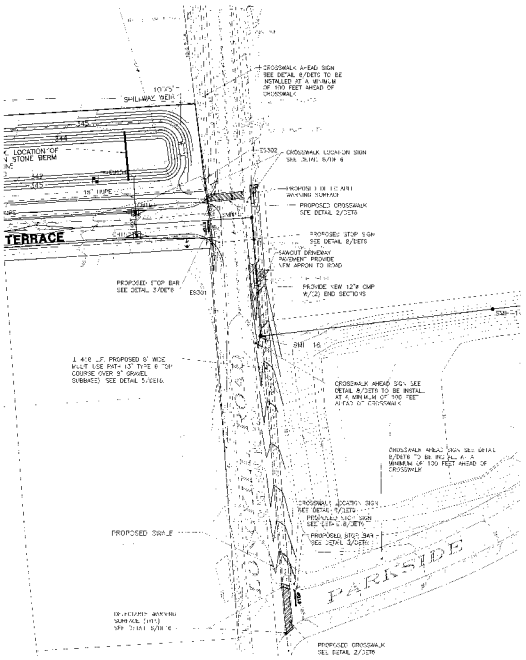
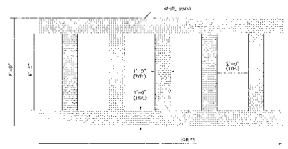
50 CENTURY HILL DRIVE, LATHAM, NY 12110
TEL/FAX: 518 783 7725

DET5
SHEET 13 OF 17
JOB NO. 06-136



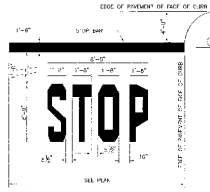
1 PLAN VIEW
DET6 SCALE: 1"=20'
CROSS REFERENCE: NONE



NOTES:

1. CROSSWALK PAVEMENT MARKING SHALL CONFORM TO WYSDOT STANDARD SCHEDULE 685-4C1, COMPRISED THEREIN.
2. NEW CROSSWALK WHITE YIELD SHALL BE COMPLIANT WITH 2" WIDE WHITE WALKED LINES.
3. EXISTING CROSSWALK MARKINGS THAT CONFLICT WITH NEW CROSSWALK LINES SHALL BE CLEARLY WITH CRACK/BLACK PAINT.

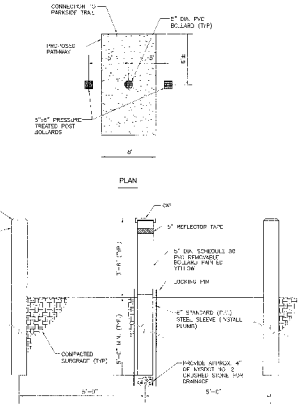
2 CROSSWALK PAVEMENT MARKINGS
DET6 SCALE: NONE
CROSS REFERENCE: NONE



NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH SECTION 645 – REFLECTORIZED PAVEMENT MARKING PAINTS, OF THE WYOMING STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2005, AND ALL ADDENDA THERETO, AND WITH THE "NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", 2009 EDITION AND THE "KYS SUPPLEMENT".
2. WORDS AND MARKINGS FOR CROSSWALKS SHALL BE APPLIED ACCORDING TO MANUFACTURER'S DIRECTIONS OR SHALL BE OF THE MINIMUM OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
3. THESE NOTES AND BOX SHALL BE PRINTED "AS FOUND" ON PLAN.

3 STOP BAR
DET6 SCALE: NONE
CROSS REFERENCE: 3/DET6



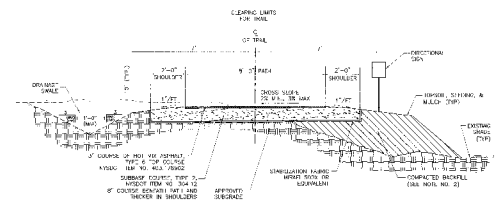
4 BOLLARD DETAIL
DET6 SCALE: NONE
CROSS REFERENCE: NONE

SIGN SCHEDULE

SIGN FACE	MUTCD NUMBER	SIZE (CM)	SIZE (IN)	LEGEND	BACKGROUND
STOP	R1-1	76"x76"	30"x30"	WHITE	RED OCTAGON
	W11-2	76"x76"	30"x30"	BLACK	YELLOW
AHEAD	W16-9P	127"x76"	50"x30"	BLACK	YELLOW
	W16-7P	127"x76"	50"x30"	BLACK	YELLOW

SIGN NOTES:

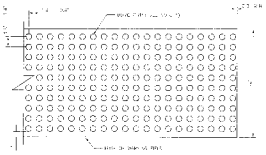
1. ALL SIGNS SHALL BE IN CONFORMANCE WITH SECTION 646 – SIGNS, OF THE WYOMING STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2005, AND ALL ADDENDA THERETO, AND WITH THE "NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", 2009 EDITION AND THE "KYS SUPPLEMENT".
2. CROSSWALK AHEAD SIGNS W11-2 AND W16-9P SHALL BE INSTALLED 100 FEET MINIMUM IN ADVANCE OF CROSSWALK OR AS NOTED ON SITE PLAN.
3. CROSSWALK LOCATION SIGNS W11-2 AND W16-7P SHALL BE INSTALLED AT THE CROSSWALK AS NOTED ON SITE PLAN.



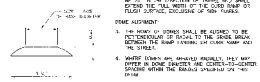
NOTES:

1. THE SUBGRADE IS UNSUITABLE FOR SUBBASE INSTALLATION AFTER REMOVAL OF TOPSOIL, THE CONTRACTOR SHALL SUBMIT A PROPOSAL FOR CORRECTIVE MEASURES TO THE ENGINEER. (I.E. LOCKDOWN AND PLANOW OR LOCKDOWN / MATTING AND REPLACEMENT WITH SELECT GRANULAR FILL, WYDOT ITEM NO. 205.07)
2. ALL SHALL CONSIST OF SUITABLE MATERIAL AS APPROVED BY THE ENGINEER OR SELECT GRANULAR FILL, WYDOT ITEM NO. 205.07. COMPACTION SHALL TO 95% OF MODIFIED PROCTOR DENSITY.
3. MAINTAIN LONGITUDINAL PATHWAY GRADE SHALL BE 0.5%. CUT RAISING SHALL PROVIDE OUTWARD AS NECESSARY TO MEET THE REQUIREMENT.
4. ALL CONSTRUCTION AND MATERIALS FOR THE 8-FOOT WIDE MULTI-USE PATH SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 600, SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS, OF THE WYDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2005, AND ALL ADDENDA THERETO, AS WITH AS THE FOLLOWING SECTIONS OF THOSE SPECIFICATIONS:
   SECTION 203–EARTH WORK
   SECTION 304–SUBBASE COURSE
   SECTION 400–HOT MIX ASPHALT, SPECIFICALLY SECTION 403–HOT MIX ASPHALT (HMA) PAVEMENTS FOR MUNICIPALITIES

5 TYPICAL MULTI-USE PATHWAY DETAIL
DET6 SCALE: NONE
CROSS REFERENCE: NONE



DOVE SPACING



DOVE SECTION

NOTES:

1. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE CONSTRUCTION DOMES DEPICTED ON THE DETECTABLE WARNING UNIT (THE DOMES AND THE ENTIRE 24" LEVEL SURFACE) IS NOW STANDARD UNIT.

