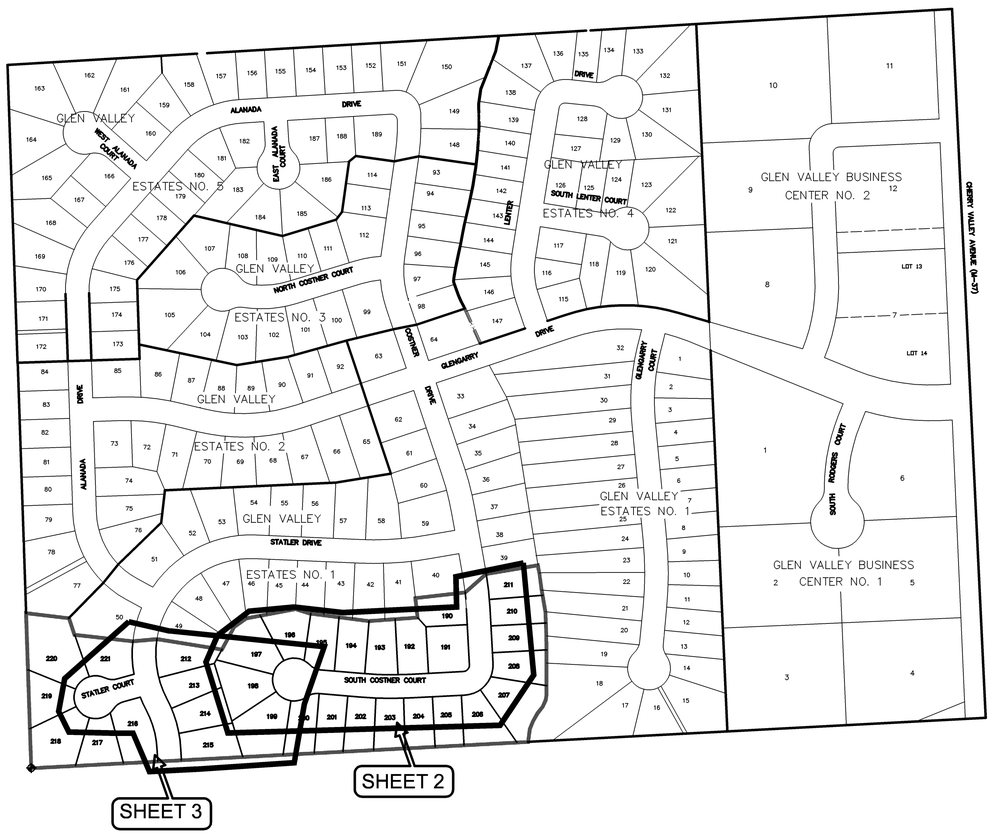
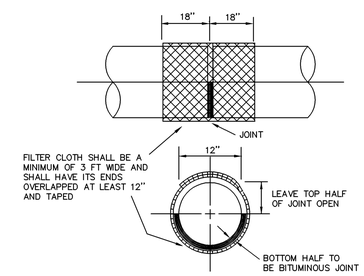




CSPU DETAIL–TOP HALF OPEN JOINT

GENERAL NOTES
(March 1, 1995)

1. The performance of this work shall be governed by the Michigan Department of Transportation (MDOT) current Standard Specifications for Highway Construction except where modified by the requirements of the Kent County Road Commission (KCRC).

2. Roadway construction shall conform to the KCRC Standards as follows:

ITEM	STANDARD PLAN NO.
Concrete Curb and Gutter	MDOT Det. F–4 (mod)
Catchbasins and Manholes	K–CB–1
Catchbasins and Manhole Covers	K–CBC–1
Driveway Approaches	K–DW–1
Guard Posts, Drainage Marker Post, Bituminous Downspout and Misc. Special Details.	K–SD–1&2

3. Any affected agency or utility shall be notified a minimum of 3 working days before the start of construction, excluding Saturdays, Sundays and holidays.

4. All necessary permits must be obtained prior to the beginning of work.

5. Traffic signs, barricades, or other devices necessary to insure safety to the public shall be placed prior to the beginning of work.

6. Sod and loam topsoil shall be removed the width of the subgrade and can be wasted outside of the roadway. Treatment of peat marshes shall be in accordance with MDOT Standard Method A–1.

7. Where unsuitable material is encountered, it shall be excavated the width of the subgrade to a depth of 5' below finished grade and wasted outside the right–of–way. Backfill shall meet granular material Cl II requirements.

8. Where unforeseen subsoil conditions warrant it, sewer pipe underdrain, approved by the Engineer, shall be placed during construction.

9. Outlets of storm sewers, ditches and areas where concentrations of runoff occur shall be protected against erosion by sodding, riprap, mulch blankets or other means approved by the Engineer. End sections are required on all culverts 18" or larger diameter.

10. Drainage marker posts shall be placed at the ends of all culverts and storm sewers 48" or less in diameter.

11. The subgrade and each sucessive improved layer of material shall be checked for grade and density and approved by the Consulting Engineer and Wilcox Professional Services, LLC prior to placing subsequent layers.

12. Aggregate and Class AA Approach shall be placed and compacted in accordance with KCRC specifications.

13. All graded areas within the right–of–way shall be seeded, fertilized and mulched within ten (10) working days of final grading.

14. Catchbasin grates shall be used according to the following, with East Jordan Iron Works or equivalent castings:

	GRATES	EJIW
Valley Gutter on Grade	Type C4	#7065
Valley Gutter in a Sag	Type BB–3	#7030
Curb and Gutter on Grade	Type K	#7045
Curb and Gutter in a Sag	Type BB	#7030

15. Curb returns at intersections shall be constructed with dub–downs for future sidewalk ramps per detail K–SD–1.

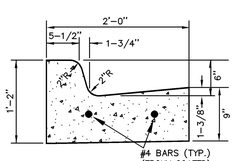
16. The Consulting Engineer shall maintain certification of all materials used on the project. Copies of the certifications shall be available upon request.

17. Bituminous paving shall consist of two courses. The leveling course shall be 2" of Bituminous Mix No. 3C and the surface course shall be 1 1/2" Bituminous Mix No. 4C. Bituminous surface course shall not be placed after November 1. Written approval from the Engineer will be required for placement of any bituminous leveling course after November 1. Placement of bituminous material without written approval will be cause for non–acceptance or removal by the owner.

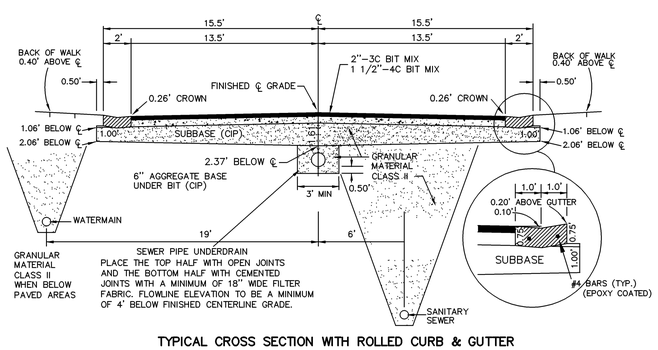
18. Bituminous paving will not be allowed prior to approval of the sanitary sewer by the appropriate agency.

19. All structures are to be adjusted prior to the placing of the second course of bituminous paving. The excavated area around the adjusted structure must be compacted to 98% of the maximum density.