DETECTABLE WARNING UNIT DIMENSIONS:

2. THE SIZE OF THE DETECTABLE WARNING UNIT SHALL BE 24" IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF THE FLARES.

DOME ARRANGEMENT:

3. THE DOMES OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR PARALLEL TO THE CURB RAMP, BETWEEN THE RAMP LANDING OR CURB RAMP AND THE STREET.
4. WHERE DOMES ARE ARRANGED DIAGONALLY, THE MAXIMUM DIFFERENCE IN DOME SPACING THE CENTER-TO-CENTER SPACING WITHIN THE DIAGONAL SHALL BE ONE INCH.

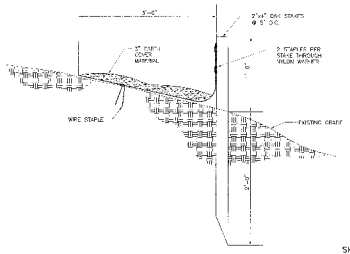
DOME SPACING:

5. THE DETECTABLE WARNING "DOVE SPACING" DIMENSIONS CAN BE MET THE REQUIREMENTS OF THE MOST RECENT WYDOT STANDARD SPECIFICATIONS.

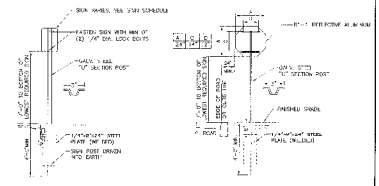
DETECTABLE WARNING LOCATION:

6. DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE BE CLOSER OF THE WARNING FIELD NEAREST TO THE CURBLINE IS 6" TO 8" FROM THE RIGHT OF THE CURB OR THE ROADWAY EDGE (12" WHERE TRANSVERSE CURB IS USED).
7. THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A PLANE CROSSING SHALL BE 6"–8" MINIMUM AND 15"–24" MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL.

6 DETECTABLE WARNING SURFACE
DET6 SCALE: NONE
CROSS REFERENCE: 2/DET6



7 SILTATION FENCE DETAIL
DET6 SCALE: NONE
CROSS REFERENCE: NONE



SIGN POST DRIVEN INTO EARTH GENERAL SIGNAGE

SIGN POST DRIVEN INTO EARTH STOP SIGN

NOTES:

1. ALL SIGNS SHALL BE IN CONFORMANCE WITH SECTION 646 – SIGNS, OF THE WYDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED MAY 1, 2005, AND ALL ADDENDA THEREIN, AND WITH THE "NATIONAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", 2009 EDITION AND THE "KYS SUPPLEMENT".

8 SINGLE POST SIGN MOUNTING DETAILS & SIGN SCHEDULE
DET6 SCALE: NONE
CROSS REFERENCE: NONE

JOHN H. BRUSKO
TIE OWNER
STATE OF NEW YORK
LICENSED PROFESSIONAL ENGINEER

DATE		REVISIONS REQUIRED/DESCRIPTION	DRAWN	CHECKED	APPR
01/25/11	1	TOWN/PARKS DEPTS SHEETS	TCB	JHB	MEC
8/16/11	2	DRAWN TO TOWN COMMENTS DATED 7/27/11	MC	JHB	
9/19/11	3	REVISIONS PER TOWN COMMENTS DATED 8/29/11	MC	JHB	
	4				
	5				
	6				
	7				
	8				

"PROFESSIONAL ENGINEER" AS USED IN THIS DOCUMENT IS DEFINED AS A PERSON WHO IS A LICENSED PROFESSIONAL ENGINEER IN THE NEW YORK STATE LICENSING LAW.

D. CHILI
C.T. MALE ASSOCIATES, P.C.

DESIGNED: JRB
DRAFTED: TCB
CHECKED: JHB
FIELD NO: CR.8088
SCALE: AS SHOWN
DATE: JAN. 24, 2008

MULTI-USE PATH DETAILS

LONGKILL SUBDIVISION

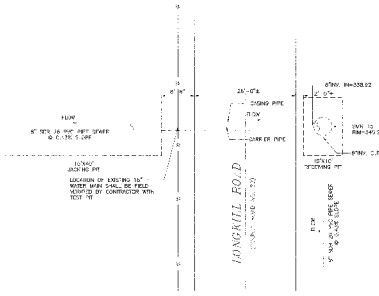
TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
50 CORPORATE HILL DRIVE, ALBANY, NY 12203
518.786.7400 • FAX 518.786.7299

DET6
SHEET 14 OF 17
DWG. NO. 08-136

CARRIER & CASING PIPE DATA

ITEM	CARRIER PIPE	CASING PIPE
CONTENTS	SEWAGE	CARRIER PIPE
NORMAL OPERATING PRESSURE	NONE	NONE
NOMINAL SIZE OF PIPE	8"	24"
OUTSIDE DIAMETER	8.400"	24.00"
INSIDE DIAMETER	7.794"	23.38
WALL THICKNESS	0.307" MIN	0.375"
WEIGHT PER FOOT	3.63 LBS	94.62 LBS
MATERIAL	PVC	STEEL
PROCESS OF MANUFACTURE	EXTRUDED	N/A
SPECIFICATION	ASTM D3034	N/A
GRADE OR CLASS	SDR 26 (35 PSI)	TENSILE STRENGTH=60,000 PSI MIN YIELD POINT=35,000 PSI MIN
TEST PRESSURE		N/A
TYPE OF JOINT	BELL AND SPIGOT	WELDED
TYPE OF COATING	NONE	NONE
DETAIL OF COATING PROTECTION	NONE	NONE
DETAILS OF SUPPORT OR PROTECTION AT ENDS OF CASING	N/A	SEALED WITH BRICK & MORTAR WITH DRAINAGE HOLES
METHOD OF INSTALLATION	PUSHED THRU	PUSHED OR JACKED