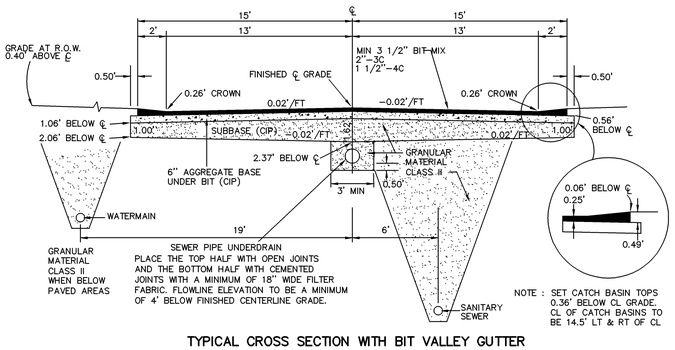
20. Street signage placement shall be coordinated with the Village of Caledonia and shall be consistent with the signage in previous phases.



F–4 MODIFIED CONC CURB DETAIL
(PITCHED IN)



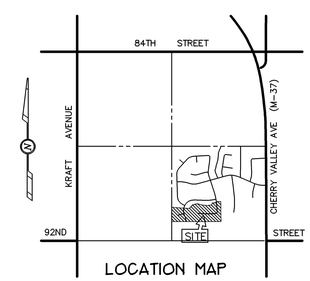
TYPICAL CROSS SECTION WITH ROLLED CURB & GUTTER



NOTE : SET CATCH BASIN TOPS 0.36' BELOW CL GRADE. CL OF CATCH BASINS TO BE 14.5' LT & RT OF CL

TYPICAL CROSS SECTION WITH BIT VALLEY GUTTER

STATE OF MICHIGAN
ROBERT TODD LAMER
ENGINEER No. 40996
LICENSED PROFESSIONAL ENGINEER



LOCATION MAP

11/14/05 WATERMIAN PERMIT #W056328
11/4/05 MDEQ SAN. PERMIT #1002290

COVER SHEET

For: GLEN VALLEY ESTATES NO. 6

In: PART OF THE SE 1/4 OF SECTION 20. T5N. R10W.
VILLAGE OF CALEDONIA. KENT COUNTY. MICHIGAN.

Revisions

12/11/06 AS BUILT (dgb)
05–03–06 REV PER INT DETAILS (mk)
11/3/05 REV. PER K.C.D.C.
10/26/05 REV. PER VILLAGE ENGINEER
10/26/05 REV. PER TOWNSHIP ENGINEER
9/29/05 REV. PER K.C.D.C.

exxel engineering inc.
5252 CLYDE PARK, S.W. • GRAND RAPIDS, MI. 49509
PHONE (616) 531–3660

Drawn by: JSD
Approved by: RTL
File No: 032804E
Sheet 1 of 4
Date: 9/15/05

drawing number E F . . . .
co. twp. sec. project drawing

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COSTNER DRIVE/SOUTH COSTNER COURT

GLEN VALLEY ESTATES NO. 6

IN: PART OF THE SE 1/4, SECTION 20, T5N, R10W, VILLAGE OF CALEDONIA, KENT COUNTY, MICHIGAN

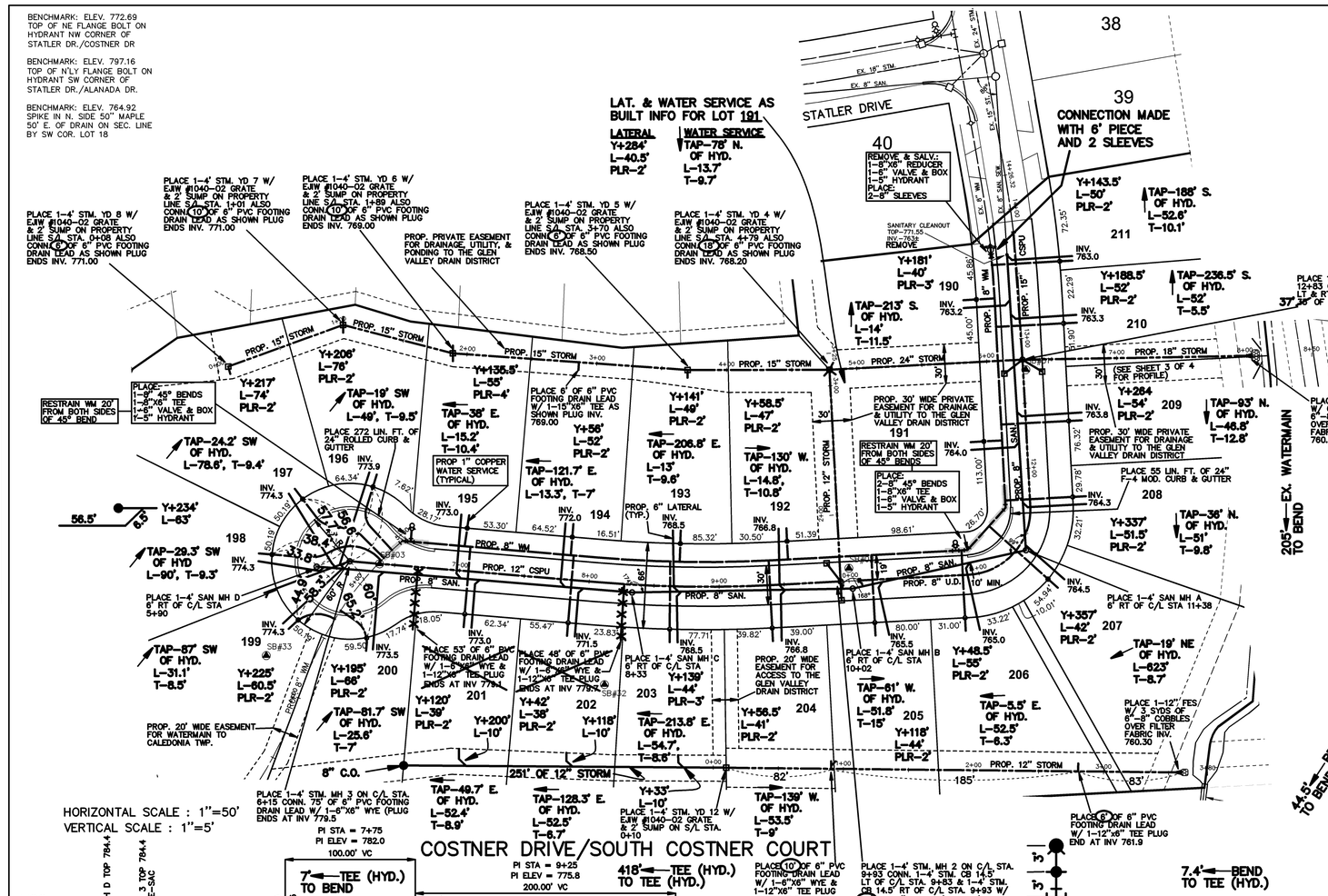
BENCHMARK: ELEV. 772.69
TOP OF NE FLANGE BOLT ON HYDRANT NW CORNER OF STATLER DR./COSTNER DR

BENCHMARK: ELEV. 797.16
TOP OF N'LY FLANGE BOLT ON HYDRANT SW CORNER OF STATLER DR./ALANADA DR.