1 DET7 **PLAN**
SCALE: 1"=10'
CROSS REFERENCE: NONE

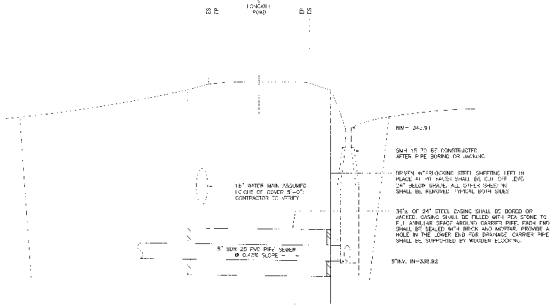
NOTES

1. THE CONTRACTOR SHALL DETERMINE THE SIZE AND TYPE OF JACK, TUBE & THE JACKING AND RECEIVING PIT. CONTRACTOR SHALL PROVIDE DETAILS OF THE METHOD OF INSTALLATION AND THE SHEETING AND BRACING SYSTEM FOR REVIEW. THIS INFORMATION MUST BE FURNISHED TO THE SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS FOR THEIR INFORMATION AND FILE.
2. ALL WORK SHALL CONFORM TO THE CONDITIONS OF THE PERMIT WITH THE SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS.
3. MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE LATEST MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
4. UNLESS OTHERWISE ALLOWED BY THE ENGINEER, JACKING OPERATIONS SHALL BE CONTINUOUS AND WITHOUT INTERRUPTION.
5. SHALLOW TO EXTEND 4' AROUND ORIGINAL GROUND ON ALL SIDES FACING TRAFFIC AND MIN 10' HAUNCHES ON SIDES UNLESS OTHERWISE NOTED ON C.T. DRAWING.
6. SHEETING TIPS IN PLACE (AS DETERMINED BY THE SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS) SHALL BE PRE DRIVEN (OPT STEEL SHEETING AND UPON COMPLETION OF THE PIPE INSTALLATION, CUT OFF 2' OF BELOW FINISHED GRADE AND ALL OTHER SHEETING REMOVED.
7. THE CONTRACTOR SHALL PROVIDE A 4' HIGH SAFETY FENCE AROUND ALL PITS.
8. ENDS OF CASING SHALL BE SEALED WITH BULKHEADS OF BRICK AND MORTAR AND FURNISHED WITH WEEP HOLES 6" (OR 3X3 (SQFT) PIPE IF TOP.)
9. THE JACKING AND RECEIVING PITS SHALL BE BACKFILLED WITH SELECT SEMI-LIKE C.T. MATERIAL TO 1'-0" OVER THE TOP OF PIPE. THE REMAINDER OF THE BACKFILL SHALL BE SUITABLE LOCAL SOIL MATERIAL.
10. SLEEVES ARE SHOWN IN THEIR PLACING POSITION AND FOR INFORMATION ONLY. THEIR EXACT LOCATION SHALL BE DETERMINED PRIOR TO ANY CONSTRUCTION.
11. TEST PITS NECESSARY FOR EXISTING COLLECTION INFORMATION SHALL BE BACKFILLED BEFORE SAME WORK DAY WITH SUITABLE GRANULAR MATERIAL IN 6" LIFTS. WELL COMPACTED. NO TEST PIT TO BE LEFT OPEN DURING NON-WORK PERIODS.
12. EXCAVATIONS, IFA, DISTURBS SURFACE MATERIALS AND SUBBASES ADJACENT TO EXISTING ROADBED SHALL BE REPLACED WITH WRITTEN OF STAFF ENGINEER.
13. UNLESS OTHERWISE NOTED, ALL EXCAVATIONS WITHIN SARATOGA COUNTY DEPARTMENT OF PUBLIC WORKS ROADWAY MUST BE BACKFILLED WITH SUITABLE MATERIAL COMPACTED IN ACCORDANCE WITH SECTION 230 OF THE CURRENT NYSDOT STANDARD SPECIFICATIONS.

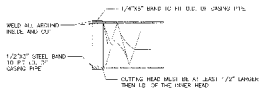
3 DET7 **CARRIER PIPE INSTALLATION DETAIL**
SCALE: NONE
CROSS REFERENCE: NONE

NOTES

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]



2 DET7 **BORING PROFILE**
SCALE: HORZ. 1" = 10'
VERT. 1" = 2'
CROSS REFERENCE: NONE



4 DET7 **AUGER STOP DETAIL**
SCALE: NONE
CROSS REFERENCE: NONE

NEW YORK STATE DEPARTMENT OF HEALTH
State Public Water Office
Refer to this sheet for approved [illegible]

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
Region 9 Permitting
Traffic Operations Division
State Office Sheet

	DATE	REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	6/16/10	REVISED PER SARATOGA COUNTY DPW	MV	MM	TTC

JOHN W. MAHONEY P.E. 087470

STATE OF NEW YORK

LICENSED PROFESSIONAL ENGINEER

LICENSED ARCHITECT, P.C. [illegible]
LICENSED LANDSCAPE ARCHITECT [illegible]
LICENSED PROFESSIONAL ENGINEER [illegible]
[illegible]

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C.T. MALE ASSOCIATES, P.C.

DESIGNED: JRB
DRAFTED: TCB
CHECKED: JWM
PROJ. NO: 04.2058
SCALE: AS SHOWN
DATE: JAN. 24, 2006

SANITARY SEWER BORING PLAN & DETAILS

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

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DET7
SHEET 15 OF 17
DWG. NO. DE-136

DISINFECTION OF POTABLE WATER MAINS

1. DISINFECTION WILL BE ACCOMPLISHED AFTER PIPE HAS PASSED ANY LEAKAGE TESTS.

2. THE CLIFTON PARK WATER AUTHORITY, OWNER AND THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO START OF PRESSURE TESTING, LEAKAGE TESTING, AND DISINFECTION.

3. DISINFECTION WILL BE PERFORMED IN ACCORDANCE WITH AWWA STANDARD C 651-05 (EXCLUDING SECTION 5.1 COVERING TABLET METHOD)

4. CHLORINE WATER SOLUTION IS PREPARED BY ADDING HYPOCHLORITE TO WATER IN ACCORDANCE WITH THE FOLLOWING TABLE :

CHLORINE REQUIRED TO PRODUCE 25 MG/L CONCENTRATION IN 100 FT. OF PIPE BY DIAMETER:

PIPE SIZE	100% PERCENT CHLORINE	1 PERCENT CHLORINE SOLUTIONS
IN.	LB.	GAL.
6	0.030	0.36
8	0.054	0.65
10	0.085	1.02

NOTE: 1% SOLUTIONS REQUIRE 1 POUND OF CALCIUM HYPOCHLORITE IN 8 GAL OF WATER

5. PRODUCT DETERIORATION MUST BE CONSIDERED IN COMPUTING QUANTITY OF SODIUM HYPOCHLORITE REQUIRED FOR THE DESIRED CONCENTRATION. SINCE SODIUM HYPOCHLORITE SOLUTION STRENGTH DEGRADES OVER TIME DUE TO HEAT AND SUNLIGHT.

6. CHLORINE-WATER SOLUTION SHALL BE APPLIED TO WATER MAIN WITH A GASOLINE OR ELECTRICALLY POWERED CHEMICAL FEED PUMP DESIGNED FOR FEEDING CHLORINE SOLUTIONS. FEED LINES SHALL BE OF SUCH MATERIAL AND STRENGTH SO AS TO WITHSTAND SAFELY THE MAXIMUM PRESSURE THAT MAY BE CREATED BY THE FEED PUMP. ALL CONNECTIONS SHALL BE CHECKED FOR WATER TIGHTNESS BEFORE HYPOCHLORITE SOLUTION IS APPLIED TO MAIN.