BENCHMARK: ELEV. 764.92
SPIKE IN N. SIDE 50" MAPLE 50' E. OF DRAIN ON SEC. LINE BY SW COR. LOT 18

PLACE : 690 LIN FT OF 8" WATERMAIN, DI CLASS 53 TOTAL THIS SHEET.

PLACE : 1185 LIN FT OF 1" COPPER WATER SERVICE & 22 SETS OF 1" CORP, CURB STOP & BOX TOTAL THIS SHEET.



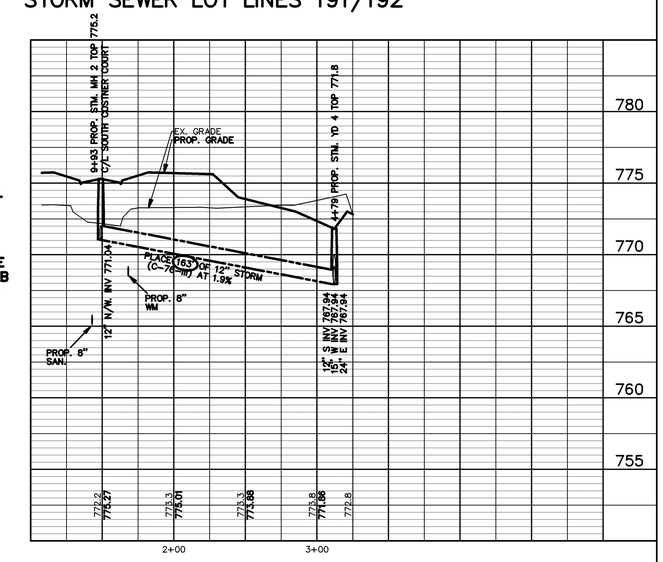
STATE OF MICHIGAN — ROBERT TODD LAMER ENGINEER No. 40996 — LICENSED PROFESSIONAL ENGINEER

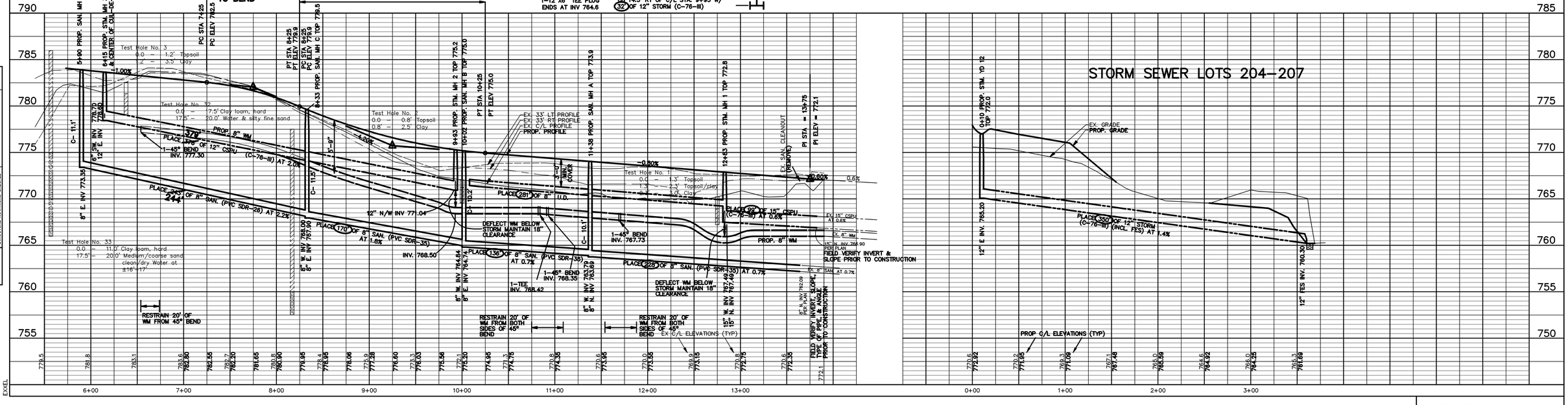
NOTE:
RESTRAINT PLACED AS INDICATED ON PLANS

WATER SERVICE INFORMATION

DISTANCE TO HYDRANT FROM CORP.

DISTANCE FROM MAIN TO CURB BOX / DISTANCE FROM CURB BOX TO END OF COPPER





REVISIONS:
12/11/06 AS BUILT (dgb)
05-03-06 REV PER INT DETAILS (mk)
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9/29/05 REV. PER K.C.D.C.

11/4/05 MDEQ SAN. PERMIT #1002290
11/14/05 WATERMIAN PERMIT #W056328

exxel engineering inc.
5252 CLYDE PARK, S.W. • GRAND RAPIDS, MI. 49509
PHONE (616) 531-3660 FAX (616) 531-2121

DRAWN BY:	JSD
APPROVED BY:	RTL
PROJ. ENG.:	RTL
PROJ. SURV.:	JS
FILE NO.:	032804E
SHEET	2 OF 4
DATE:	9/15/05

drawing number E F CG TWPSEC PRGJDWG (co. twp. sec. project drawing)

CAUTION: BEFORE DIGGING CALL MISS DIG AT 1-800-482-7171 FOR UNDERGROUND UTILITY LOCATIONS.

PLAN — SURVEYED / PLOTTED / GRADES CHECKED / B. M.'S NOTED / STRUCTURE NOTATIONS CHECKED — NOTE BOOK NO. ____ — BY — DATE

PROFILE — SURVEYED / PLOTTED / GRADES CHECKED / B. M.'S NOTED / STRUCTURE NOTATIONS CHECKED — NOTE BOOK NO. ____ — BY — DATE

GLEN VALLEY NO. 6
SEC 20, T5N, R10W

drawing number ☐ ☐ - - - - -

EXXEL

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STATLER DRIVE/STATLER COURT

GLEN VALLEY ESTATES NO. 6

IN: PART OF THE SE 1/4, SECTION 20, T5N, R10W, VILLAGE OF CALEDONIA, KENT COUNTY, MICHIGAN

exxel engineering inc.
5252 CLYDE PARK, S.W. • GRAND RAPIDS, MI. 49509
PHONE (616) 531-3660 FAX (616) 531-2121

REVISIONS:	
12/11/06 AS BUILT (dqb)	
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DRAWN BY:	JSD
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PROJ. ENG.:	RTL
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FILE NO.:	032804E
SHEET	3 OF 4
DATE:	9/15/05

drawing number E F .. co. • .. twp. • .. sec. • ... project • ... drawing

11/4/05 MDEQ SAN. PERMIT #1002290
11/14/05 WATERMIAN PERMIT #W056328

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STATE OF MICHIGAN — ROBERT TODD LAMER ENGINEER No. 40996 — LICENSED PROFESSIONAL ENGINEER

PLACE : 1050 LIN FT OF 8" WATERMAIN, DI CLASS 53 TOTAL THIS SHEET.

PLACE : 610 LIN FT OF 1" COPPER WATER SERVICE & 10 SETS OF 1" CORP, CURB STOP & BOX TOTAL THIS SHEET.

BENCHMARK: ELEV. 772.69
TOP OF NE FLANGE BOLT ON HYDRANT NW CORNER OF STATLER DR./COSTNER DR

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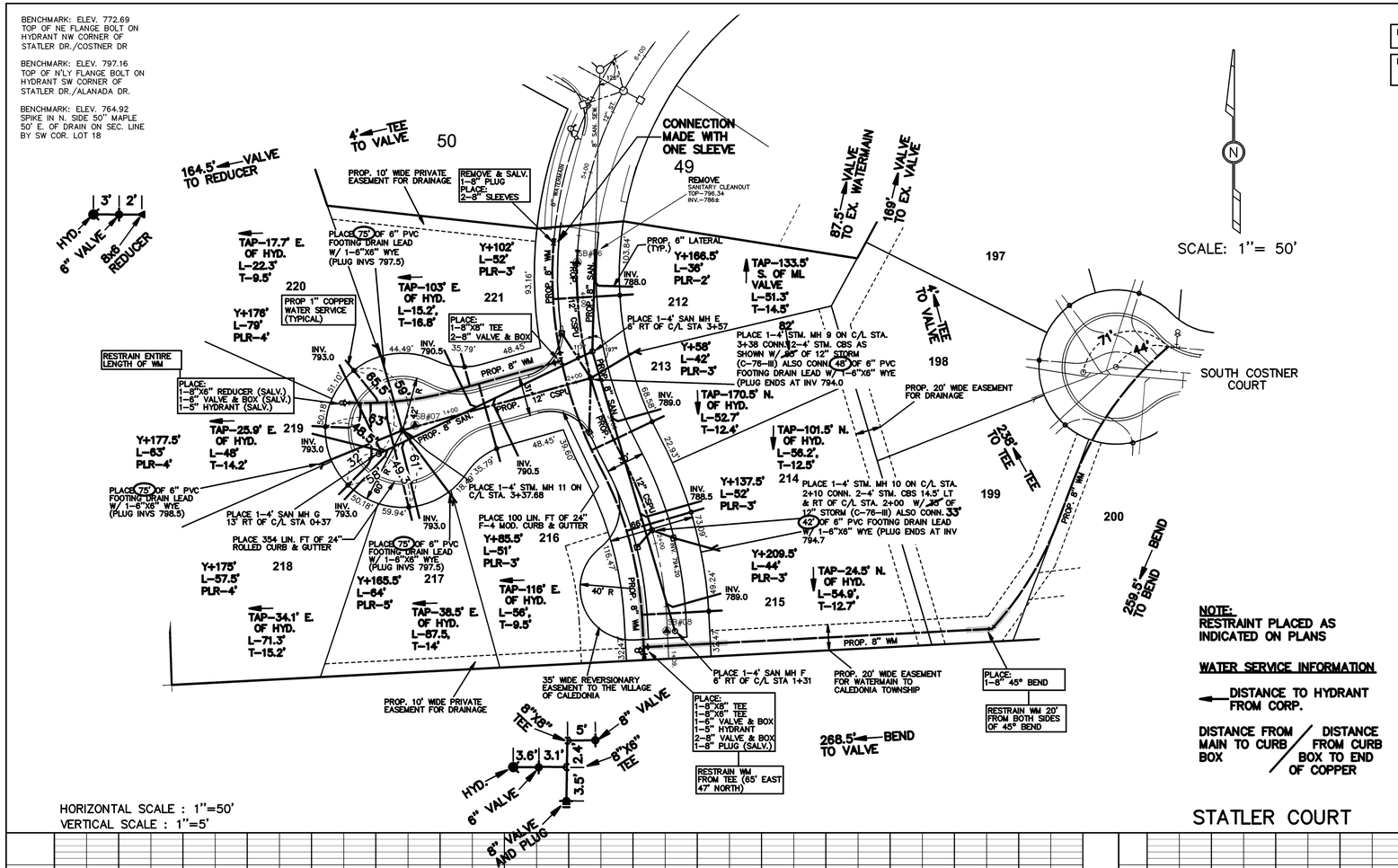

NOTE:
RESTRAINT PLACED AS INDICATED ON PLANS

WATER SERVICE INFORMATION

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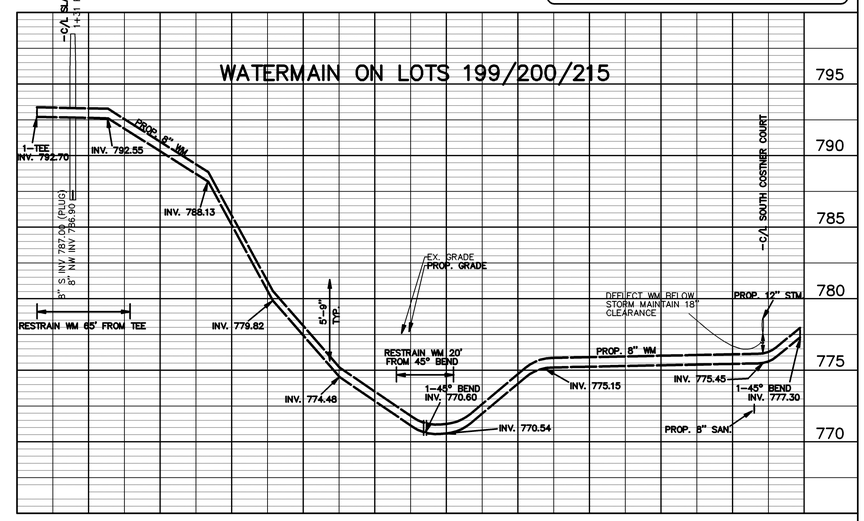
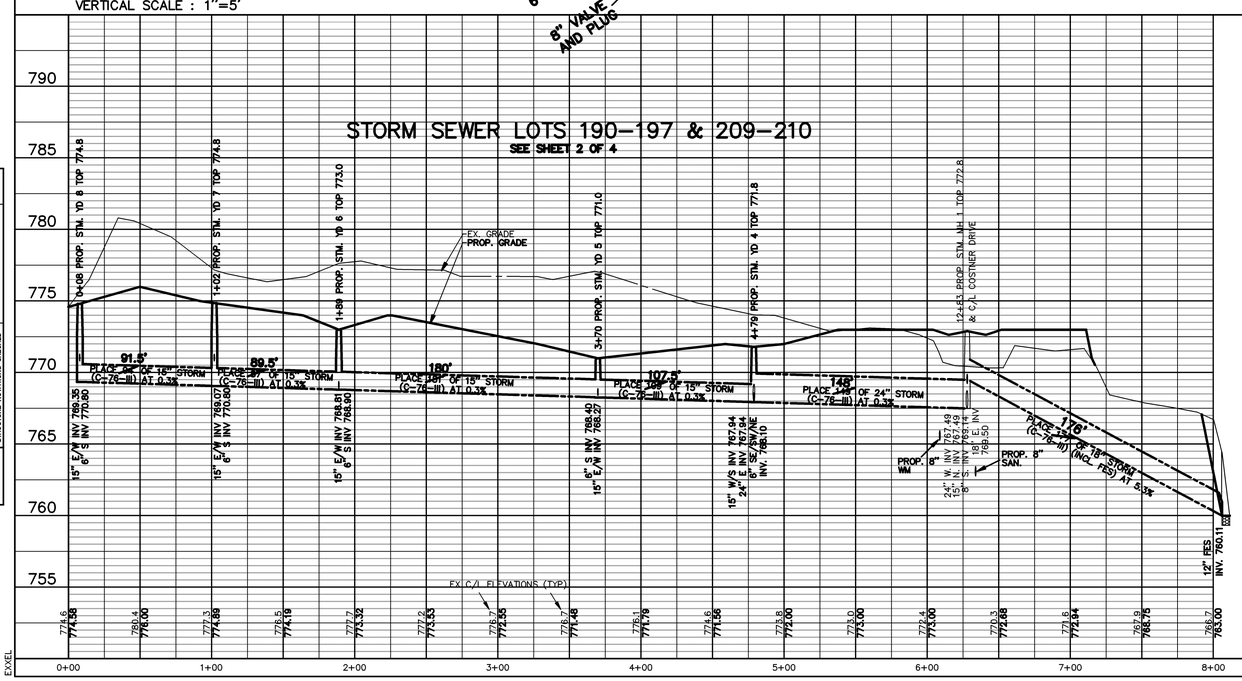
DISTANCE FROM MAIN TO CURB BOX / DISTANCE FROM CURB BOX TO END OF COPPER