7. GENERALLY THE FOLLOWING PROCEDURE SHALL BE USED TO DISINFECT NEW MAIN. HOWEVER, CONTRACTOR SHALL REVIEW THEIR PROPOSED PROCEDURES WITH ENGINEER AT LEAST 48 HOURS PRIOR TO START OF DISINFECTION. ALL DISINFECTION PROCEDURES MUST BE APPROVED BY ENGINEER BEFORE ANY WORK STARTS.
A. ALL GATE VALVES AND HYDRANTS MUST BE CLOSED, THE NEW MAIN SHOULD ALREADY FULL OF WATER FROM THE HYDROSTATIC TESTS.
B. MIX CHLORINE-WATER SOLUTION IN CLEAN 55 GALLON DRUMS; CONNECT FEED LINE TO PUMP AND NEW MAIN.
C. OPEN GATE VALVE ON HYDRANT LEAD OF END HYDRANT; THEN OPEN HYDRANT FULLY.(NOTE: HYDRANT MUST ALWAYS BE EITHER FULLY OPENED OR FULLY CLOSED. THE HYDRANT FLOW MAY BE CONTROLLED BY THROTTLING THE GATE VALVE ON HYDRANT LEAD)
D. START PUMPING CHLORINE WATER SOLUTION INTO WATER MAIN; THEN OPEN UPSTREAM GATE VALVE SLOWLY UNTIL FLOW FROM HYDRANT IS PROPORTIONATE TO AMOUNT OF CHLORINE-WATER SOLUTION BEING PUMPED (300 PARTS WATER TO 1 PART 1% CHLORINE-WATER SOLUTION). IF A WATER METER IS NOT AVAILABLE, DISCHARGE RATE MAY BE DETERMINED BY USING EITHER A PITOT GAUGE IN THE DISCHARGE OR BY MEASURING TIME TO FILL A CONTAINER OF KNOWN VOLUME (SUCH AS A 55 GAL. BARREL). PUMPING RATE CAN BE DETERMINED BY MEASURING THE DROP IN LIQUID LEVEL IN A GIVEN LENGTH OF TIME.
E. AFTER HYDRANT FLOW AND PUMPING RATE HAVE BEEN ADJUSTED, MAINTAIN A CONSTANT FLOW SO THAT CHLORINE CONCENTRATION IN MAIN IS MAINTAINED AT A MINIMUM OF 25 PPM.
F. PERIODICALLY CHECK HYDRANT DISCHARGE FOR CHLORINE CONCENTRATION BY USING A HIGH-RANGE FIELD CHLORINE RESIDUAL TEST KIT. MAINTAIN HYDRANT DISCHARGE AND PUMPING RATE UNTIL A MINIMUM CHLORINE CONCENTRATION OF 25 PPM HAS BEEN ACHIEVED THROUGHOUT ENTIRE MAIN DISINFECTED.
G. AFTER THE REQUIRED CONCENTRATION HAS BEEN ACHIEVED, ALL VALVES AND HYDRANTS ON THE MAIN LINE BETWEEN THE UPSTREAM GATE VALVE AND THE DISCHARGE HYDRANT SHALL BE OPERATED IN ORDER TO DISINFECT THE INTERNAL APPURTENANCES. DO NOT OPERATE ANY GATE VALVE THAT IS LOCATED ON A CONNECTION TO AN EXISTING WATER MAIN THAT IS IN SERVICE.

8. AFTER THE CPWA HAS TAKEN A WATER SAMPLE AND VERIFIED THE MINIMUM 25 PPM CHLORINE CONCENTRATION, THE CONTRACTOR SHALL RETAIN THE CHLORINATED WATER IN THE MAIN BY THE FOLLOWING METHOD:
A. FIRST, CLOSE THE UPSTREAM GATE VALVE.
B. SECOND, CLOSE THE DISCHARGE HYDRANT.
C. THIRD, SHUT OFF THE PUMP

9. CHLORINATED WATER SHALL REMAIN IN THE MAIN FOR A MINIMUM OF 24 HOURS.

10. IF CHLORINE RESIDUAL IS LESS THAN 10 PPM, REPEAT SYSTEM TREATMENT.

11. ANY SECTION OF PIPE, VALVES OR FITTINGS, INCLUDING TAPPING SLEEVES AND VALVES WHICH ARE INSTALLED OUTSIDE LIMITS OF SYSTEM SUBJECTED TO CHLORINATION PROCEDURES SPECIFIED ABOVE SHALL BE SPRAYED OR SWABBED WITH A 1% HYPOCHLORITE SOLUTION PRIOR TO INSTALLATION.

12. AFTER THE CLIFTON PARK WATER AUTHORITY HAS VERIFIED A MINIMUM CHLORINE RESIDUAL OF 10 PPM, CONTRACTOR SHALL THOROUGHLY FLUSH CHLORINATED WATER FROM THE MAIN BY THE FOLLOWING METHOD.
A. CHECK WITH LOCAL SEWER DEPARTMENT FOR CONDITIONS OF DISPOSAL OF CHLORINATED WATER TO SANITARY SEWER. DIRECT ALL DISCHARGE WATER TO SANITARY SEWER IF POSSIBLE.
B. IF DISPOSAL OF CHLORINATED WATER TO SANITARY SEWER IS NOT POSSIBLE, DISCHARGE WATER MUST BE DECHLORINATED USING AN APPROVED METHOD IN ACCORDANCE WITH AWWA C651-05 INCLUDING APPENDIX B OF THE STANDARD
C. OPEN THE DISCHARGE HYDRANT.
D. OPEN THE UPSTREAM GATE VALVE.
E. OPEN ANY HYDRANTS ON THE MAIN LINE TO REMOVE ALL CHLORINATED WATER FROM THE HYDRANT LEADS.

13. FLUSH MAIN WITH POTABLE WATER IN SUCH A MANNER THAT SHALL NOT ADVERSELY AFFECT FISH, PLANT, OR ANIMAL LIFE

14. QUANTITY AND LOCATION OF WATER SAMPLES TO BE TAKEN SHALL BE DETERMINED BY THE CPWA.

15. WATER SAMPLES SHALL BE TAKEN BY THE CPWA IN STERILIZED BOTTLES.

16. ANALYZE WATER SAMPLES BY NYSDOH CERTIFIED LABORATORY PART 5-1 FOR PUBLIC WATER SYSTEMS.

17. IF BACTERIOLOGICAL TEST PROVES WATER QUALITY TO BE UNACCEPTABLE, REPEAT SYSTEM TREATMENT.

18. IF BACTERIOLOGICAL TEST PROVES WATER QUALITY TO BE ACCEPTABLE; REMOVE FEED LINE AND CORPORATION STOP. CORPORATION STOP WILL BE REPLACED WITH A THREADED BRASS PLUG UNLESS OTHERWISE DIRECTED BY WATER SUPERINTENDENT..

19. TWO SAMPLES TAKEN ON CONSECUTIVE DAYS AT EACH SAMPLING POINT MUST BE BACTERIOLOGICALLY SAFE BEFORE WATER MAIN IS PLACED IN SERVICE

WATER SYSTEM REQUIREMENTS

1. ALL CURB STOPS SHALL BE CENTERED ON ALL LOTS AND LOCATED AT THE EDGE OF THE PUBLIC RIGHT OF WAY.

2. ALL WATER SERVICES SHALL BE 1" TYPE K COPPER

3. THE 16" WATER MAIN SHALL BE CLASS 50 DIP. ALL OTHER WATER MAINS SHALL BE PC 350 DIP.

4. ALL HYDRANTS SHALL BE LOCATED A MINIMUM OF 4 FEET FROM DRIVEWAYS.

5. ALL WATER MAINS SHALL BE LOCATED A MINIMUM OF 5 FEET FROM CATCH BASINS.

6. THE CLIFTON PARK WATER AUTHORITY WILL ASSUME OWNERSHIP OF MAINS AND APPURTENANCES AFTER SUCCESSFUL COMPLETION OF ALL TESTING AND THE DELIVERY OF TEST RESULTS TO THE CPWA.

7. RECORD DRAWINGS SHOWING TIES TO CORPORATIONS, CURB BOXES, BENDS OR OTHER CONNECTIONS MUSTS BE SUBMITTED TO THE CPWA IN PAPER FORM AND AS A TIF IMAGE FILE PRIOR TO ACTIVATING ANY WATER SERVICES WITHIN THE SUBDIVISION.