STATLER COURT



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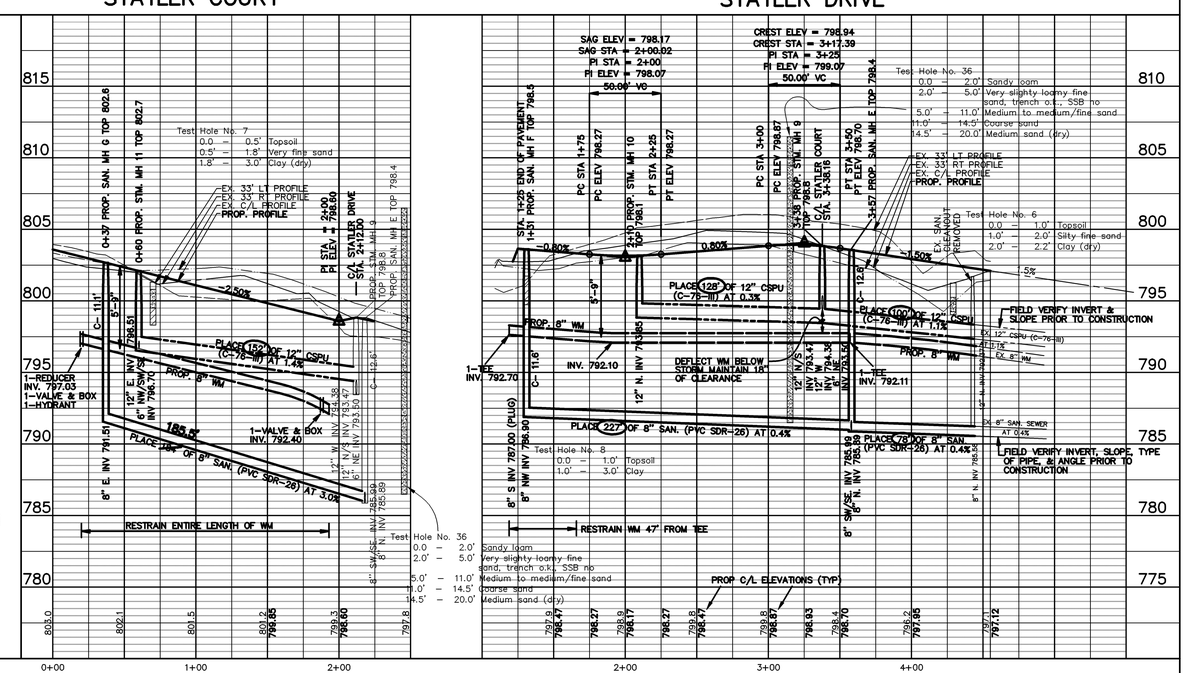

GLEN VALLEY NO. 6
SEC 20, T5N, R10W

drawing number ☐ ☐ . . . .

PLAN — SURVEYED / PLOTTED / GRADES CHECKED / B. M.'S NOTED / STRUCTURE NOTATIONS CHECKED / NOTE BOOK NO. ___ / BY / DATE

PROFILE — SURVEYED / PLOTTED / GRADES CHECKED / B. M.'S NOTED / STRUCTURE NOTATIONS CHECKED / NOTE BOOK NO. ___ / BY / DATE

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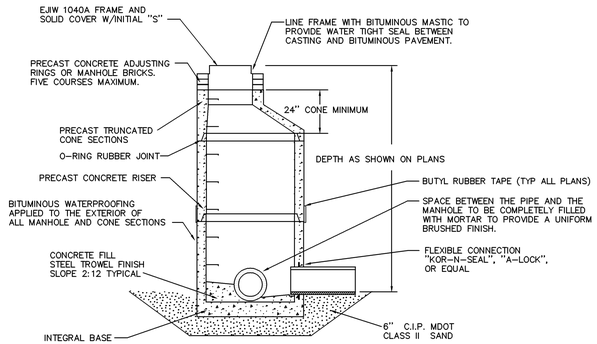
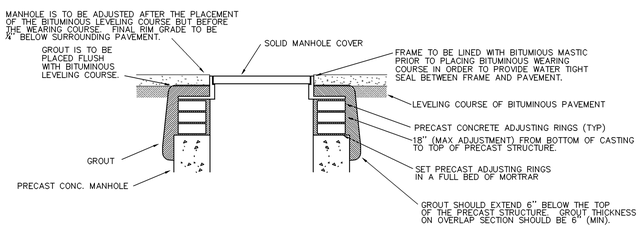


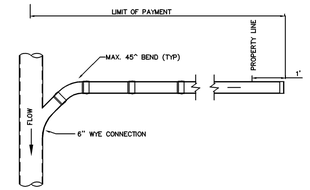
STANDARD SANITARY MANHOLE

NOT TO SCALE

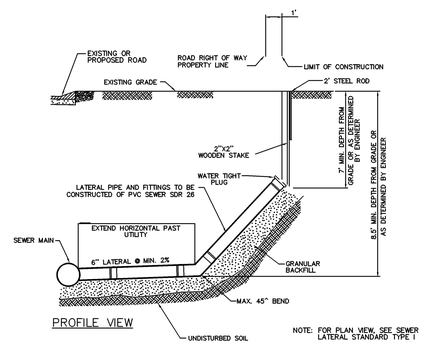


SANITARY MANHOLE CASTING LOCATED WITHIN ROADWAY

NO SCALE



PLAN VIEW



PROFILE VIEW

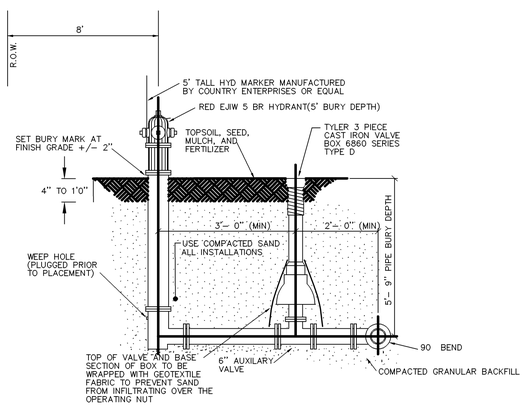
NOTE: FOR PLAN VIEW, SEE SEWER LATERAL STANDARD TYPE I

SEWER LATERAL STANDARD TYPE II

NOT TO SCALE

SANITARY SEWER NOTES:

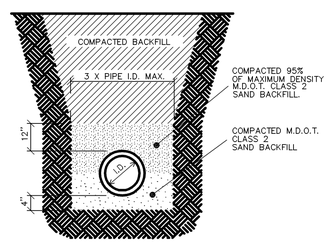
1. ALL SANITARY SEWER MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE KENT COUNTY DEPARTMENT OF PUBLIC WORKS (KCDPW) STANDARD CONSTRUCTION SPECIFICATIONS FOR SANITARY SEWER INSTALLATION.
2. SANITARY SEWER CONSTRUCTION IS TO BE INSPECTED BY ENGINEER DESIGNATED BY VILLAGE OF CALEDONIA. PRESSURE AND MANDREL TESTING OF THE SEWER TO BE PERFORMED BY THE CONTRACTOR, WITNESSED AND APPROVED BY ENGINEER DESIGNATED BY VILLAGE OF CALEDONIA.
3. EXISTING SEWER LINES ARE TO BE PROTECTED FROM DEBRIS AND CONTAMINATION. THE CONTRACTOR SHALL FURNISH & PLACE MANHOLE CHANNEL PROTECTION (DURING CONSTRUCTION) AS REQUIRED BY THE TOWNSHIP OR THEIR REPRESENTATIVES
4. THE CONTRACTOR SHALL NOTIFY ENGINEER DESIGNATED BY VILLAGE OF CALEDONIA 48 HOURS (TWO WORKING DAYS) PRIOR TO BEGINNING CONSTRUCTION.
5. ALL LATERAL PIPE AND FITTINGS DEEPER THAN 16' SHALL BE PVC SDR23.5, ALL OTHER PIPE IS TO BE PVC SDR26.
6. ALL SANITARY MANHOLE COVERS SHALL BE PLACED 1' ABOVE GRADE OUTSIDE THE INFLUENCE OF ROADWAY SHOULDERS AND/OR DEVELOPED AREAS SUCH AS OPEN FIELDS, HIGHWAY OR COUNTY ROAD ROW'S, AS DETERMINED BY THE ENGINEER. GROUND AROUND STRUCTURE IS TO BE SLOPED ACCORDING TO STANDARD DETAIL.
7. HOLES OR LEAKS IN MANHOLES WILL NOT BE PERMITTED.
8. APPLY MASTIC COATING ON OUTSIDE OF ALL MANHOLE STRUCTURES.
9. MAXIMUM HEIGHT FROM RIM GRADE TO THE TOP OF THE PRECAST CONE IS 24" FOR ALL MANHOLES.
10. ALL MANHOLE STRUCTURES SHALL BE BACKFILLED WITH COMPACTED SAND WITHIN LIMITS OF EXCAVATION FOR THE MANHOLE.
11. ALL MANHOLE CASTINGS SHALL BE SECURED TO MANHOLE RINGS PER STANDARD DETAIL.
12. GROUT ENTIRE GAP BETWEEN SANITARY PIPE AND MANHOLE OPENING ON ALL MANHOLES.
13. STANDARD O-RING SEALS WILL BE USED ON ALL MANHOLE JOINTS. ALL EXTERIOR JOINTS OF MANHOLES WILL BE SEALED WITH A FLEXIBLE BUTYL RUBBER BASED TAPE (12" WIDE). JOINTS SHALL BE CLEAN BEFORE APPLYING, AND PRIMER USED ACCORDING TO MANUFACTURER RECOMMENDATIONS.
14. ALL CONCRETE USED IN MANHOLES WILL MEET A MINIMUM 3,500 PSI.
15. LEAKS IN MANHOLES WILL BE FIXED BY THE MANHOLE MANUFACTURER OR CONTRACTOR USING AV-202 MULTIGROUT OR APPROVED EQUAL. THE INSIDE JOINT WILL THEN BE SEALED WITH APPROVED HYDRAULIC CEMENT.
16. MANHOLES SHALL BE FABRICATED WITH ADEQUATE SLUMP. DRY MIXES RESULTING IN ROCK POCKETS OR HONEY COMBS WILL BE REJECTED.
17. RUBBER RECYCLED ADJUSTING RING (1" TO 3") WILL BE ALLOWED IN PLACE OF CONCRETE.
18. ALL CONE/CASTING CONNECTIONS WILL HAVE CONCRETE/MORTAR CAST IN PLACE OUTSIDE TO SEAL JOINT AS SHOWN IN SEWER CASTING DETAIL THIS SHEET. INSTALLATION OF 12" WIDE BUTYL TAPE WILL NOT BE CONSIDERED AN ACCEPTABLE ALTERNATIVE TO THE PLACEMENT OF CONCRETE MORTAR AT THIS LOCATION.



NOTE: ALL JOINTS IN THE HYDRANT ASSEMBLY ARE TO BE RESTRAINED.

TYPICAL FIRE HYDRANT DETAIL

NO SCALE



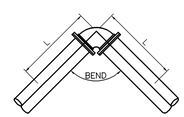
NOTE: FOR PIPES UNDERNEATH PAVEMENT OR WITHIN A 1 ON 1 INFLUENCE OF THE PAVEMENT USE M.D.O.T. CLASS II SAND BACKFILL COMPACTED TO 95% OF MAXIMUM DENSITY, ALL OTHER AREAS CLEAN SITE SUBSOIL APPROVED BY ENGINEER COMPACTED TO 90% OF MAX. DENSITY. ALL MANHOLES ARE TO BE BACKFILLED W/ SAND COMPACTED TO THE ABOVE REQUIREMENTS.

STANDARD CLASS B PIPE BEDDING DETAIL

NO SCALE

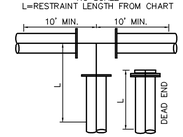
RESTRAINT SCHEDULE (Poly-Wrapped)

BEND RESTRAINT SCHEDULE				
	6"	8"	12"	16"
45^	15	20	28	37
22.5^	7	10	14	18
11.25^	4	10	10	10
DEAD END	116	150	214	275
90^	36	47	68	89

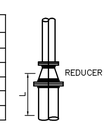


NO SCALE
L=RESTRAINT LENGTH FROM CHART

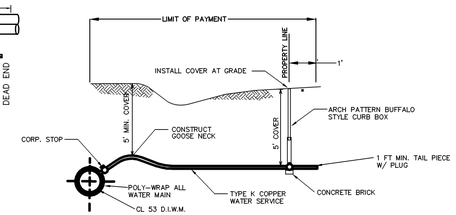
TEE RESTRAINT SCHEDULE					
	BRANCH				
		16"	12"	8"	6"
THRU	16"	137	94	42	10
	12"	X	102	54	24
	8"		X	65	39
	6"			X	46



REDUCER RESTRAINT SCHEDULE (*/**)					
	LARGE END				
		16"	12"	8"	6"
SMALL END	12"	117/158	X	X	X
	8"	200/405	113/169	X	X
	6"	231/621	155/308	63/83	X
	4"	254/990	185/535	108/208	60/87



*/**, where * = length of restrainted joints for large side of reducer, and **=No restraint necessary
if straight run of pipe on small side of reducer exceeds.



WATER SERVICE CONNECTION DETAIL

NO SCALE

WATER MAIN NOTES:

1. ALL WATERMAIN MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CALEDONIA TOWNSHIP STANDARDS AND/OR WITH KENT COUNTY DEPARTMENT OF PUBLIC WORKS (KCDPW) STANDARD CONSTRUCTION SPECIFICATIONS FOR WATERMAIN INSTALLATION.
2. WATERMAIN CONSTRUCTION IS TO BE INSPECTED BY WILCOX PROFESSIONAL SERVICES, REPRESENTING CALEDONIA TOWNSHIP. PRESSURE TESTING OF THE WATERMAIN TO BE PERFORMED BY THE CONTRACTOR, WITNESSED AND APPROVED BY WILCOX PROFESSIONAL SERVICES, REPRESENTING CALEDONIA TOWNSHIP. CHLORINATION OF THE WATERMAIN WILL BE WITNESSED BY WILCOX PROFESSIONAL SERVICES, REPRESENTING CALEDONIA TOWNSHIP, AND THE COLLECTING OF WATER SAMPLES WILL BE DONE BY WILCOX PROFESSIONAL SERVICES, REPRESENTING CALEDONIA TOWNSHIP.
3. EXISTING WATER LINES ARE TO BE PROTECTED FROM DEBRIS AND CONTAMINATION.
4. HYDRANTS AND VALVES SHALL OPEN CLOCKWISE.
5. THE CONTRACTOR SHALL NOTIFY WILCOX PROFESSIONAL SERVICES 48 HOURS (TWO WORKING DAYS) PRIOR TO BEGINNING WATERMAIN CONSTRUCTION.
6. MINIMUM DEPTH OF WATERMAIN SHALL BE 5.75FT BELOW THE PROPOSED GRADE TO THE CENTER OF THE PIPE UNLESS OTHERWISE SPECIFIED IN THE PLANS.
7. CONTRACTOR SHALL COVER ALL WATERMAIN AND FITTINGS WITH POLYWRAP.
8. HYDRANTS SHALL HAVE A 5' BURY DEPTH AND BE EQUIPPED WITH 5' TALL FIBERGLASS MARKERS MANUFACTURED BY COUNTRY ENTERPRISES. MARKERS TO BE SPRING MOUNTED TO HYDRANT FLANGE. MARKERS ARE TO BE ORANGE AND REFLECTORIZED.
9. BACKFILL HYDRANTS AND VALVES WITH COMPACTED SAND WITHIN THE EXCAVATION LIMITS TO FILL GRADE.
10. ALL HYDRANTS SHALL BE PUMPED DOWN AFTER USE ON A DAILY BASIS BY THE CONTRACTOR.
11. FILTER CLOTH SHALL BE WRAPPED AROUND ALL BASES OF WATERMAIN VALVE BOXES TO PREVENT SAND FROM ENTERING THE VALVE BOX. FILTER CLOTH IS TO BE CUT AND A HOLE IS TO BE PLACED IN THE CENTER. THE HOLE IN THE FABRIC IS THEN TO BE PLACED OVER THE VALVE OPERATING NUT. THE BASE AND EXTENSION PIECES OF THE VALVE BOX IS TO BE SET ON THE FILTER FABRIC. THE FABRIC IS THEN TO BE WRAPPED UP ONTO THE VALVE BOX AND SECURELY FASTENED.
12. VALVE BOX EXTENSIONS SHALL BE ADDED TO THE BOTTOM SECTION OF THE VALVE BOX. IN NO CASE SHALL THE COVER BE REMOVED AND BE REPLACED WITH A MALE EXTENSION PIECE. ALL SECTIONS OF THE BOX SHALL OVERLAP AND THREAD ONTO THE SECTION BENEATH.
13. USE A.Y. McDONALD MODEL 3825 OR EQUAL DOUBLE STRAP BRASS SADDLES AT CORPORATION STOPS FOR 2" SERVICE CONNECTION ON 12" PIPE OR SMALLER PIPE.
14. CORPORATION STOP VALVES SHALL BE A-Y McDONALD MODEL 4701B-22 OR 4701B, FORD MODEL FB 1000 OR FB 600 BALLCORP, OR EQUAL.
15. CURB STOP VALVES SHALL BE A-Y McDONALD MODEL 6100-22 OR 6100, FORD B44-XXX OR B22-XXX
16. ALL CURB BOXES SHALL BE 2½" MINIMUM DIAMETER, LIDS ARE TO BE SECURED WITH BRASS BOLT AND LID IS TO BE MARKED WITH "W" OR THE WORD "WATER". .
17. ALL HYDRANTS SHALL BE EJIW 5BR.
18. ALL GATE VALVES SHALL BE FULLY ENCAPSULATED AND MADE OF DUCTILE IRON.
19. CURB STOP VALVES SHALL NOT BE EQUIPPED WITH EXTENSION RODS.
20. WATER SERVICE FITTINGS MAY BE COMPRESSION OR FLARED STYLE.
21. TWO WEDGES ARE TO BE USE IN EACH PIPE JOINT TO PROVIDE CONTINUITY.
22. PIPE RESTRAINT WILL BE ACCOMPLISHED THROUGH THE USE OF MECHANICAL JOINT PIPE, TR FLEX,OR OTHER APPROVED METHODS. IN NO CASE SHALL LOCKING GASKETS BE USED FOR MEANS OF RESTRAINT. INSTALLED RESTRAINTS SHALL BE VISIBLE WHEN PIPE IS EXPOSED.

11/14/05 WATERMIAN PERMIT #W056328
11/4/05 MDEQ SAN. PERMIT #1002290

DETAIL SHEET

For: GLEN VALLEY ESTATES NO. 6

In: PART OF THE SE 1/4 OF SECTION 20. T5N. R10W.
VILLAGE OF CALEDONIA. KENT COUNTY. MICHIGAN.

Revisions	
12/11/06 AS BUILT (dgb)	
05-03-06 REV PER INT DETAILS (mk)	Drawn by: JSD
11/3/05 REV. PER K.C.D.C.	Approved by: RTL
10/26/05 REV. PER VILLAGE ENGINEER	File No: 032804E
10/26/05 REV. PER TOWNSHIP ENGINEER	Sheet 4 of 4
9/29/05 REV. PER K.C.D.C.	Date: 9/15/05

exxel engineering inc.
5252 CLYDE PARK, S.W. • GRAND RAPIDS, MI. 49509
PHONE (616) 531-3660