TESTING WATER MAINS

1. AFTER TRENCH HAS BEEN BACKFILLED, HYDROSTATIC ACCEPTANCE TESTS, CONSISTING OF A PRESSURE TEST AND A LEAKAGE TEST, SHALL BE PERFORMED ON ALL SECTIONS OF WATER MAINS INSTALLED. LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH PRESSURE TEST. TEST SECTION SHALL BE LIMITED TO ABOUT 2000 FT (MAX.) UNLESS OTHERWISE APPROVED BY ENGINEER.

2. HYDROSTATIC PRESUMPTIVE TESTS MAY BE PERFORMED WHEN SYSTEM IS PARTIALLY BACKFILLED TO SIMPLY CHECK WORK. BUT ACCEPTANCE OF SYSTEM SHALL BE BASED ON HYDROSTATIC TESTS RUN ON FINISHED SYSTEM AFTER IT HAS BEEN COMPLETELY BACKFILLED. ALL HYDROSTATIC TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C600-87, AS MODIFIED HEREIN.

3. HYDROSTATIC PRESUMPTIVE TESTS MAY BE PERFORMED WHEN THE SYSTEM IS PARTIALLY BACKFILLED TO SIMPLY CHECK THE WORK, BUT ACCEPTANCE OF THE SYSTEM SHALL BE BASED ON HYDROSTATIC TESTS RUN ON THE FINISHED SYSTEM AFTER IT HAS BEEN COMPLETELY BACKFILLED. ALL HYDROSTATIC TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 5.2 OF AWWA STANDARD C600-10, AS MODIFIED HEREIN.

4. FOR THE PRESSURE TEST, SYSTEM SHALL BE PRESSURIZED AND MAINTAINED AT A MINIMUM OF 150 POUNDS PER SQUARE INCH, OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER BASED ON ELEVATION OF LOWEST POINT IN SECTION BEING TESTED AND CORRECTED TO ELEVATION OF GAUGE. PROVISIONS SHALL BE MADE TO RELIEVE AIR TRAPPED AT HIGH POINTS IN SYSTEM THROUGH ADJACENT HYDRANTS OR THROUGH TAPS AND CORPORATION STOPS INSTALLED FOR THIS PURPOSE BY CONTRACTOR. AFTER THIS PRESSURE HAS BEEN MAINTAINED SUCCESSFULLY, WITH FURTHER PUMPING AS REQUIRED, FOR A PERIOD OF AT LEAST TWO HOURS. THE SECTION UNDER TEST SHALL BE CONSIDERED TO HAVE PASSED THE PRESSURE TEST.

TESTING - DUCTILE IRON PIPE

1. LEAKAGE TEST SHALL BE PERFORMED CONCURRENTLY USING A MINIMUM TEST PRESSURE OF 150 LBS/SQUARE INCH, BASED ON ELEVATION OF LOWEST POINT IN SECTION UNDER TEST, OR 1.5 TIMES THE WORKING PRESSURE, BASED ON ELEVATION OF LOWEST POINT IN SECTION UNDER TEST OR 1.25 TIMES THE WORKING PRESSURE BASED UPON AN ELEVATION OF THE HIGHEST POINT IN SECTION UNDER TEST, WHICHEVER IS GREATER, AND ALL CORRECTED TO ELEVATION OF GAUGE. LEAKAGE TEST DURATION SHALL BE A MINIMUM OF 2 HOURS AFTER LEAKAGE RATE HAS STABILIZED.

2. MAXIMUM ALLOWABLE LEAKAGE SHALL BE AS SHOWN IN THE FOLLOWING TABLE:
ALLOWABLE LEAKAGE (IN GALLONS) PER 1000 FT (305 M) OF PIPELINE *

AVG. TEST PRESSURE	NOMINAL PIPE DIAMETER - IN.		
PSI (BAR)	6	8	10
450 (31)	0.95	1.27	1.59
400 (28)	0.90	1.20	1.50
350 (24)	0.84	1.12	1.40
300 (21)	0.78	1.04	1.30
275 (19)	0.75	1.00	1.24
250 (17)	0.71	0.95	1.19
225 (16)	0.68	0.90	1.13
200 (14)	0.64	0.85	1.06
175 (12)	0.59	0.80	0.99
150 (10)	0.55	0.74	0.92
125 (9)	0.50	0.67	0.84
100 (7)	0.45	0.60	0.75

* IF PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

c. IF LEAKAGE IN SYSTEM EXCEEDS SPECIFIED AMOUNT, CONTRACTOR SHALL (AT NO ADDED COST TO THE OWNER) LOCATE, REPAIR, AND/OR REPLACE DEFECT(S) AND RETEST PIPING SYSTEM.

TESTING - HDPE PIPE

1. HDPE PIPE EXPANDS WHEN IT IS PRESSURIZED. THE EXPANSION PROCESS TAKES 2-3 HOURS. ONCE EQUILIBRIUM IS ESTABLISHED, THE TEST SECTION IF PRESSURIZED TO 1.5 TIMES OPERATING PRESSURE AND THE TEST PRESSURE IS HELD FOR TWO HOURS.

2. DURING THE ACTUAL TEST THE PIPE WILL CONTINUE TO EXPAND SOMEWHAT. THIS EXPANSION WILL CONTINUE TO CAUSE A PRESSURE DROP. A PRESSURE DROP DOES NOT CONCLUSIVELY PROOF THAT THERE IS A LEAK IN THE SYSTEM.

3. CHANGES IN TEMPERATURE WILL CAUSE THE PIPE TO EXPAND AND CONTRACT THUS CHANGING THE INTERNAL PRESSURE FOR THIS REASON, THE PIPE WILL BE TESTED FULLY BACKFILLED AND AFTER THE WATER HAS BEEN IN THE PIPE FOR OVERNIGHT. WATER SHOULD BE LEFT IN THE PIPE UNPRESSURIZED IN ORDER TO MINIMIZE TEMPERATURE CONSIDERATIONS WITH REGARD TO THE PLACEMENT OF THE WATER.

4. UNDER NO CIRCUMSTANCES SHALL THE PIPE BE HELD UNDER TEST PRESSURE FOR MORE THAN 8 HOURS. AFTER BEING PLACED UNDER TEST PRESSURE, THE PIPE SHALL BE ALLOWED TO "RELAX" FOR A MINIMUM OF 8 HOURS.

5. THE FOLLOWING ALLOWANCES SHOULD BE USED FOR WATER TO BE ADDED DURING THE TEST PERIOD (NOT DURING THE INITIAL EXPANSION PHASE) TO ACCOUNT FOR EXPANSION

ALLOWABLE EXPANSION ALLOWANCE

NOMINAL PIPE SIZE	(U.S GALLONS/100FT. PIPE)
6"	0.60
8"	1.0
10"	1.3
12"	2.3
14"	2.8
16"	3.3
20"	5.5
24"	8.8
28"	[illegible]
32"	14.3
36"	18.0

6. IN ORDER TO CONFIRM THE LACK OF ANY LEAKAGE, ONCE THE PRESSURE TEST IS COMPLETE THE CONTRACTOR SHALL BLEED THE PRESSURE DOWN TO THE WORKING PRESSURE AND SEAL THE PIPE WITH A PRESSURE GAUGE IN PLACE. THE PIPE SHOULD HOLD THE WORKING PRESSURE AND THE PRESSURE SHOULD ACTUALLY INCREASE SOMEWHAT OVER A PERIOD OF 2-3 HOURS.