drawing number E F . . . . . co. twp. sec. project drawing

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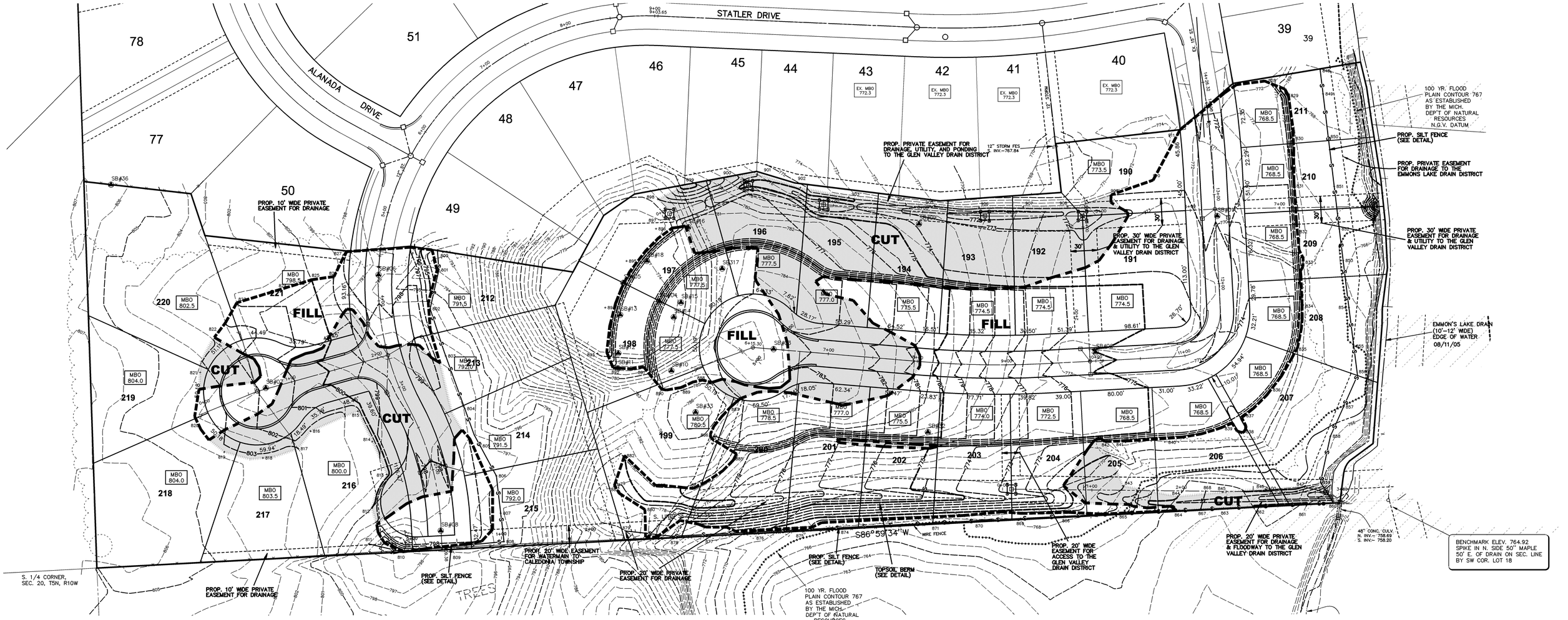


Test Hole No. 4
0.0 – 3.0' Peat
3.0' – 3.3' Clay
3.3' – 5.0' Medium fine sand
Water table @ 3.0'

Test Hole No. 5
0.0 – 9.0' Peat
9.0' – 13.0' Soft organic clay
Water table @ 2.5'

Test Hole No. 9
0.0 – 1.5' Topsoil
1.5' – 2.0' Clay

Test Hole No. 10
0.0 – 1.2' Topsoil
1.2' – 3.5' Clay

Test Hole No. 11
0.0 – 0.8' Topsoil
0.8' – 2.0' Clay

Test Hole No. 12
0.0 – 2.0' Peat
2.0' – 2.5' Clay and peat
2.5' – 4.5' Clay

Test Hole No. 13
0.0 – 7.0' Peat
7.0' – 9.0' Soft organic clay
Water table @ 2.5'

Test Hole No. 14
0.0 – 1.0' Topsoil
1.0' – 3.5' Clay
Hit rock at 3.5'

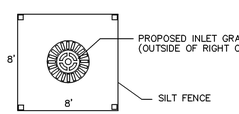
Test Hole No. 15
0.0 – 1.0' Topsoil
1.0' – 2.0' Sand w/some clay
2.0' – 4.0' Clay

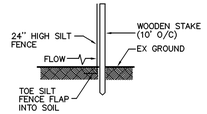
Test Hole No. 16
0.0 – 1.5' Topsoil
1.5' – 2.0' Clay
Hit rock at 2'

Test Hole No. 17
0.0 – 1.5' Topsoil
1.5' – 2.0' Clay
Hit rock at 2'

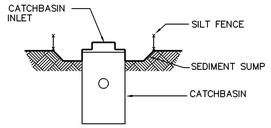
Test Hole No. 18
0.0 – 5.5' Peat
5.5' – 10.5' Soft organic clay
Couldn't bring anything up at 11.5'
Water table @ 3.3'

Test Hole No. 36
0.0 – 2.0' Sandy loam
2.0' – 5.0' Very slightly loamy fine sand, trench o.k., SSB no
5.0' – 11.0' Medium to medium/fine sand
11.0' – 14.5' Coarse sand
14.5' – 20.0' Medium sand

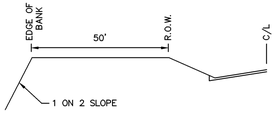




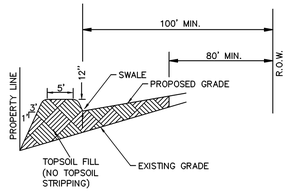
SILT FENCE DETAIL



CATCHBASIN SUMP DETAIL



TYPICAL GRADING DETAIL



TOPSOIL BERM DETAIL

SCALE: 1"= 50'
1' Contour Interval

SOIL EROSION NOTES:

1. TOTAL AREA OF DISTURBANCE = 7.50 AC
2. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO GRADING. MAINTAIN AS NECESSARY UNTIL SITE HAS BEEN PERMANENTLY STABILIZED.
3. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH AT LEAST 4" TOPSOIL, FERTILIZER AND SEED.
4. INSTALL SILT SACKS IN ALL NEW STORM INLETS, MAINTAIN UNTIL SITE IS STABILIZED.
5. ALL DRAINAGE SWALES LOCATED IN PRIVATE EASEMENTS FOR DRAINAGE SHALL BE COVERED WITH EROSION CONTROL MATTING (N.A.G SC-150, CONTECH STRAW AND COCONUT FIBER MAT, OR EQUAL) AS NECESSARY.

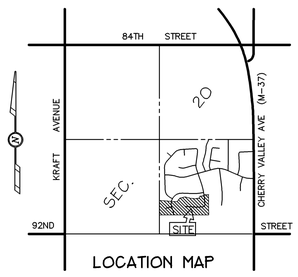
CONSTRUCTION SCHEDULE

WORK ITEMS	OCT 2005 THROUGH JUN 2006								
TEMPORARY EROSION CONTROLS	●								—
CLEARING (AS NEEDED)	●—	—							
SITE GRADING	●						—		
PUBLIC UTILITIES		●					—		
STREET CONSTRUCTION							●—	—	
RESTORATION								●—	—
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN

LEGEND

- —771— PROPOSED CONTOUR
- – – 771 – – EXISTING CONTOUR
- LIMITS OF CUT
- LIMITS OF FILL
- LIMITS OF CUT/FILL
- —x—x—x— SILT FENCE
- M.B.O. 792.5 MINIMUM BUILDING OPENING ELEVATION

11/14/05 WATERMIAN PERMIT #W056328
11/4/05 MDEQ SAN. PERMIT #1002290



LOCATION MAP

STATE OF MICHIGAN
ROBERT TODD LAMER ENGINEER No. 40996
LICENSED PROFESSIONAL ENGINEER

CAUTION: BEFORE DIGGING CALL MISS DIG AT 1-800-482-7171 FOR UNDERGROUND UTILITY LOCATIONS.

GRADING & SOIL EROSION CONTROL PLAN

GLEN VALLEY ESTATES NO. 6

IN: PART OF THE SE 1/4, SECTION 20, T5N, R10W, VILLAGE OF CALEDONIA, KENT COUNTY, MICHIGAN

REVISIONS:
11/3/05 REV. PER K.C.D.C.
10/26/05 REV. PER VILLAGE ENGINEER
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DRAWN BY: JSD
APPROVED BY: RTL
PROJ. ENG.: RTL
PROJ. SURV.: JS
FILE NO.: 032804E
SHEET 1 OF 1
DATE: 9/15/05

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