NEW YORK STATE DEPARTMENT OF HEALTH
Glens Falls District Office
Refer to first sheet for approved date and signature

Approved by
New York State
Department of Environmental Conservation
Region 5 - Warrensburg, N.Y.
For Approval Date and Signature
Refer to Cover Sheet

JOHN R. BRUSKO
P.E. 57436

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
[illegible]	1	REVISED PER REVIEW LETTER DATED [illegible]	JPM	FSF	FSF
[illegible]	2	REVISED PER TOWN COMMENTS	JPM	FSF	FSF
[illegible]	3	REVISED PER CPWA COMMENTS	FSF	FSF	FSF
[illegible]	4	MISC. REVISIONS FOR SUBMISSION	TSD	LRB	[illegible]
[illegible]	5	REVISIONS [illegible]	[illegible]	LRB	[illegible]
[illegible]	6	REVISIONS PER [illegible] COMMENTS	[illegible]	[illegible]	[illegible]
	7				
	8				
	9				

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C.T. MALE ASSOCIATES, P.C.

DESIGNED : JPM
DRAFTED : JPM
CHECKED : FSF
PROJ. NO: 04.9288
SCALE : NTS
DATE : JAN. 24, 2006

UTILITY NOTES

LONGKILL SUBDIVISION

TOWN OF CLIFTON PARK — SARATOGA COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture & Landscape Architecture, P.C.
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518.786.7400 * FAX 518.786.7299

N1
SHEET 16 OF 17
DWG. NO: 06-136

TESTING GRAVITY SEWERS

1. THE CONTRACTOR SHALL PROVIDE A POSITIVE IDENTIFICATION OF THE GROUND WATER TABLE PRIOR TO TESTING.

2. A HYDROSTATIC TEST IS REQUIRED ON THE ENTIRE SEWER SYSTEM. INFILTRATION TESTING IS THE PREFERRED METHOD OF TESTING WHEN GROUND WATER IS PRESENT AT LEAST TWO (2) FEET OVER THE TOP OF PIPE AT THE UPSTREAM MANHOLE.

3. IF, DUE TO GROUND WATER CONDITIONS, INFILTRATION TESTING IS IMPRACTICAL, THEN THE CONTRACTOR SHALL PERFORM EXFILTRATION TESTING ON THE SYSTEM. LOW PRESSURE AIR TESTING MAY BE PERFORMED IN LIEU OF EXFILTRATION TESTING IN ACCORDANCE WITH THE CONDITIONS SPECIFIED.

4. THE ALLOWABLE INFILTRATION OR EXFILTRATION RATE IS 100 GALLONS PER INCH DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.

5. INFILTRATION TESTS SHALL BE MONITORED BY A 22 1/2° V-NOTCH WEIR. ANY OTHER MEASURING DEVICE WILL REQUIRE PRIOR APPROVAL OF THE ENGINEER.

6. WHERE SEWERS ARE CONSTRUCTED OF PRESSURE-RATED PIPE AND INSTALLED WITH LESS THAN 18 INCHES VERTICAL SEPARATION FROM EXISTING OR PROPOSED WATER MAINS, SEWERS SHALL BE HYDROSTATICALLY TESTED AT 150 PSI TO ASSURE WATER TIGHTNESS. HYDROSTATIC ACCEPTANCE TESTS SHALL BE CONDUCTED AS SPECIFIED FOR TESTING WATER MAIN, EXCEPT THAT TESTING MAY BE PERFORMED WITH PIPE SECTION PARTIALLY BACKFILLED.

INFILTRATION TESTING

1. THE INFILTRATION LEAKAGE TESTS SHALL BE RUN ON EACH SINGLE MANHOLE TO MANHOLE SECTION, OR REACH, INDEPENDENTLY OF ALL OTHER MANHOLE TO MANHOLE SECTIONS. A PIPELINE SECTION UNDER TEST SHALL INCLUDE ALL THE PIPE AND FITTINGS BETWEEN THE TWO MANHOLES PLUS THE UPSTREAM MANHOLE.

2. EACH MANHOLE TO MANHOLE SECTION SHALL BE REJECTED OR ACCEPTED BASED ONLY ON THE RESULTS OF ITS OWN INDEPENDENT SECTION TEST AND NOT ON THE RESULTS OF ANY ONE TEST RUN SIMULTANEOUSLY OVER MORE THAN ONE CONSECUTIVE MANHOLE TO MANHOLE SECTION. THE ONLY EXCEPTION ALLOWED SHALL BE ACCEPTING SEVERAL CONSECUTIVE MANHOLE TO MANHOLE SECTIONS BASED ON ONE COMBINED INFILTRATION TEST INDICATING ZERO (0) INFILTRATION.

3. THE INFILTRATION TEST SHALL BE MADE BY INSTALLING THE FLOW MEASURING DEVICE IN THE DOWNSTREAM MANHOLE OF THE SECTION BEING TESTED. THE TEST DURATION SHALL BE 24 HOURS, OR FOR A SHORTER PERIOD, PROVIDED A STEADY STATE FLOW CONDITION HAS BEEN ACHIEVED IN THE TEST PERIOD, AND THE RESULTS PROJECTED TO A 24 HOUR PERIOD.

EXFILTRATION TESTING

1. THE EXFILTRATION TESTS SHALL BE RUN ON EACH SINGLE MANHOLE TO MANHOLE SECTION OR REACH, INDEPENDENTLY OF ALL OTHER MANHOLE TO MANHOLE SECTIONS. A PIPELINE SECTION UNDER TEST SHALL INCLUDE ALL THE PIPE AND FITTINGS BETWEEN THE TWO MANHOLES PLUS THE UPSTREAM MANHOLE.

2. THE EXFILTRATION TESTS SHALL BE MADE BY MEASURING THE DROP IN WATER ELEVATION IN THE UPSTREAM MANHOLE 36 HOURS AFTER THE INITIAL WATER LEVEL IS RECORDED. THE INITIAL WATER LEVEL IN THE UPSTREAM MANHOLE SHALL BE TWO (2) FEET HIGHER THAN EITHER THE TOP OF THE PIPE OR THE GROUND WATER ELEVATION, AT THE UPSTREAM MANHOLE. ANY MANHOLE TO MANHOLE SECTION UNDERGOING AN EXFILTRATION TEST MUST HAVE THE NEXT ADJACENT SECTION, BOTH UPSTREAM AND DOWNSTREAM, DRY AND NOT UNDER TEST. THIS PROCEDURE MINIMIZES HYDROSTATIC PRESSURE PLACED ON STOPPERS, PLUGS, AND END CAPS.

LOW PRESSURE AIR TESTING

1. LOW PRESSURE AIR TESTING MAY BE ALLOWED IN LIEU OF EXFILTRATION TESTS ONLY. WHEN SO ALLOWED, THE TEST SHALL BE PERFORMED UNDER THE DIRECTION OF THE ENGINEER ACCORDING TO ASTM C828-78. ALTHOUGH THE ASTM DOCUMENT TITLE IS SPECIFIC FOR VITRIFIED CLAY PIPE, 4 TO 12 INCHES IN DIAMETER, THE SAME GENERAL PROCEDURE MAY BE USED FOR ANY OTHER PIPE MATERIAL, AND IS NOT LIMITED TO A MAXIMUM DIAMETER OF 12 INCHES.

2. AN AIR TEST SHALL NOT BE RUN UNTIL THE SECTION OF LINE TO BE TESTED HAS BEEN CLEANED OF ALL FOREIGN MATERIAL BY FLUSHING AND HAS BEEN VISUALLY INSPECTED AND APPROVED BY THE ENGINEER. CERTAIN PIPE MATERIALS PRODUCE MORE CONSISTENT RESULTS WHEN THE INTERIOR OF THE PIPE IS WETTED PRIOR TO TESTING.

3. LOW PRESSURE AIR TESTING MUST BE DONE IN SINGLE MANHOLE TO MANHOLE SECTIONS, OR REACHES, AFTER THEY HAVE BEEN COMPLETELY BACKFILLED. A MANHOLE SECTION UNDER TEST SHALL INCLUDE ALL THE PIPE AND FITTINGS BETWEEN THE MANHOLES. MANHOLES WILL NOT BE AIR TESTED, BUT SHALL BE EXFILTRATION TESTED, INDEPENDENT OF ANY PIPELINE TESTING. THE SECTION OF LINE TO BE TESTED SHALL BE SEALED AT BOTH MANHOLES BY PLUGS OR STOPPERS. ONE OF THESE PLUGS OR STOPPERS MUST BE EQUIPPED TO FILL THE LINE WITH AIR FROM A COMPRESSOR OR PUMP AND ALLOW IT TO BLEED OFF WHEN THE TEST IS ENDED. THERE MUST ALSO BE A PRESSURE GAUGE INDEPENDENT OF ANY ON THE COMPRESSOR OR PUMP WHICH REMAINS CONNECTED TO THE TEST SECTION AND IS CAPABLE OF MEASURING ITS INTERNAL AIR PRESSURE WHEN IT IS SEALED OFF FROM THE AIR SUPPLY.

THE TEST SECTION SHALL THEN BE SLOWLY FILLED WITH AIR UP TO A MAXIMUM PRESSURE OF FOUR (4) PSIG GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUND WATER THAT MAY BE SUBMERGING THE PIPE. THE PRESSURE SHALL THEN BE THROTTLED DOWN TO AND MAINTAINED AT THREE AND ONE-HALF (3.5) PSIG GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUND WATER FOR A MINIMUM OF TWO (2) MINUTES TO ALLOW THE TEMPERATURE OF THE WARMER ENTERING AIR TO EQUALIZE WITH THAT OF THE COOLER PIPE WALLS. DURING THIS TIME ALL EXPOSED AIR CONNECTIONS AND END PLUGS OR STOPPERS SHOULD BE CHECKED FOR LEAKAGE WITH A LIQUID SOAP SOLUTION. IF ANY LEAKS ARE FOUND, OR IF THE PRESSURE CANNOT BE MAINTAINED FOR ANY REASON, THE AIR SHOULD BE BLED OFF AND THE NECESSARY ADJUSTMENTS OR REPAIRS MADE. WHEN THE LEAKAGE HAS BEEN STOPPED THE AIR TEST SHALL BE STARTED AGAIN FROM THE BEGINNING AS DESCRIBED ABOVE. PRIOR TO THE TEST, THE CONTRACTOR SHOULD INSURE THAT ALL STOPPERS, PLUGS, AND END CAPS, PARTICULARLY AT THE END OF BUILDING SERVICES, ARE CORRECTLY INSTALLED AND ADEQUATELY BRACED TO WITHSTAND THE AIR PRESSURE EQUAL THROUGHOUT THE SECTION UNDER TEST.

WHEN THE INTERNAL AIR PRESSURE HAS BEEN MAINTAINED AT THREE AND ON HALF (3.5) PSIG GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUND WATER FOR A MINIMUM OF TWO (2) MINUTES TO ALLOW THE AIR TEMPERATURE INSIDE THE PIPE TO STABILIZE, THE AIR SUPPLY SHALL BE PHYSICALLY DISCONNECTED LEAVING THE PRESSURIZED SYSTEM SEALED. THE INDEPENDENT PRESSURE GAUGE SHALL THEN BE OBSERVED FOR AN INDICATION OF PRESSURE LOSS. IF A LOSS IS INDICATED, THE TIME IT TAKES FOR THE PRESSURE TO DROP ONE (1) PSIG FROM 3.5 PSIG TO 2.5 PSIG GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUND WATER SHALL BE MEASURED WITH A STOP WATCH.

4. THE LOW PRESSURE AIR TEST IS A COMPARISON OF THE MEASURED TIME NECESSARY FOR THE ONE (1) PSIG PRESSURE DROP TO OCCUR, IF AT ALL, WITH THE MINIMUM ALLOWABLE TIME FOR THAT PRESSURE DROP TO OCCUR DETERMINED BY THE METHODS INDICATED IN ASTM C828-78. IF THE TIME REQUIRED FOR THE ONE (1) PSIG PRESSURE DROP TO OCCUR IS MORE THAN THE MINIMUM ALLOWABLE, OR IF THE ONE (1) PSIG PRESSURE DROP DOESN'T OCCUR WITHIN THAT ALLOWABLE TIME, THEN THE PIPE SECTION UNDER TEST IS FREE FROM ANY SIGNIFICANT LEAKS AND IS ACCEPTABLE. IF NO PRESSURE DROP OCCURS, THEN THE SECTION IS LEAKAGE FREE AND IS ACCEPTABLE. IF THE ONE (1) PSIG PRESSURE DROP OCCURS FASTER THAN THE ALLOWABLE TIME, THE SECTION IS UNACCEPTABLE.

5. WHERE AIR TESTING IS TO BE USED FOR LINE ACCEPTANCE, CORROBORATIVE HYDROSTATIC TESTING SHALL BE PERFORMED ON SEWER INSTALLATIONS OF THE SAME PIPE SIZE, MATERIAL AND CONDITIONS OF INSTALLATION. SEWER SECTIONS WHICH INDICATE THE RATES OF AIR LOSS PER UNIT OF SURFACE AREA WHICH MOST NEARLY APPROXIMATE THE RATE FOR PIPELINE ACCEPTANCE SHOULD BE SELECTED FOR THE CORROBORATIVE TESTS. AT LEAST THREE SECTIONS ARE TO BE SO TESTED. THE PURPOSE OF THESE CORROBORATIVE TESTS IS TO PERMIT A REASONABLE ASSUMPTION THAT, IF THESE THREE TEST SECTIONS MEET THE HYDROSTATIC TEST, THE BALANCE OF THE PROJECT ALSO MEETS OR EXCEEDS THESE REQUIREMENTS. IF THE AIR TEST IS NOT SUPPORTED BY ACCEPTABLE CORROBORATIVE HYDROSTATIC TESTS, COMPLETE HYDROSTATIC TESTING OF THE SEWER LINES SHALL BE REQUIRED AS THE BASIS FOR FINAL PIPELINE ACCEPTANCE.

6. MANHOLES WHICH CAN NOT BE PROPERLY AIR TESTED, SHOULD BE VISUALLY INSPECTED AND LEAKAGE-TESTED USING INTERNAL OR EXTERNAL HYDROSTATIC PRESSURE. LEAKAGE TESTING TO COMPLY WITH APPLICABLE MUNICIPAL REQUIREMENTS.

TESTING-IN-SERVICE LINES

IN AREAS WHERE CONVENTIONAL TESTING IS IMPRACTICAL (I.E. AREAS DESIGNATED BY ENGINEER WHERE EXISTING SERVICES ARE TIED INTO THE NEW LINE IMMEDIATELY AND ANY BLOCKAGE COULD RESULT IN HEALTH PROBLEMS) NO LINES SHALL BE BACKFILLED UNTIL EACH PIPE SECTION AND CONNECTION IS INSPECTED AND APPROVED.

TEST RESULTS

A. IF THE ALLOWABLE RATE OF INFILTRATION, EXFILTRATION, OR AIR LEAKAGE IS EXCEEDED ON TEST, THE CONTRACTOR SHALL LOCATE THE POINTS OF EXCESSIVE LEAKAGE AND SHALL PROMPTLY CORRECT, REPAIR, AND BRING THE SYSTEM UP TO THE STANDARDS. THE COSTS OF ALL SUCH REPAIRS AND CORRECTIVE MEASURES, INCLUDING THE COSTS OF REPEATED TESTS, SHALL BE BORNE BY THE CONTRACTOR. THE SEWER LINE SECTION (INCLUDING MANHOLES, AND BUILDING SERVICES) UNDER TEST SHALL NOT BE ACCEPTED UNTIL THESE TEST CRITERIA ARE MET.

TESTING SEWAGE FORCE MAINS

1. THE COMPLETED SEWAGE FORCE MAIN INCLUDING VALVES, FITTINGS, CONNECTIONS TO PUMPS AND OTHER PIPELINE SYSTEMS SHALL BE TESTED FOR LEAKAGE, AND THE SUCCESSFUL TEST SHALL BE ONE CRITERION FOR PAYMENT TO CONTRACTOR.

2. THE TESTS WILL BE CONDUCTED AS DIRECTED BY THE ENGINEER/ARCHITECT, BUT THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR, EQUIPMENT, WATER AND MATERIALS NECESSARY FOR CONDUCTING THE TESTS AS SPECIFIED.

3. THE SYSTEM SHALL BE PRESSURIZED TO 1.5 TIMES THE PIPE WORKING PRESSURE OR 100 PSI, WHICHEVER IS GREATER, AT THE POINT OF TESTING. AFTER THIS PRESSURE, Ñ5 PSI, HAS BEEN MAINTAINED SUCCESSFULLY FOR ONE HOUR, THE LEAKAGE TEST SHALL BE PERFORMED FOR A PERIOD OF NO LESS THAN 2 HOURS. HYDROSTATIC TESTS SHALL BE PERFORMED, AND SUCCESSFUL TEST RESULTS DERIVED IN ACCORDANCE WITH AWWA C600, SECTION 4 AND THE ALLOWABLE LEAKAGE TABLE WITHIN THIS SECTION. IF THE LEAKAGE IN THE SYSTEM EXCEEDS THE SPECIFIED AMOUNT, THE CONTRACTOR SHALL, AT NO ADDED COST TO THE OWNER, MAKE ANY REPAIRS OR REPLACEMENTS NECESSARY TO REDUCE THE LEAKAGE TO THE REQUIRED LIMITS AND RETEST THE SYSTEM.

4. THE MAXIMUM ALLOWABLE LEAKAGE PER HOUR AT THE SPECIFIED TEST PRESSURE, SHALL BE AS SHOWN IN THE FOLLOWING TABLE:

ALLOWABLE LEAKAGE PER 1000 FT (305 M) OF PIPELINE*

GALLONS PER HOUR

NOMINAL PIPE DIAMETER - INCHES

AVG. TEST PRESSURE

PSI	(BAR)	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16
450	(31)	0.20	0.24	0.32	0.40	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55
400	(28)	0.19	0.23	0.30	0.38	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40
350	(24)	0.18	0.21	0.23	0.35	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25
300	(21)	0.17	0.20	0.26	0.33	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08
275	(19)	0.16	0.19	0.25	0.31	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99
250	(17)	0.15	0.18	0.24	0.30	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90
225	(16)	0.14	0.17	0.23	0.28	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80
200	(14)	0.13	0.16	0.21	0.27	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70
175	(12)	0.12	0.15	0.20	0.25	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59
150	(10)	0.11	0.14	0.18	0.23	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47
125	(9)	0.10	0.13	0.17	0.21	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34
100	(7)	0.09	0.11	0.15	0.19	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20

DEFLECTION TESTING SEWER PIPE

1. WHERE FLEXIBLE PIPE IS USED, THE CONTRACTOR SHALL TEST ALL MAINLINE PIPE FOR THE MAXIMUM ALLOWABLE DEFLECTION OF FIVE (5%) PERCENT OF THE OUTSIDE DIAMETER.

2. DEFLECTION TESTS SHALL BE PERFORMED USING A 9-ARM MANDREL-TYPE "GO-NO-GO" SLED GAUGE OF THE PROPER SIZE ACCORDING TO THE FOLLOWING TABLE.

PIPE SIZE (INCHES)SDR35	BASE INSIDE DIA.(INCHES)	REQUIRED MANDREL DIA. (INCHES)
8"	7.67	7.29
10"	9.56	9.09
12"	11.36	10.79

3. DEFLECTION TESTING OF ANY PIPE SECTION SHALL BE DONE NO SOONER THAN 6 MONTHS AFTER THE DATE OF INSTALLATION OF THE PIPE SECTION UNLESS WRITTEN EXCEPTION IS PROVIDED BY ENGINEER.

4. APPROXIMATELY 10% OF THE RUNS BETWEEN MANHOLES OR A MINIMUM 4 RUNS SHALL BE TESTED. THE LOCATION OF EACH RUN SHALL BE APPROVED BY THE MUNICIPALITY.

5. SUCCESSFUL PASSAGE OF THE PROPER SIZE MANDREL THROUGH ALL TEST RUNS WILL END THE TESTING PROCEDURE.

6. FAILURE IN ANY ONE OF THE TEST SECTION WILL BE CAUSE FOR ALL RUNS TO BE DEFLECTION TESTED.

7. SECTIONS EXCEEDING THE DEFLECTION LIMITS SHALL BE CORRECTED BY RELAYING OR OTHER REMEDIES APPROVED BY THE ENGINEER.

8. DEFLECTION TESTING SHALL BE IN ADDITION TO OTHER TESTS REQUIRED.

NEW YORK STATE DEPARTMENT OF HEALTH
Glens Falls District Office
Refer to first sheet for approved date and signature.

Approved by
New York State
Department of Environmental Conservation
Region 5 - Warrensburg, N.Y.
See Approval Date and Signature
(Refer to Cover Sheet)

JOHN R. BRUSKO
P.E. 057436

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
3/2/06	1	REVISED PER TOWN LETTER	JPM	JS	JS
3/8/06	2	REVISED PER OWN COMMENTS	JPM	JS	JS
2/2/07	3	MISC. REVISIONS FOR SUBMISSION	JPM	JPM	JRB
8/12/10	4	REVISIONS PER CHA COMMENTS	JRB	JPM	JRB
	5				
	6				
	7				
	8				

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UTILITY NOTES

LONGKILL SUBDIVISION

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